



Town of Carrboro

Town Hall
301 W. Main St.
Carrboro, NC 27510

Meeting Agenda Board of Aldermen



Tuesday, January 23, 2018

7:30 PM

Board Chambers - Room 110

7:30-7:40

A. POETRY READING, RESOLUTIONS, PROCLAMATIONS, AND ACKNOWLEDGEMENTS

1. [17-396](#) Resolution Supporting SNAP and Other Federal Nutrition Programs
PURPOSE:

7:40-7:45

B. ANNOUNCEMENT OF UPCOMING MEETINGS

7:45-8:00

C. CONSENT AGENDA

1. [17-395](#) Approval of Previous Meeting Minutes of January 9, 2018
PURPOSE:
2. [17-394](#) Minor Modification Request for Orange County ABC Store Conditional Use Permit
PURPOSE: The Board of Aldermen is asked to consider approving a Minor Modification to the Conditional Use Permit for Orange County ABC Store at Carrboro Plaza to allow changes to the facade of the building.
Attachments: [Resolution Approving Changes to Facade at Orange County ABC Store at Carrboro Plaza](#)
[Orange County ABC Store Facade Update Plans](#)
3. [17-382](#) Request to Make Appointments to the Stormwater Advisory Commission
PURPOSE: The purpose of this agenda item is for the Board of Aldermen to make appointments to the Stormwater Advisory Commission
Attachments: [Attachment A - Appointment Resolution](#)
[Attachment B -SWAC Applicants](#)

4. [17-391](#) Request to Authorize the Town Manager to Enter into a Performance Agreement with CASA

PURPOSE: The purpose of this item is for the Board of Aldermen to consider authorizing the Town Manager to enter into a performance agreement regarding the proposed development by CASA on Merritt Mill Rd.

Attachments: [Attachment A- CASA Agreement](#)
[Attachment B - Resolution](#)

D. PUBLIC HEARING

8:00-8:15

1. [17-393](#) Public Hearing for Community Input on Town Budget for Upcoming FY 2018-19

PURPOSE: This is a public hearing to receive comments from the public regarding the upcoming budget for the Town beginning July 1, 2018.

8:15-8:30

1. [17-389](#) Public Hearing on a Land Use Ordinance Amendment Relating to Consistency

PURPOSE: The purpose of this agenda item is for the Board of Aldermen to receive public comments on an amendment to the text of the Land Use Ordinance relating to consistency for map and text amendments.

Attachments: [Attachment A - Consistency Resolutions](#)
[Attachment B - Draft Ordinance 11-16-17](#)
[Attachment C - Excerpt from LUO ART-XX with tracking](#)
[Attachment D - Excerpt from S131v7](#)
[Attachment E - OC Comments_1-23-2017](#)

8:30-8:45

1. [17-390](#) Public Hearing on Land Use Ordinance Amendments Relating to Tree Protection, Shade Trees, Canopy Coverage and Replacement Standards
- PURPOSE:** The purpose of this item is for the Board of Aldermen to receive public comment on text amendments to the Land Use Ordinance relating to the provisions in Article XIX, Screening and Trees, and the associated appendices A and E. A draft ordinance has been prepared.

Attachments: [Attachment A - Consistency Resolution](#)
[Attachment B - Draft Ordinance Trees, shading and buffers_1-19-2018](#)
[Attachment C- StaffMemoJointReview_102717](#)
[Attachment D - Article XIX with tracking](#)
[Attachment E - APPENDIX A with tracking](#)
[Attachment F - APPENDIX E with tracking](#)
[Attachment G - Review Comments](#)

E. OTHER MATTERS

8:45-9:00

1. [17-388](#) Request to Authorize Manager to Enter into a Contract with Axia Creative for a Wayfinding Program.
- PURPOSE:** The purpose of this item is for the Board to consider entering into a contract for wayfinding graphic design and professional services.

Attachments: [Attachment 1 - Existing Sign Inventory](#)
[Attachment 2 - Axia RFQ Response](#)
[Attachment 3 - Detailed Scope of Work](#)

9:00-10:00

1. [17-392](#) Capital Improvement Plan Update and Financial Planning Model
- PURPOSE:** To present to the Board of Aldermen the updated Capital Improve Plan (CIP) for FY 2018-19 through FY 2022-23 and a Financial Planning Model.

Attachments: [ATTACHMENT A: CIP Resolution for Adoption](#)
[ATTACHMENT B: UPDATED CIP DOCUMENT FY 2018-19 THROUGH FY2022-23](#)

F. MATTERS BY BOARD MEMBERS

G. MATTERS BY TOWN MANAGER

H. MATTERS BY TOWN ATTORNEY

I. MATTERS BY TOWN CLERK



Town of Carrboro

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Carrboro, NC 27510

Legislation Details (With Text)

File #: 17-396 **Version:** 1 **Name:**
Type: Agendas **Status:** Agenda Ready
File created: 1/19/2018 **In control:** Board of Aldermen
On agenda: 1/23/2018 **Final action:**
Title: Resolution Supporting SNAP and Other Federal Nutrition Programs
PURPOSE:

Indexes:

Code sections:

Attachments:

Date	Ver.	Action By	Action	Result
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TITLE:

Resolution Supporting SNAP and Other Federal Nutrition Programs

PURPOSE:

DEPARTMENT:

CONTACT INFORMATION:

INFORMATION:

FISCAL & STAFF IMPACT:

RECOMMENDATION:



Town of Carrboro

Town Hall
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Legislation Details (With Text)

File #: 17-395 **Version:** 1 **Name:**
Type: Agendas **Status:** Agenda Ready
File created: 1/18/2018 **In control:** Board of Aldermen
On agenda: 1/23/2018 **Final action:**
Title: Approval of Previous Meeting Minutes of January 9, 2018
PURPOSE:

Indexes:

Code sections:

Attachments:

Date	Ver.	Action By	Action	Result
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TITLE:

Approval of Previous Meeting Minutes of January 9, 2018

PURPOSE:

DEPARTMENT:

CONTACT INFORMATION:

INFORMATION:

FISCAL & STAFF IMPACT:

RECOMMENDATION:



Town of Carrboro

Town Hall
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Legislation Details (With Text)

File #: 17-394 **Version:** 1 **Name:**
Type: Agendas **Status:** Agenda Ready
File created: 1/17/2018 **In control:** Board of Aldermen
On agenda: **Final action:**
Title: Minor Modification Request for Orange County ABC Store Conditional Use Permit
PURPOSE: The Board of Aldermen is asked to consider approving a Minor Modification to the Conditional Use Permit for Orange County ABC Store at Carrboro Plaza to allow changes to the facade of the building.
Indexes:
Code sections:
Attachments: [Resolution Approving Changes to Facade at Orange County ABC Store at Carrboro Plaza](#)
[Orange County ABC Store Facade Update Plans](#)

Date	Ver.	Action By	Action	Result
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TITLE:

Minor Modification Request for Orange County ABC Store Conditional Use Permit

PURPOSE: The Board of Aldermen is asked to consider approving a Minor Modification to the Conditional Use Permit for Orange County ABC Store at Carrboro Plaza to allow changes to the facade of the building.

DEPARTMENT: Planning Department

CONTACT INFORMATION: Marty Roupe, 919-918-7333 or mroupe@townofcarrboro.org

INFORMATION: Phil Kiester, representing Orange County ABC Store, has applied for a Minor Modification to the CUP to allow for update to the facade of the building. Please see attached plans to view images representing what the new facade will look like if approved. All parking and other site features will remain the same. An update to the facade is all that is under consideration at this time.

FISCAL & STAFF IMPACT: No fiscal impact is associated with this item beyond receiving the application fee.

RECOMMENDATION: A resolution approving the Minor Modification to the CUP is attached.

The following resolution was introduced by Aldermen _____ and duly seconded by Aldermen _____.

A RESOLUTION APPROVING A MINOR MODIFICATION TO THE ORANGE COUNTY ABC STORE AT CARRBORO PLAZA CONDITIONAL USE PERMIT AUTHORIZING UPDATES TO THE FAÇADE OF THE BUILDING.

WHEREAS, the Carrboro Board of Aldermen previously approved a Conditional Use Permit for the Orange County ABC Store at Carrboro Plaza; and

WHEREAS, Town Staff has determined that this request constitutes a Minor Modification to the Conditional Use Permit; and

WHEREAS, the applicant has met the criteria in the Town's Land Use Ordinance related to Minor Modifications.

NOW, THEREFORE BE IT RESOLVED by the Carrboro Board of Aldermen that the Minor Modification request to the Orange County ABC Store at Carrboro Plaza CUP is approved, authorizing updates to the façade of the building.

This the 23rd day of January 2018

STANDARD ABBREVIATIONS			
A	@	AT	LAM
	AB	ANCHOR BOLT	LAV
	A/C	AIR CONDITIONING	LBS
	ACI	AMERICAN CONCRETE INSTITUTE	LTG
	ADJ	ADJACENT OR ADJUSTABLE	LVR
B	ALUM	ALUMINUM	M
	APPROX	APPROXIMATELY	MAS
	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MAX
			MECH
			MFR
C	BLDG	BUILDING	MIN
	BLK	BLOCKING	MISC
	BM	BEAM OR BENCH MARK	MO
	BOT	BOTTOM	MTD
	BRG	BEARING	MTL
D	CI	CAST IRON	N
	CJ	CONTROL JOINT	NEC
	CL	CENTER LINE	NEMA
	CLG	CEILING	NFPA
	CLO	CLOSET	NIC
E	CLR	CLEAR	NO
	CMU	CONCRETE MASONRY UNIT	NOM
	COL	COLUMN	NTS
	CONC	CONCRETE	O
	CONST	CONSTRUCTION	OC
F	CONT	CONTINUOUS	OD
	CORR	CORRIDOR	OFC
	CPT	CARPET	OH
	CT	CERAMIC TILE	OPNG
	CTR	CENTER	OZ
G	CW	COLD WATER	P
			PL
			PLAS
			PLBG
			PLWD
H	DTL	DETAIL	PNL
	DIA	DIAMETER	PSF
	DM	DIMENSION(ED)	PSI
	DW	DOWN	PT
	DWG	DRAWING	PTD
I	EA	EACH	PVC
	EJ	EXPANSION JOINT	R
	ELEC	ELECTRICAL	RCP
	ELEV	ELEVATION OR ELECTRICAL	RD
	EOS	EDGE OF SLAB	RECPT
J	EQ	EQUAL	REINF
	EQUIP	EQUIPMENT	REIN
	EW	ELECTRIC WATER COOLER	RECD
	EWB	ELECTRIC WATER HEATER	RM
	EXH	EXHAUST	ROW
K	EXT	EXTERIOR OR EXTERNAL	RP
			S
			SATC
			SECT
			SF
L	FD	FLOOR DRAIN	SHT
	FEC	FIRE EXTINGUISHER CABINET	SIM
	FFE	FINISHED FLOOR ELEVATION	SPEC
	FHC	FIRE HOSE CABINET	SS
	FLUOR	FLUORESCENT	STD
M	FOM	FACE OF MASONRY	STC
	FT	FOOT OR FEET	STL
	FTG	FOOTING	STRUCT
			SQ
			SV
N	GA	GAUGE	T
	GALV	GALVANIZED	TA
	GB	GRAB BAR	TEL
	GL	GLASS OR GLAZING	T&G
	GWB	GYP-SUM WALL BOARD	TOB
O	GYP	GYP-SUM	TOC
			TOF
			TOS
			TOW
			TP
P	HB	HOSE BIBB	TPD
	HCP	HANDICAP	TYP
	HDW	HARDWARE	U
	HID	HIGH INTENSITY DISCHARGE	UL
	HM	HOLLOW METAL	UNO
Q	HORIZ	HORIZONTAL	V
	HR	HOUR	VCT
	HT	HEIGHT	VERT
	HTG	HEATING	VTR
	HTR	HEATER	VWC
R	HVAC	HTG, VENTILATION & AIR CONDITIONING	W
	HW	HOT WATER	WI
			WC
			WD
			WH
S	ID	INSIDE DIAMETER	W/O
	INCAN	INCANDESCENT	WP
	INCL	INCLUDING	WWF
	INSUL	INSULATION	Y
	INT	INTERIOR OR INTERNAL	YD
T	JAN	JANITOR	
	JT	JOINT	
	JST	JOIST	
	KIT	KITCHEN	



PROJECT TEAM

OWNER

ORANGE COUNTY ABC
601 VALLEY FORGE ROAD
HILLSBOROUGH, NC 27278-2515
T: 919.732.3432 F: -
E: OCABC@MINDSPRING.COM
CONTACT: TONY DUBOIS

STRUCTURAL

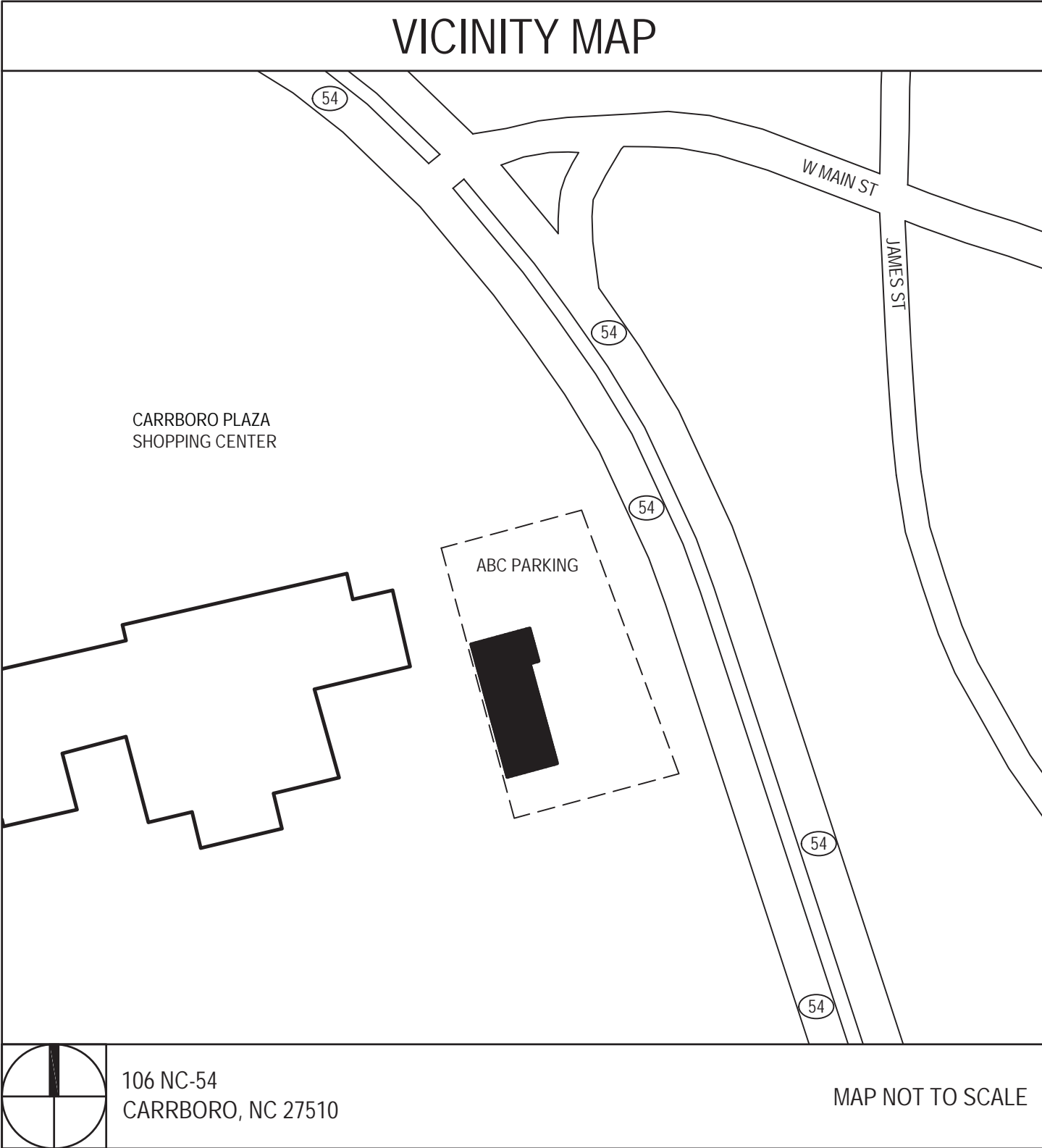
KAYDOS-DANIELS ENGINEERS, PLLC
400-201 W. MORGAN STREET
RALEIGH, NC 27603-1807
T: 919.828.4966 F: 919.828.4967
E: LUCAS@KAYDOS-DANIELS.COM
CONTACT: LUCAS G. A. GELO

ARCHITECT

TISE-KIESTER ARCHITECTS, PA
119 EAST FRANKLIN STREET, SUITE 300
CHAPEL HILL, NC 27514
T: 919.967.0158 F: 919.967.0159
E: PKIESTER@TISEKIESTER.COM
CONTACT: PHIL KIESTER

P,M & E

ATLANTEC ENGINEERS, PA
3221 BLUE RIDGE ROAD, SUITE 113
RALEIGH, NC 27612
T: 919.571.1111 F: 919.571.1114
E: DAVID@ATLANTECENGINEERS.COM
CONTACT: DAVID WHITNEY



TISE-KIESTER ARCHITECTS

TKa

119 E. Franklin St. Suite 300
Chapel Hill, NC 27514
Tel: 919.967.0158
Fax: 919.967.0159
www.tisekiester.com

These drawings have been commissioned for this construction project and remain the property of Tise-Kiester Architects. No reproduction or use is allowed without first obtaining the Architect's written consent.

Carrboro ABC

Carrboro, NC

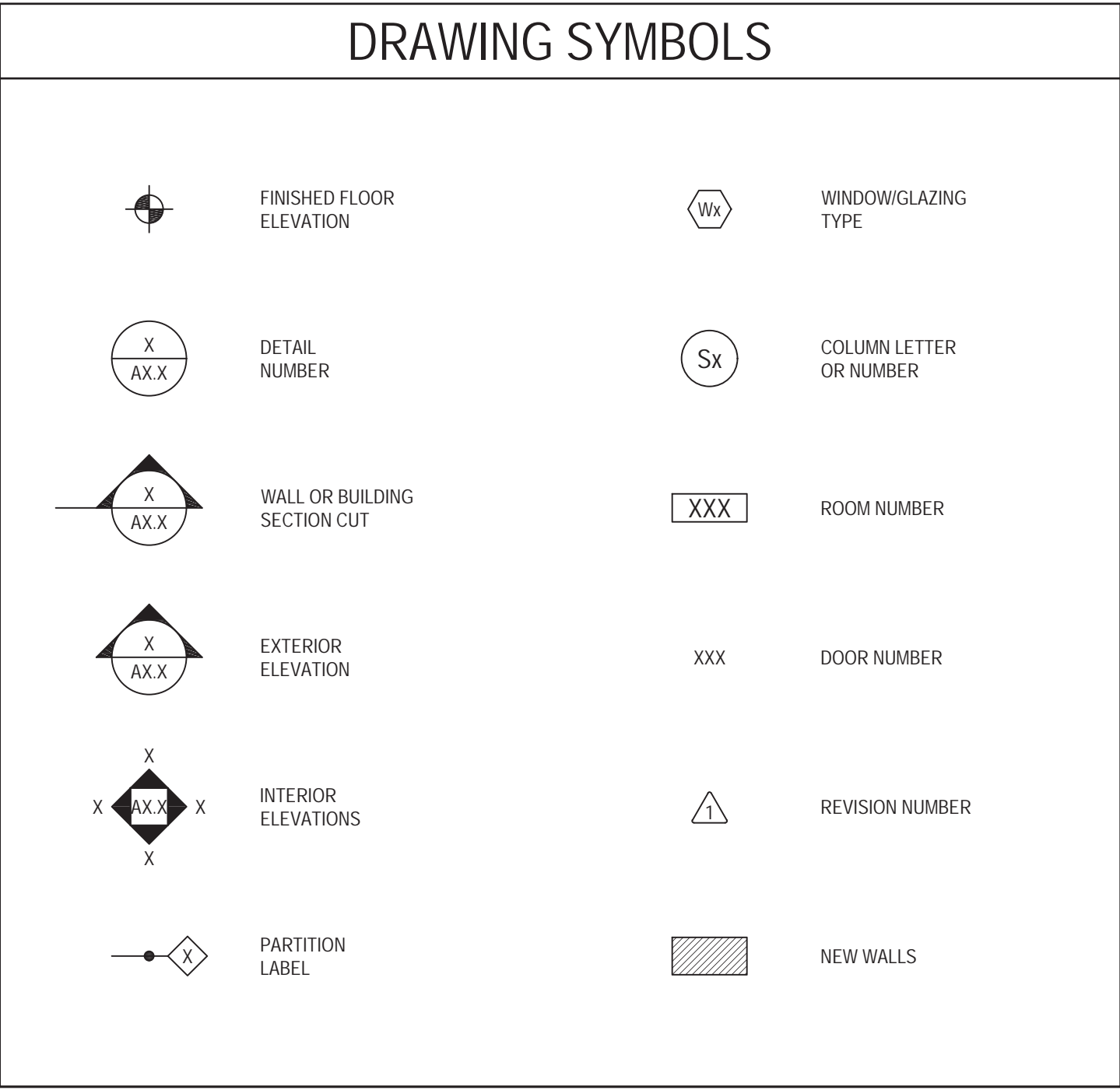
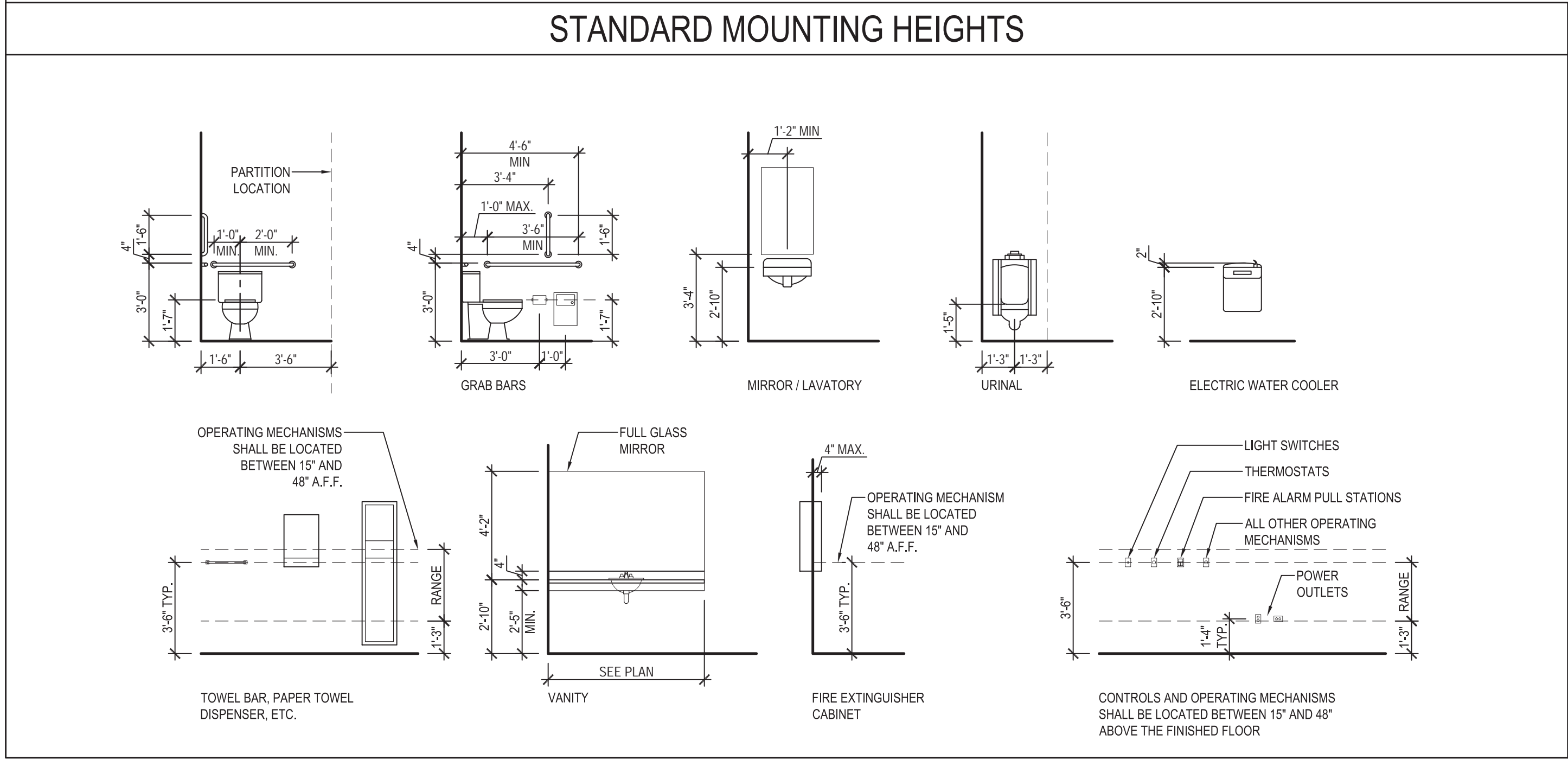
Job Number:

1716

Date:

1.12.18

Revisions:



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COVER SHEET

Sheet

CS1

REID K. KIESTER
REGISTERED ARCHITECT, NORTH CAROLINA
6801
1.12.18
CHAPEL HILL, NC

TISE-KIESTER ARCHITECTS, PA
REGISTERED ARCHITECTURAL FIRM, NORTH CAROLINA
50404
CHAPEL HILL, NC

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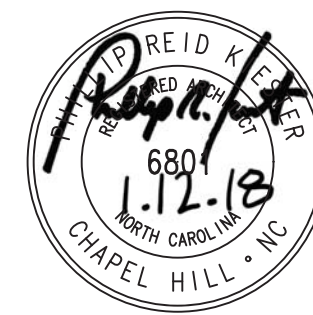
Carrboro
ABC

Carrboro, NC

■ Job Number: 1716

■ Date: 1.12.18

■ Revisions:

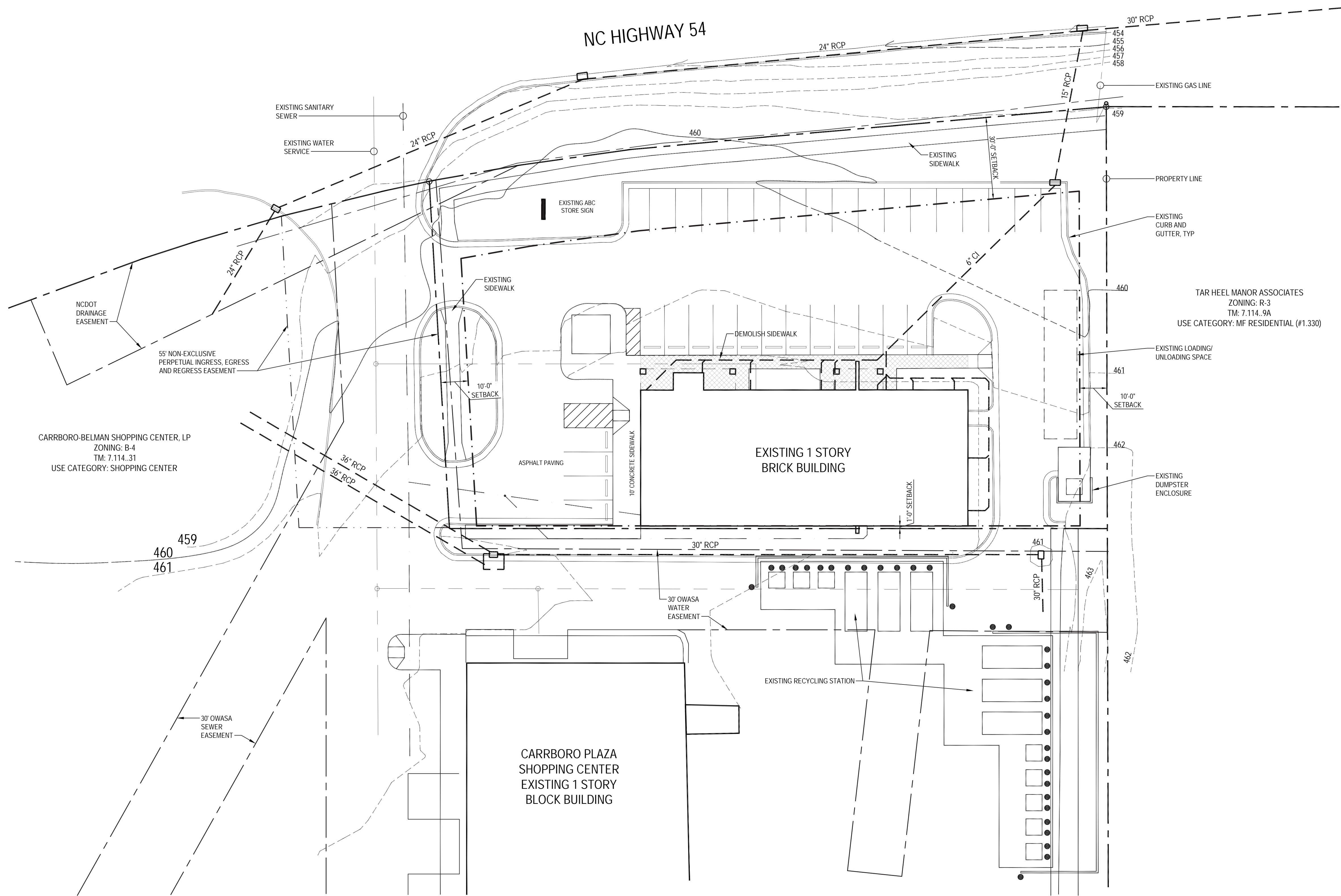


SITE DEMOLITION PLAN

Shee

C1.1

1



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Carrboro ABC

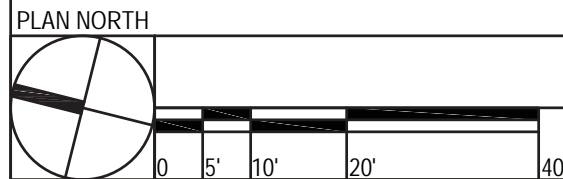
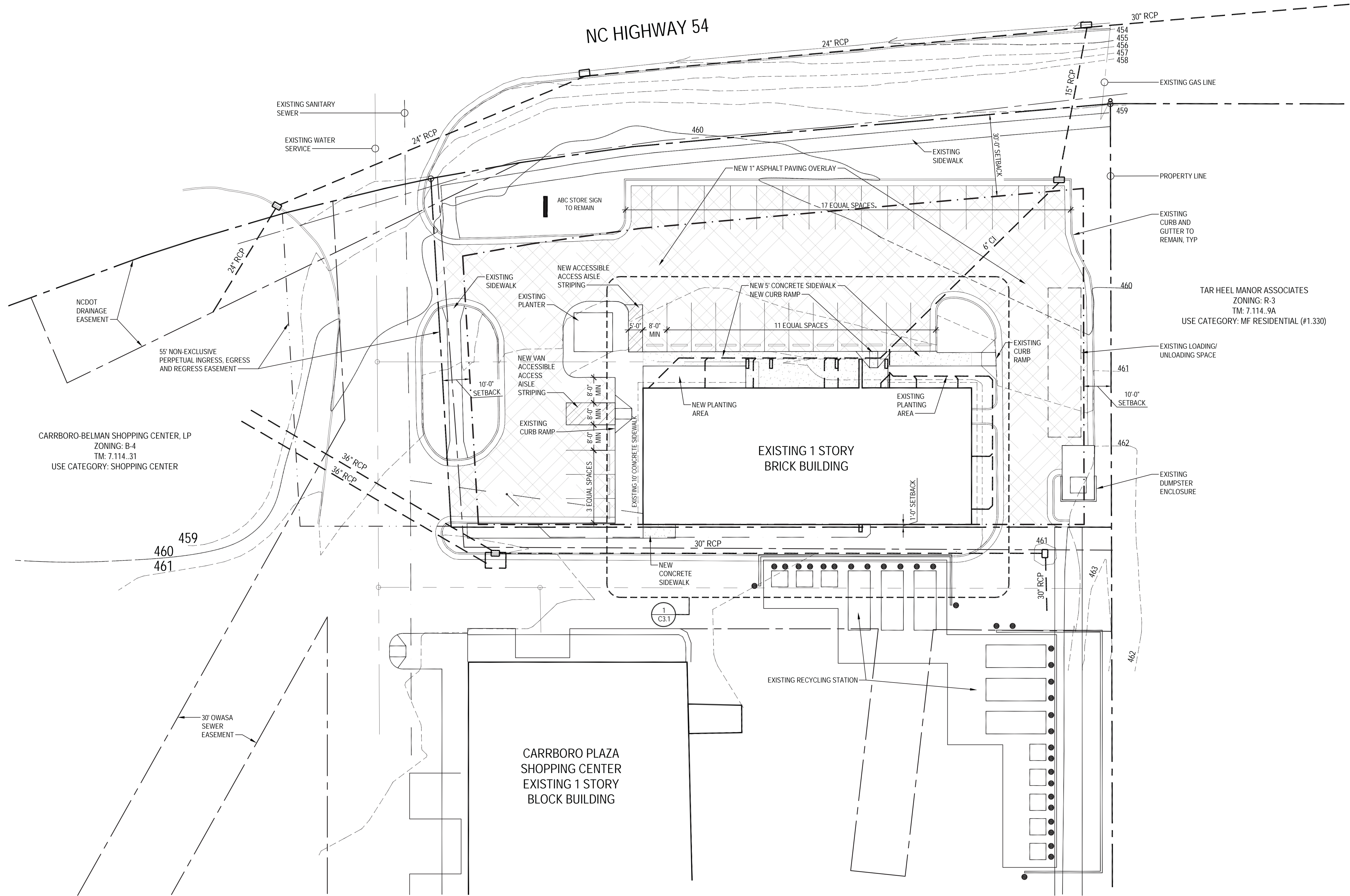
Carrboro, NC

Job Number: 1716
Date: 1.12.18
Revisions:



SITE PLAN
Sheet

C2.1



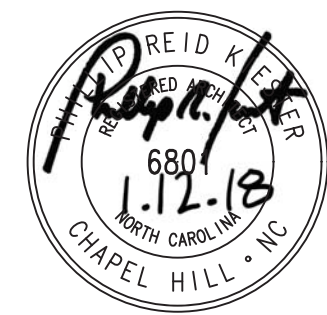
SITE PLAN
SCALE: 1"=20'

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Carrboro ABC

Carrboro, NC

Job Number: 1716
Date: 1.12.18
Revisions:

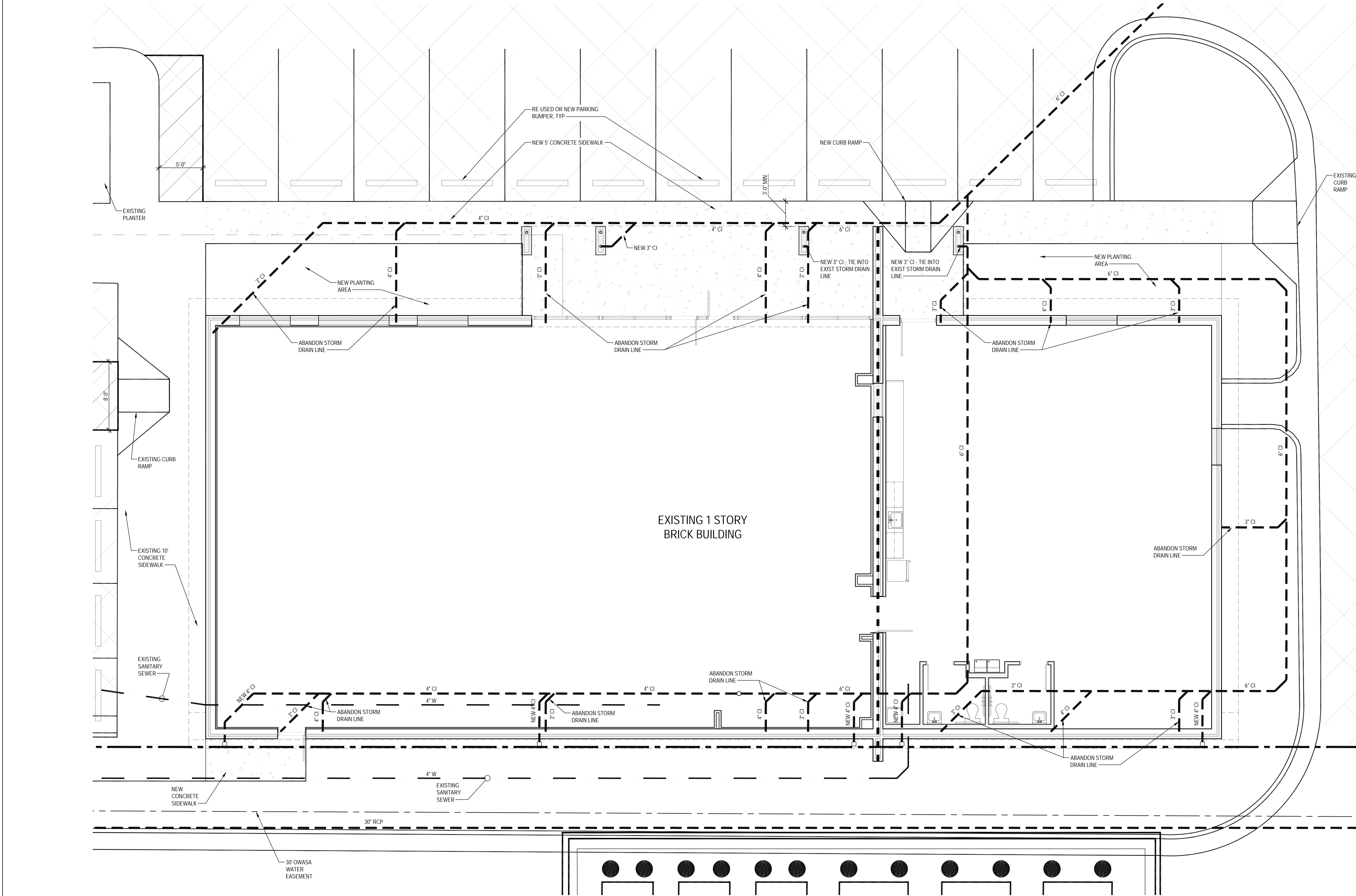


ENLARGED SITE PLAN

Sheet

C3.1

1



ENLARGED SITE PLAN

SCALE: 1/8" = 1'-0"

TYP WALL INFILL

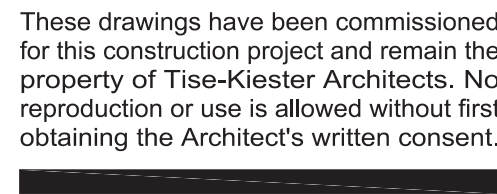
- FACE BRICK VENEER
- AIR SPACE
- 1 1/2" RIGID INSUL
- BLDG WRAP W/ TAPED SEAMS
- 3/4" PLYWD SHEATHING
- 2x8 WD STUDS AT 16" OC (RIPPED TO REQ DEPTH)
- R-21 BATT INSUL BTWN STUDS
- 5/8" GWB (6" PLYWD AT RETAIL 108)

IN FILL EXISTING DOOR
OPNG WITH 12", 3 HOUR
FIRE RATED CMU - UL
DESIGN NO. U904

**ALL CASEWORK, SHELVING AND DISPLAYS IN SALES
107 AND RETAIL 108 FABRICATED AND INSTALLED BY
OTHERS - CONTRACTOR TO PROVIDE ROUGH-IN ONLY**

**NEW CONCRETE SIDEWALK - EAST
EDGE TO ALIGN W/ EXISTING PAVING**

FLOOR PLAN
SCALE: 3/16" = 1'-0"



Carrboro, NC

- Job Number: 1716
- Date: 1.12.18
- Revisions:



FLOOR PLAN

Sheet

A1.1



Existing View
NTS 4



Existing View
NTS 3



Existing View
NTS 2

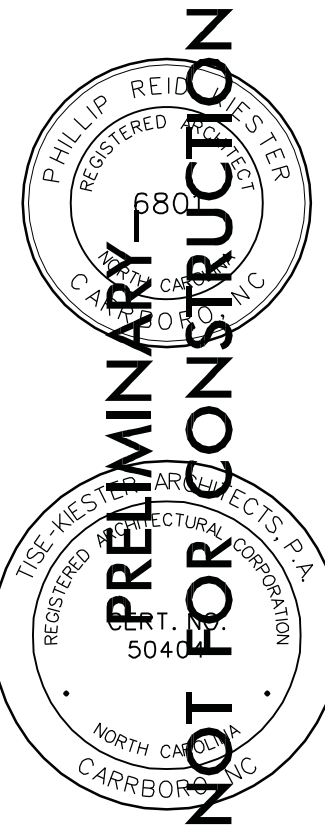


Existing View
NTS 1

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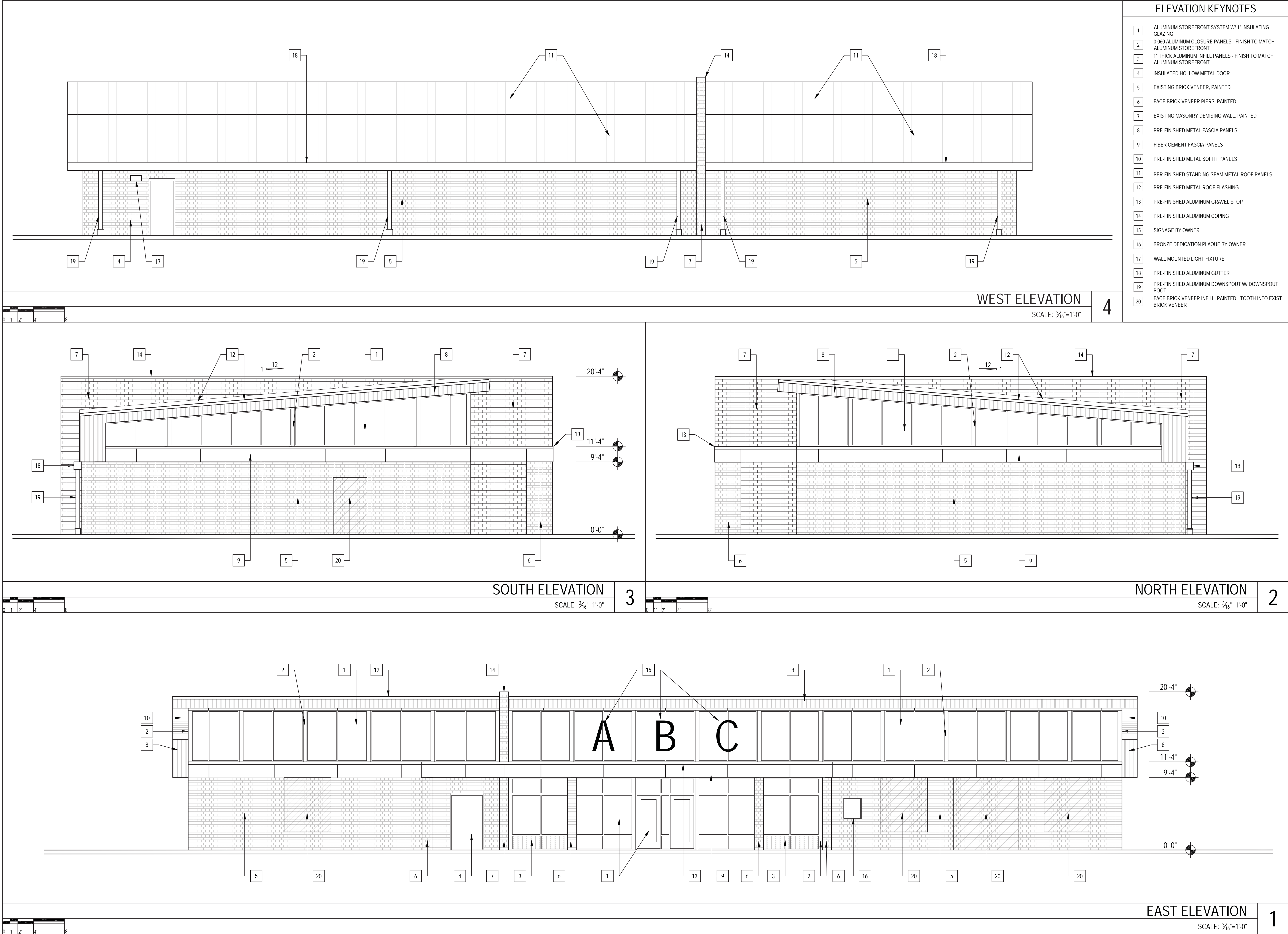
Carrboro
ABC
Carrboro, NC

- Job Number: 0000
- Date: 01.15.18
- Revisions:



Existing
Conditions
Sheet

E1.1

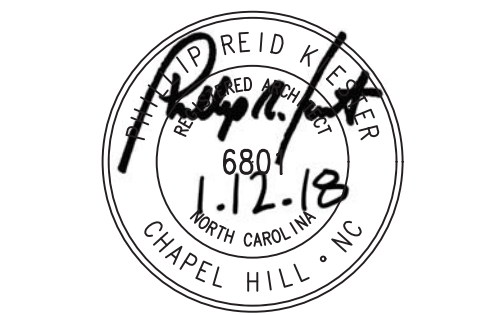


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Carrboro ABC

Carrboro, NC

Job Number: 1716
Date: 1.12.18
Revisions:



EXTERIOR
ELEVATIONS

Sheet

A3.1



Town of Carrboro

Town Hall
301 W. Main St.
Carrboro, NC 27510

Legislation Details (With Text)

File #:	17-382	Version:	1	Name:	
Type:	Agendas	Status:		Agenda Ready	
File created:	1/9/2018	In control:		Board of Aldermen	
On agenda:	1/23/2018	Final action:			
Title:	Request to Make Appointments to the Stormwater Advisory Commission				
	PURPOSE: The purpose of this agenda item is for the Board of Aldermen to make appointments to the Stormwater Advisory Commission				
Indexes:					
Code sections:					
Attachments:	Attachment A - Appointment Resolution Attachment B -SWAC Applicants				

Date	Ver.	Action By	Action	Result
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TITLE:

Request to Make Appointments to the Stormwater Advisory Commission

PURPOSE: The purpose of this agenda item is for the Board of Aldermen to make appointments to the Stormwater Advisory Commission

DEPARTMENT: Town Clerk, Public Works

CONTACT INFORMATION: Rebecca Buzzard, 919-918-7309; Randy Dodd, 919-918-7341

INFORMATION: The Carrboro Stormwater Advisory Commission was created on September 5, 2017. Vacancies for the position were advertised and seven applications have been received. All applications, with an applicant information matrix, are provided for the Board of Aldermen to review in the resolution. From Section 3-24.15 of the Town Code:

“There shall be a Carrboro Stormwater Advisory Commission composed of seven (7) members and one (1) liaison member. The liaison member shall be a member of the Board of Aldermen appointed by the Board of Aldermen. The voting members shall be appointed by the Board of Aldermen and shall be composed as follows:

- (1) Five residents of the Town of Carrboro;
 - (2) One resident of the Town’s extraterritorial zoning jurisdiction or the Town; and
 - (3) One member who need not be a resident of the Town of Carrboro, but who must possess special expertise related to stormwater management.
- (b) Term. The seven (7) regular members of the Commission shall serve three (3) year, staggered terms, and

shall continue to serve as members until their successors have been appointed. Members may serve up to two (2) consecutive full terms at the discretion of the Board of Aldermen.

(c) Purpose. The purpose of the Carrboro Stormwater Advisory Commission is as follows:

- (1) To investigate and advise the Board of Aldermen on policies, ordinances, best management practices, and administrative procedures regarding stormwater management;
- (2) To investigate, review and make recommendations to the Board of Aldermen for new or revised policies regarding the Town's Stormwater Management Utility and Stormwater Management Enterprise Fund;
- (3) To investigate, review and make recommendations to the Board of Aldermen concerning new or revised land use ordinance provisions related to stormwater management;
- (4) To review the Town's Stormwater Management Program and Plan, stormwater compliance activities, and other stormwater related plans, and make recommendations to prioritize or adjust activities;
- (5) To investigate and provide recommendations regarding stormwater runoff for new development and re-development projects when requested by the Board or staff;
- (6) To review and approve annual (and other) staff reports to the Board of Aldermen regarding the Town's stormwater management duties;
- (7) To fulfill the Town's requirements under its NPDES Phase II stormwater permit for citizens' input of stormwater management activities; and
- (8) Organize subcommittees concerning specific topics or issues related to stormwater management as needed or as requested by Town Staff.

(d) The Carrboro Stormwater Advisory Commission shall report to the Town Board.

(e) The Carrboro Stormwater Advisory Commission shall meet monthly, or as otherwise necessary to advance policy and funding decisions.”

All seats are open and details are shown below.

Seat Designation	Term Expiration
------------------	-----------------

In-Town	2/2019
In-Town	2/2019
In-Town	2/2020
In-Town	2/2020
In-Town	2/2021
ETJ or In-Town	2/2021
Special Expertise Related to Stormwater	2/2021

All seven applicants reside within Carrboro; none reside in the ETJ. The following applicants listed special experience related to stormwater: John Cox, Jeanette O'Connor, Michael Paul, Thomas Hoban, with Mr. Cox having the most extensive experience, having served as Stormwater Manager for Durham for 20 years. The remaining applicants are eligible for the in-town seats.

Making appointments to the Commission will enable staff to begin meeting with the Commission. The attached resolution allows the Board to make the first appointments to the Commission, and also assumes the Board will choose to appoint all seven applicants. It is worth noting that two of the applicants (Jeanette

O'Connor and Tom Hoban) are currently members of the EAB, and have indicated to staff that they would resign those seats if they are appointed to the Commission. Doing so would leave the EAB with 2 vacancies to fill of 7 seven seats.

FISCAL & STAFF IMPACT: N/A

RECOMMENDATION: It is recommended that the Board adopt the resolution.

ATTACHMENT A

**A RESOLUTION MAKING APPOINTMENTS TO THE
STORMWATER ADVISORY COMMISSION**

THE BOARD OF ALDERMEN HEREBY APPOINTS THE FOLLOWING APPLICANT(S)
TO THE STORMWATER ADVISORY COMMISSION:

Seat Designation	Appointee	Term Expiration
In-Town	Kevin Brigham	2/2019
In-Town	Robert Dickson	2/2019
In-Town	Shauna Hay	2/2020
In-Town	Thomas Hoban	2/2020
In-Town	Jeanette O'Connor	2/2021
In-Town	Michael Paul	2/2021
Special Expertise Related to Stormwater	John Cox	2/2021

The first In-Town seat that is vacated will thereafter be listed as an In-Town/ETJ seat.

Section 2. This resolution shall become effective upon adoption.

Print**Advisory Board Application - Submission #2842**

Date Submitted: 10/3/2017**Name***

John Cox

Date*

10/4/2017

Select today's date

Please type your first and last name.

Address1*

107 Yeargen Place

Address2**City***

Chapel Hill

State

NC

Zip*

27516

Is this address located within the corporate limits of the Town of Carrboro?*

Yes

Please select Yes or No.

Telephone*

9198194383

Please enter your primary contact phone number.

Email Address*

john.hume.cox@gmail.com

Enter your primary email address.

Date of Birth*

1/14/1950

Please enter your Month/Day/Year of Birth

Race*

Caucasian

Please enter your race.

Sex*

Male

Please enter your sex.

Occupation*

Engineer, Retired

Please enter your occupation.

Are you a registered Orange County Voter?*

Yes

Please answer Yes or No

Length of Residence in Orange County*

24

How long have you been a resident of Orange County?

Length of Residence in the Town of Carrboro*

24

How long have you been a resident of the Town of Carrboro?

I wish to be considered for appointment to the following committee/board(s) (Do Not Select More Than Three):*

- | | |
|--|---|
| <input type="checkbox"/> Affordable Housing Advisory Commission | <input type="checkbox"/> Northern Transition Area Advisory Committee |
| <input type="checkbox"/> Animal Control Board of Appeals | <input checked="" type="checkbox"/> OWASA Board of Directors |
| <input type="checkbox"/> Appearance Commission/NPDC | <input type="checkbox"/> Orange County Economic Development Commission |
| <input type="checkbox"/> Arts Committee | <input type="checkbox"/> Orange County Human Relations Commission |
| <input type="checkbox"/> Board of Adjustment | <input type="checkbox"/> Planning Board |
| <input type="checkbox"/> Economic Sustainability Commission | <input type="checkbox"/> Recreation and Parks Commission |
| <input checked="" type="checkbox"/> Environmental Advisory Board | <input type="checkbox"/> Safe Routes to School Implementation Committee |
| <input type="checkbox"/> Human Services Commission | <input type="checkbox"/> Tourism Development Authority* |
| <input type="checkbox"/> Greenways Commission | <input type="checkbox"/> Transportation Advisory Board |

Please note that membership is limited to one advisory board at a time. You shall not be considered for appointment to another board unless you resign before filing an application or you are in the last six months of your current term.

Other (advisory board not listed):

Stormwater Advisory Commission

Please indicate by typing the advisory board that you are applying for.

Advisory Board Preference

Stormwater Advisory Commission

If you are applying for membership on more than one advisory board, please indicate your preference by typing your first choice below with a "1" next to it. Please limit your selection to two boards).

***Employer/Self Employed**

Retired (City of Durham-Stormwater Manager)

Number of Years Employed*

20

Please enter your employment information. This is a requirement for application for the Tourism Development Authority.

Enter the number of years you have been employed at the organization listed to the left.

*** Provide examples of how you are involved in the promotion of travel and tourism in the Town of Carrboro.**

Required only for the Tourism Development Authority Application.

Community Activities/Organizational Memberships*

Volunteer for Habitat for Humanities projects in Durham.

Please enter the requested information.

Experience to Aid You in Working on Advisory Boards*

I have 20 years experience in stormwater management, having recently retired as Water Quality Manager for the City of Durham's Stormwater Program. In 2017 I was recognized as Stormwater Professional of the Year by my peers in the NC American Public Works Association's Stormwater Division. Our program has been a leader in many areas. Innovative stormwater programs include: "State of Our Streams" annual report to citizens, illicit discharge detection and elimination (presenter on two national webcasts), watershed planning to assess problems and develop cost-effective solutions. I have served as a grant reviewer for NC Water Resources Research Institute. Prior to working in stormwater, I worked for 20 years primarily for national consulting environmental engineering firms working for municipal clients.

Reasons You Wish to be Appointed*

I would love to give back to my community, to continue to learn, and to network with others who have similar interests. My father and grandfather both served on commissions during their lifetimes. I, too, wish to serve my community. Carrboro faces challenges and opportunities that are somewhat different than those I have been working to solve, and offers an opportunity for creative approaches.

Have you ever served on any Town of Carrboro Committee or Board?*

No

If yes, which one(s)?**Are you currently serving on a Town Board or Committee?***☐ Yes☒ No

If yes, are you applying for a third consecutive term?*

☐ Yes

☒ No

If yes, please describe how you meet one, or more, of the following exceptions noted below. *Members of the Board of Adjustment, Environmental Advisory Board, Human Services Advisory Commission, and Transportation Advisory Board may be reappointed to successive terms without limitation (Sections 15-29(c), 15-45(c) 3-7(d), 3-24(c))*

I responded No - I am not applying for successive term or reappointment to any Board or Commission.

After completing two full terms, a member must take off one year before applying for re-appointment to the advisory board. However, a board member may apply to serve on another advisory board if he/she desires. The Board of Aldermen may make exceptions to this rule under the following circumstances: 1. To retain diversity on an advisory board; 2. To provide continuity in oversight of a major, on-going project; 3. To keep a member who provides expertise otherwise unavailable on an advisory board (e.g., an engineer on the Planning Board or Board of Adjustment); or 4. A lack of qualified applicants.

Sharmin Mirman

From: noreply@civicplus.com
Sent: Wednesday, January 03, 2018 1:48 PM
To: Catherine Dorando; Sharmin Mirman
Subject: Online Form Submittal: Advisory Board Application

Advisory Board Application

First Name	Jeanette
Last Name	OConnor
Date	1/3/2018
Address1	103 MULBERRY ST
Address2	<i>Field not completed.</i>
City	Carrboro
State	NC
Zip	27510
Is this address located within the corporate limits of the Town of Carrboro?	Yes
Is this address located within the Town's ETJ, Planning Jurisdiction, or Northern Transition Area?	No
Telephone	7036786893
Email Address	jeanette.oconnor@gmail.com
Date of Birth	1/13/1982
Race	White
Sex	Female
Occupation	Landscaper
Are you a registered	Yes

Orange County Voter?

Length of Residence in Orange County	4 years
Length of Residence in the Town of Carrboro	4 years
I wish to be considered for appointment to the following committee/board(s) (Do Not Select More Than Two):	Stormwater Advisory Commission
Other (advisory board not listed):	<i>Field not completed.</i>
Advisory Board Preference	Stormwater Advisory Commission
*Employer/Self Employed	Lands and waters South
Number of Years Employed	3 years
* Provide examples of how you are involved in the promotion of travel and tourism in the Town of Carrboro.	<i>Field not completed.</i>
Community Activities/Organizational Memberships	Member of: Environmental Advisory Board Climate Task Force Orange County Commission for the Environment
Experience to Aid You in Working on Advisory Boards	I've been a member of the EAB for several years now, was part of the Climate Task Force that drafted the Town's climate action plan, and have recently rotated off of the County's version of the EAB (the Commission for the Environment).
Reasons You Wish to be Appointed	I've really enjoyed working with the EAB to protect Carrboro's natural resources. I've learned a lot from other members and hope that I've contributed in a positive way to the proposals set before us. However, much of my professional life is devoted to working on stormwater issues with schools, so I'm interested in helping the newly formed Stormwater Advisory Commission as it begins tackling Carrboro's current and future stormwater issues. I have eight years of experience in this field, a Master's

degree in landscape design, and certifications from NC State University in both residential rain gardens and stormwater BMP Inspection and Maintenance.

Have you ever served on any Town of Carrboro Committee or Board? Yes

If yes, which one(s)? EAB, Climate Task Force

Are you currently serving on a Town Board or Committee? Yes

If yes, are you applying for a third consecutive term? No

If yes, please describe how you meet one, or more, of the following exceptions noted below.
*Members of the Board of Adjustment, Environmental Advisory Board, Human Services Advisory Commission, and Transportation Advisory Board may be reappointed to successive terms without limitation (Sections 15-29(c), 15-45(c) 3-7(d), 3-24(c))

The form is requiring that I respond to this question, but I'm not applying for a third consecutive term on the EAB at this time.

Email not displaying correctly? [View it in your browser.](#)

Print**Advisory Board Application - Submission #2836**

Date Submitted: 9/28/2017**Name***

Michael Paul

Date*

9/28/2017

Select today's date

Please type your first and last name.

Address1*

702 Bolin Creek Drive

Address2**City***

Carrboro

State

NC

Zip*

27510

Is this address located within the corporate limits of the Town of Carrboro?*

Yes

Please select Yes or No.

Telephone*

4437912514

Please enter your primary contact phone number.

Email Address*

mikejpaul13@gmail.com

Enter your primary email address.

Date of Birth*

6/14/1968

Please enter your Month/Day/Year of Birth

Race*

White

Please enter your race.

Sex*

Male

Please enter your sex.

Occupation*

Consulting Scientist

Please enter your occupation.

Are you a registered Orange County Voter?*

Yes

Please answer Yes or No

Length of Residence in Orange County*

7 years

How long have you been a resident of Orange County?

Length of Residence in the Town of Carrboro*

7 years

How long have you been a resident of the Town of Carrboro?

I wish to be considered for appointment to the following committee/board(s) (Do Not Select More Than Three):*

- | | |
|--|---|
| <input type="checkbox"/> Affordable Housing Advisory Commission | <input type="checkbox"/> Northern Transition Area Advisory Committee |
| <input type="checkbox"/> Animal Control Board of Appeals | <input type="checkbox"/> OWASA Board of Directors |
| <input type="checkbox"/> Appearance Commission/NPDC | <input type="checkbox"/> Orange County Economic Development Commission |
| <input type="checkbox"/> Arts Committee | <input type="checkbox"/> Orange County Human Relations Commission |
| <input type="checkbox"/> Board of Adjustment | <input type="checkbox"/> Planning Board |
| <input type="checkbox"/> Economic Sustainability Commission | <input type="checkbox"/> Recreation and Parks Commission |
| <input checked="" type="checkbox"/> Environmental Advisory Board | <input type="checkbox"/> Safe Routes to School Implementation Committee |
| <input type="checkbox"/> Human Services Commission | <input type="checkbox"/> Tourism Development Authority* |
| <input checked="" type="checkbox"/> Greenways Commission | <input type="checkbox"/> Transportation Advisory Board |

Please note that membership is limited to one advisory board at a time. You shall not be considered for appointment to another board unless you resign before filing an application or you are in the last six months of your current term.

Other (advisory board not listed):

Stormwater Advisory Board

Please indicate by typing the advisory board that you are applying for.

Advisory Board Preference

Stormwater Advisory Board

If you are applying for membership on more than one advisory board, please indicate your preference by typing your first choice below with a "1" next to it. Please limit your selection to two boards).

***Employer/Self Employed**

Tetra Tech Inc.

Number of Years Employed*

16

Please enter your employment information. This is a requirement for application for the Tourism Development Authority.

Enter the number of years you have been employed at the organization listed to the left.

*** Provide examples of how you are involved in the promotion of travel and tourism in the Town of Carrboro.**

Required only for the Tourism Development Authority Application.

Community Activities/Organizational Memberships*

Friends of Bolin Creek - staff scientist
Society for Freshwater Scientist - Science and Policy Chair

Please enter the requested information.

Experience to Aid You in Working on Advisory Boards*

I am an aquatic ecosystem ecologist/biogeochemist with 20 years of experience in the research and management of aquatic ecosystems. My work, which has included teaching, research, and public policy, has focused on the ecology of freshwater ecosystems, including more than 12 years' experience in water quality standards development across the nation. I have provided technical support in environmental; assessment and protective criteria development for more than 30 states, tribes, and federal government agencies, have developed instructional materials for and led instructional workshops on environmental assessment, analysis, and criteria development across the nation, and have co-authored national guidance as well as scientific papers on the assessment, protection, and ecology of freshwater ecosystems. I have also been involved in several EPA Office of Research and Development ecological risk assessment projects involving causal analysis, multiple stressor analysis, and the effects of climate change on state water quality assessment and criteria programs. I currently manage a national nutrient criteria support center for EPA Office of Science and Technology and an Ecological Risk Support contract for the USEPA Office of Research and Development. I have authored more than 30 peer reviewed scientific papers, proceedings, book chapters, and more than 10 government reports, and more than 50 technical reports related to water quality and

Reasons You Wish to be Appointed*

I would like to apply the experience gathered over a 20+ year career in ecology, water quality science and management to helping protect environmental resources in my own community. I feel my expertise and experience would be a benefit to informing the identification and selection of sound strategies for managing our local environment into the future. I am particularly concerned about stormwater management and the opportunities now presented to Carrboro to better manage stormwater into the future.

Have you ever served on any Town of Carrboro Committee or Board?*

No

If yes, which one(s)?

Are you currently serving on a Town Board or Committee?*☐ Yes☒ No**If yes, are you applying for a third consecutive term?***☐ Yes☒ No

If yes, please describe how you meet one, or more, of the following exceptions noted below. *Members of the Board of Adjustment, Environmental Advisory Board, Human Services Advisory Commission, and Transportation Advisory Board may be reappointed to successive terms without limitation (Sections 15-29(c), 15-45(c) 3-7(d), 3-24(c))*

Not applicable

After completing two full terms, a member must take off one year before applying for re-appointment to the advisory board. However, a board member may apply to serve on another advisory board if he/she desires. The Board of Aldermen may make exceptions to this rule under the following circumstances: 1. To retain diversity on an advisory board; 2. To provide continuity in oversight of a major, on-going project; 3. To keep a member who provides expertise otherwise unavailable on an advisory board (e.g., an engineer on the Planning Board or Board of Adjustment); or 4. A lack of qualified applicants.

Sharmin Mirman

From: noreply@civicplus.com
Sent: Monday, January 08, 2018 10:16 AM
To: Catherine Dorando; Sharmin Mirman
Subject: Online Form Submittal: Advisory Board Application

Advisory Board Application

First Name	Thomas
Last Name	Hoban
Date	1/8/2018
Address1	112 Hillcrest Ave
Address2	<i>Field not completed.</i>
City	Carrboro
State	NC
Zip	27510
Is this address located within the corporate limits of the Town of Carrboro?	Yes
Is this address located within the Town's ETJ, Planning Jurisdiction, or Northern Transition Area?	No
Telephone	9192226757
Email Address	<u>drtomhoban@gmail.com</u>
Date of Birth	5/4/1952
Race	White
Sex	Male
Occupation	Executive Director
Are you a registered	Yes

Orange County Voter?

Length of Residence in Orange County	10 years
Length of Residence in the Town of Carrboro	10 years
I wish to be considered for appointment to the following committee/board(s) (Do Not Select More Than Two):	Stormwater Advisory Commission
Other (advisory board not listed):	<i>Field not completed.</i>
Advisory Board Preference	Stormwater Advisory Commission
*Employer/Self Employed	Cape Fear River Assembly
Number of Years Employed	5
* Provide examples of how you are involved in the promotion of travel and tourism in the Town of Carrboro.	<i>Field not completed.</i>
Community Activities/Organizational Memberships	Friends of Bolin Creek Morgan Creek Valley Alliance North Carolina Water Resources Association
Experience to Aid You in Working on Advisory Boards	I have worked on stormwater management in some form or another for over four decades. This started with my work in graduate school where I studied farmers' adoption of best management practices (BMPs.) Then during my 25 year on the faculty of NC State University I worked on a number of research and outreach programs promoting the adoption of BMPs - both in rural and urban areas. In my current position as Executive Director of the Cape Fear River Assembly I am involved with a number of water quality programs. I am also working with the Jordan Lake One Water Association.
Reasons You Wish to be Appointed	I understand and am concerned about the impacts of stormwater runoff on Jordan Lake and other water bodies. In

particular I want to help address the impacts of stormwater from construction sites. I also understand how urban stormwater can carry additional chemicals and other pollution from paved areas through the stormwater system. My strongest interest and experience is in educating the public about water quality and the impacts of stormwater.

Have you ever served on any Town of Carrboro Committee or Board?

Yes

If yes, which one(s)?

Environmental Advisory Board

Are you currently serving on a Town Board or Committee?

Yes

If yes, are you applying for a third consecutive term?

No

If yes, please describe how you meet one, or more, of the following exceptions noted below.
*Members of the Board of Adjustment, Environmental Advisory Board, Human Services Advisory Commission, and Transportation Advisory Board may be reappointed to successive terms without limitation (Sections 15-29(c), 15-45(c) 3-7(d), 3-24(c))

Not seeking another term as a member of the Environmental Advisory Board.

Email not displaying correctly? [View it in your browser.](#)

Print**Advisory Board Application - Submission #2943**

Date Submitted: 1/1/2018**First Name***

Robert

Last Name*

Dickson

Date*

1/1/2018

Select today's date

Address1*

116 Circadian Way

Address2**City***

Chapel Hill

State

NC

Zip*

27516

Is this address located within the corporate limits of the Town of Carrboro?*

Yes

Please select Yes or No.

Is this address located within the Town's ETJ, Planning Jurisdiction, or Northern Transition Area?*

No

Telephone*

9195936769

Please enter your primary contact phone number.

Email Address*

robert@thenews-journal.com

Enter your primary email address.

Date of Birth*

2/24/1951

Please enter your Month/Day/Year of Birth

Race*

caucasian

Please enter your race.

Sex*

male

Please enter your sex.

Occupation*

newspaper owner

Please enter your occupation.

Are you a registered Orange County Voter?*

Yes

Please answer Yes or No

Length of Residence in Orange County*

13

How long have you been a resident of Orange County?

Length of Residence in the Town of Carrboro*

13

How long have you been a resident of the Town of Carrboro?

I wish to be considered for appointment to the following committee/board(s) (Do Not Select More Than Two):*

- | | |
|---|---|
| <input type="checkbox"/> Affordable Housing Advisory Commission | <input type="checkbox"/> Northern Transition Area Advisory Committee |
| <input type="checkbox"/> Animal Control Board of Appeals | <input type="checkbox"/> OWASA Board of Directors |
| <input type="checkbox"/> Appearance Commission/NPDC | <input type="checkbox"/> Planning Board |
| <input type="checkbox"/> Arts Committee | <input type="checkbox"/> Recreation and Parks Commission |
| <input type="checkbox"/> Board of Adjustment | <input type="checkbox"/> Safe Routes to School Implementation Committee |
| <input type="checkbox"/> Economic Sustainability Commission | <input checked="" type="checkbox"/> Stormwater Advisory Commission |
| <input type="checkbox"/> Environmental Advisory Board | <input type="checkbox"/> Tourism Development Authority* |
| <input type="checkbox"/> Human Services Commission | <input type="checkbox"/> Transportation Advisory Board |
| <input type="checkbox"/> Greenways Commission | |

Please note that membership is limited to one advisory board at a time. You shall not be considered for appointment to another board unless you resign before filing an application or you are in the last six months of your current term.

Other (advisory board not listed):

Please indicate by typing the advisory board that you are applying for.

Advisory Board Preference*

stormwater advisory commission

If you are applying for membership on more than one advisory board, please indicate your preference by typing your first choice. Please limit your selection to two boards).

***Employer/Self Employed**

Dickson Press, Inc.

Please enter your employment information. This is a requirement for application for the Tourism Development Authority.

Number of Years Employed*

40

Enter the number of years you have been employed at the organization listed to the left.

*** Provide examples of how you are involved in the promotion of travel and tourism in the Town of Carrboro.**

Required only for the Tourism Development Authority Application.

Community Activities/Organizational Memberships*

served on the Local Living Economy Taskforce
published The Carrboro Citizen newspaper 2007-2012

Please enter the requested information.

Experience to Aid You in Working on Advisory Boards*

my previous experience on LLE Taskforce as well as many years of collaborating in business.
I also have a degree in Mechanical Engineering which might be helpful on the Stormwater Commission.
Member of the Arcadia Cohousing community which makes all decisions by consensus.

Reasons You Wish to be Appointed*

Carrboro is a great place to live so I don't have any ax to grind. I'd just like to reengage actively with my town after taking a break from my years of publishing The Citizen.
I also feel that stormwater has already been shown to be a critical issue to our town both in developed areas as well as in proposed developments. I think my years of business experience can be helpful in setting up an efficient and effective Stormwater Utility.

Have you ever served on any Town of Carrboro Committee or Board?*

Yes

If yes, which one(s)?

Local Living Economy Taskforce

Are you currently serving on a Town Board or Committee?*

☐ Yes

☒ No

If yes, are you applying for a third consecutive term?*

☐ Yes

☒ No

If yes, please describe how you meet one, or more, of the following exceptions noted below. *Members of the Board of Adjustment, Environmental Advisory Board, Human Services Advisory Commission, and Transportation Advisory Board may be reappointed to successive terms without limitation (Sections 15-29(c), 15-45(c) 3-7(d), 3-24(c))*

n/a

After completing two full terms, a member must take off one year before applying for re-appointment to the advisory board. However, a board member may apply to serve on another advisory board if he/she desires. The Board of Aldermen may make exceptions to this rule under the following circumstances: 1. To retain diversity on an advisory board; 2. To provide continuity in oversight of a major, on-going project; 3. To keep a member who provides expertise otherwise unavailable on an advisory board (e.g., an engineer on the Planning Board or Board of Adjustment); or 4. A lack of qualified applicants.

Print**Advisory Board Application - Submission #2766**

Date Submitted: 9/8/2017**Name***

SHAUNA HAY

Date*

9/8/2017

Select today's date

Please type your first and last name.

Address1*

211 CAROL ST

Address2**City***

CARRBORO

State

NC

Zip*

27510

Is this address located within the corporate limits of the Town of Carrboro?*

Yes

Please select Yes or No.

Telephone*

9199325390

Please enter your primary contact phone number.

Email Address*

shaunanhay@gmail.com

Enter your primary email address.

Date of Birth*

7/28/1973

Please enter your Month/Day/Year of Birth

Race*

CAUCASIAN

Please enter your race.

Sex*

FEMALE

Please enter your sex.

Occupation*DIRECTOR CLINICAL
PROGRAMS

Please enter your
occupation.

**Are you a registered
Orange County Voter?***

Yes

Please answer Yes or No

**Length of Residence in Orange
County***

18 YEARS

How long have you been a resident
of Orange County?

Length of Residence in the Town of Carrboro*

13 YEARS

How long have you been a resident of the Town of Carrboro?

I wish to be considered for appointment to the following committee/board(s) (Do Not Select More Than Three):*

- | | |
|---|---|
| <input type="checkbox"/> Affordable Housing Advisory Commission | <input type="checkbox"/> Northern Transition Area Advisory Committee |
| <input type="checkbox"/> Animal Control Board of Appeals | <input type="checkbox"/> OWASA Board of Directors |
| <input type="checkbox"/> Appearance Commission/NPDC | <input type="checkbox"/> Orange County Economic Development Commission |
| <input type="checkbox"/> Arts Committee | <input type="checkbox"/> Orange County Human Relations Commission |
| <input type="checkbox"/> Board of Adjustment | <input checked="" type="checkbox"/> Planning Board |
| <input type="checkbox"/> Economic Sustainability Commission | <input type="checkbox"/> Recreation and Parks Commission |
| <input type="checkbox"/> Environmental Advisory Board | <input type="checkbox"/> Safe Routes to School Implementation Committee |
| <input type="checkbox"/> Human Services Commission | <input type="checkbox"/> Tourism Development Authority* |
| <input type="checkbox"/> Greenways Commission | <input type="checkbox"/> Transportation Advisory Board |

Please note that membership is limited to one advisory board at a time. You shall not be considered for appointment to another board unless you resign before filing an application or you are in the last six months of your current term.

Other (advisory board not listed):

STORMWATER ADVISORY

Please indicate by typing the advisory board that you are
applying for.

Advisory Board PreferenceSTORMWATER ADVISORY (was not able to select Other
above)

If you are applying for membership on more than one
advisory board, please indicate your preference by typing
your first choice below with a "1" next to it. Please limit
your selection to two boards).

***Employer/Self Employed**

BEACONLBS

Number of Years Employed*

1

Please enter your employment information. This is a requirement for application for the Tourism Development Authority.

Enter the number of years you have been employed at the organization listed to the left.

*** Provide examples of how you are involved in the promotion of travel and tourism in the Town of Carrboro.**

NA

Required only for the Tourism Development Authority Application.

Community Activities/Organizational Memberships*

In previous years, I served on the Board of Directors for the Orange County Rape Crisis Center. I have also always been heavily involved in PTAs at both public and private schools in the area that my children have attended. I served for many years on the UNC School of Public Health Alumni Board.

Please enter the requested information.

Experience to Aid You in Working on Advisory Boards*

I have served on other community Boards and I am able to adapt to new styles of meeting leadership. I have an eye for details and planning and have worked in project management for quite a while.

Reasons You Wish to be Appointed*

I am lucky to live in Plantation Acres where a cohesive community has been developed, however my wonderful neighborhood is directly impacted by stormwater and subsequent flooding. It is heart wrenching to hear of neighbors, who I consider friends, have their homes flooded. Working with the Town to seek solutions to this problem is a way that I can help and hopefully prevent this from happening.

I have been interested in stepping into public service for a while and this commission has a scope that is personal to me. I hope that I will be able to represent the amazing neighbors that I have grown to see as my community.

Have you ever served on any Town of Carrboro Committee or Board?*

No

If yes, which one(s)?

NA

Are you currently serving on a Town Board or Committee?*☐ Yes☒ No

If yes, are you applying for a third consecutive term?*

☐ Yes

☒ No

If yes, please describe how you meet one, or more, of the following exceptions noted below. *Members of the Board of Adjustment, Environmental Advisory Board, Human Services Advisory Commission, and Transportation Advisory Board may be reappointed to successive terms without limitation (Sections 15-29(c), 15-45(c) 3-7(d), 3-24(c))*

NA

After completing two full terms, a member must take off one year before applying for re-appointment to the advisory board. However, a board member may apply to serve on another advisory board if he/she desires. The Board of Aldermen may make exceptions to this rule under the following circumstances: 1. To retain diversity on an advisory board; 2. To provide continuity in oversight of a major, on-going project; 3. To keep a member who provides expertise otherwise unavailable on an advisory board (e.g., an engineer on the Planning Board or Board of Adjustment); or 4. A lack of qualified applicants.

Advisory Board Application

First Name	Kevin
Last Name	Brigham
Date	1/14/2018
Address1	306 Rainbow Dr
Address2	<i>Field not completed.</i>
City	Carrboro
State	NC
Zip	27510
Is this address located within the corporate limits of the Town of Carrboro?	Yes
Is this address located within the Town's ETJ, Planning Jurisdiction, or Northern Transition Area?	No
Telephone	9196199821
Email Address	kevin.br19ham@gmail.com
Date of Birth	8/12/1974
Race	white
Sex	Male
Occupation	UPS On-Car Supervisor
Are you a registered Orange County Voter?	Yes
Length of Residence in Orange County	4 years

Length of Residence in the Town of Carrboro	4 years
I wish to be considered for appointment to the following committee/board(s) (Do Not Select More Than Two):	Stormwater Advisory Commission
Other (advisory board not listed):	<i>Field not completed.</i>
Advisory Board Preference	Stormwater Advisory Commission
*Employer/Self Employed	UPS
Number of Years Employed	3
* Provide examples of how you are involved in the promotion of travel and tourism in the Town of Carrboro.	<i>Field not completed.</i>
Community Activities/Organizational Memberships	None
Experience to Aid You in Working on Advisory Boards	Volunteered w/ United Way
Reasons You Wish to be Appointed	I having personally experienced / witnessed flooding in the neighborhood in which I live and would like to contribute to preventing further damage caused by this issue.
Have you ever served on any Town of Carrboro Committee or Board?	No
If yes, which one(s)?	<i>Field not completed.</i>

Are you currently serving on a Town Board or Committee?	No
---	----

If yes, are you applying for a third consecutive term?	No
--	----

If yes, please describe how you meet one, or more, of the following exceptions noted below. *Members of the Board of Adjustment, Environmental Advisory Board, Human Services Advisory Commission, and Transportation Advisory Board may be reappointed to successive terms without limitation (Sections 15-29(c), 15-45(c) 3-7(d), 3-24(c))	N/A
--	-----



Legislation Details (With Text)

File #:	17-391	Version:	1	Name:	
Type:	Agendas	Status:		Agenda Ready	
File created:	1/16/2018	In control:		Board of Aldermen	
On agenda:	1/23/2018	Final action:			
Title:	Request to Authorize the Town Manager to Enter into a Performance Agreement with CASA PURPOSE: The purpose of this item is for the Board of Aldermen to consider authorizing the Town Manager to enter into a performance agreement regarding the proposed development by CASA on Merritt Mill Rd.				
Indexes:					
Code sections:					
Attachments:	Attachment A- CASA Agreement Attachment B - Resolution				

Date	Ver.	Action By	Action	Result
------	------	-----------	--------	--------

TITLE:

Request to Authorize the Town Manager to Enter into a Performance Agreement with CASA

PURPOSE: The purpose of this item is for the Board of Aldermen to consider authorizing the Town Manager to enter into a performance agreement regarding the proposed development by CASA on Merritt Mill Rd.

DEPARTMENT: Planning/Town Manager's Office

CONTACT INFORMATION: Trish McGuire 919-918-7327, Julie Eckenrode 919-918-7308

INFORMATION: On March 21, 2017, The Board of Aldermen approved a request for funding from CASA for an affordable housing project on Merritt Mill. CASA was approved to receive grant of \$357,208 for land banking for two contiguous properties, 802 and 806 South Merritt Mill Road in Carrboro.

Town staff and attorneys have worked with CASA to develop a performance agreement that outlines the payment of the grant and other stipulations. Since the initial draft of this agreement, it should be noted that the grant will be paid out in a single payment. Additionally, the project will now accept tenants who are below 60% of the AMI (expanded from the original below 30%) and due to the requirements of Low Income Housing Tax Credits (LIHTC) the agreement is unable to specify that priority is given to Orange County residents.

FISCAL & STAFF IMPACT: No additional staff of fiscal impact is expected.

RECOMMENDATION: It is recommended that the Board of Aldermen pass the resolution providing the Town Manager to enter into this agreement.

NORTH CAROLINA
ORANGE COUNTY

2017-2018
PERFORMANCE AGREEMENT

THIS AGREEMENT, made and entered into the ____ day of _____, 2018 by and between the TOWN OF CARRBORO, a North Carolina Municipal Corporation, 310 West Main Street, Carrboro, North Carolina, hereinafter referred to as “Town” and CASA, a North Carolina non-profit corporation, 624 West Jones Street, Raleigh, North Carolina, hereinafter referred to as “CASA”.

W I T N E S S E T H:

WHEREAS, the Town has established an Affordable Housing Special Revenue Fund (the “Fund”) to fund affordable housing development and preservation projects and program; and

WHEREAS, the Town has committed to providing \$357,208 from the Fund to CASA for use in developing an affordable housing community in the Town (the “Project”), which will serve qualifying households earning up to 60% of the AMI as determined at the time of application. A conceptual plan depicting the proposed Project is attached to this Agreement as Attachment A.

NOW, THEREFORE, in consideration of the above and mutual covenants and conditions hereinafter set forth, the Town and CASA agree as follows:

1. Town Support

The Town will contribute a total of \$357,208 (the “Town Funds”) from the Fund to CASA for the Project, specifically for land banking for two (2) contiguous parcels (the “Property”) to be used in conjunction with an adjacent lot in Chapel Hill at 800 South Merritt Mill Road, for the development of an affordable housing development intended to serve qualifying households earning up to 60% of the AMI as determined at the time of application.

The Town shall provide the Town Funds at or prior to closing of CASA’s purchase of the Property, provided that (a) the Town has received a written notice from CASA of the closing date at least ten (10) business days prior to closing; and (b) the deed conveying title of the Property to CASA shall include a clause or deed restriction providing that (i) the Property may only be used for affordable housing purposes for qualifying households earning up to 60% of AMI and (ii) should the Property be used for any other purpose without the Town’s prior written approval, title to the Property shall vest in the Town; and (c) the Town’s obligation to contribute the Town Funds shall expire on June 30, 2019 (the “Expiration Date”) if CASA has not purchased the Merritt Mill Road property for the Project by that date. The Expiration Date may be extended by written agreement of the parties.

The Town does not obligate itself to provide any other support to CASA this fiscal year or continued support in succeeding years.

2. Time of Performance

The Project shall be completed by December 31, 2019. In the event CASA is unable to complete its obligations as described above within this time or extensions approved by the Town Manager under the terms of this Agreement, the Town may determine that CASA is in default of this Agreement and request repayment of the Town Funds.

3. Terms

The Project, when completed, shall serve eligible applicants, with a preference for existing Orange County residents, earning up to 60% of the AMI as determined at the time of application, and meeting the requirements of the Fund. If the homes are not used for the purpose described in the proposal, CASA will be required to repay the Town Funds.

4. Documentation

CASA will provide the Town with the closing statement for the land acquisition, as well as documentation of any other costs for which Town Funds have been used.

5. Financial Records

CASA agrees to allow the Town to inspect its financial books and records upon reasonable notice during normal working hours.

CASA shall submit a copy of its annual audit to the Town.

6. Work Statement

CASA agrees to provide facilities and services which are parts of the Project as described in this Agreement to residents of Orange County and to maintain a high level of professionalism in the provision of these services.

7. E-Verify

CASA shall comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Further, should CASA utilize a subcontractor(s), CASA shall require the subcontractor(s) to comply with the requirements of Article 2, Chapter 64 of the General Statutes. Pursuant to North Carolina General Statutes § 143-133.3(c)(2), contracts solely for the purchase of apparatus, supplies, materials, and equipment are exempt from this E-Verify provision.

8. Iran Divestment Act Certification

Pursuant to § 143C-6A-5(a) of the Iran Divestment Act (the "Act"), CASA hereby certifies that, as of the date of this Contract, CASA is not identified in either the Final Divestment List ("List") or Iran Parent and Subsidiary Guidance ("Guidance") created and maintained by the North Carolina State Treasurer ("Treasurer") as published on the Treasurer's website currently located at <https://www.nctreasurer.com/inside-the-department/OpenGOVERNment/Page/Iran-Divestment->

[Act-Resources.aspx](#). Further, in compliance with § 143C-6A-5(b) of said Act, CASA certifies that it will not utilize in performing this Contract any subcontractor identified in the List or Guidance. This provision applies only to contracts for which the total amount, including sales tax, is \$1,000 or more.

9. Amendment

This Contract may be amended in writing by mutual agreement of the Town and CASA.

10. Termination for Cause or Convenience

In the event that CASA shall cease to exist as an organization or shall enter bankruptcy proceedings, or be declared insolvent, or liquidate all or substantially all of its assets, or shall significantly reduce its services or accessibility to Carrboro residents during the term of this Agreement, in the event that CASA shall fail to render a satisfactory accounting as provided herein, then and in that event the Town may terminate this Agreement.

Either the Town or CASA may terminate this Contract at any time by giving written notice to the other party of such termination and specifying the effective date thereof at least 30 days before the effective date of such termination. In the event of any termination for convenience, all unfinished documents, data, reports, or other materials prepared by CASA under this Agreement shall, at the option of the Town, become the property of the Town and CASA shall be entitled to receive just and equitable compensation for any satisfactory work completed on such documents or materials prior to the termination.

11. Nondiscrimination

CASA shall administer all functions without discrimination because of race, creed, sex, national origin, age, economic status, sexual orientation, gender identify or gender expression. CASA will take affirmative action to insure that all employment practices are free from such discrimination. Such employment practices include but are not limited to the following: hiring, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff, termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. CASA agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting agency setting forth the provisions of this nondiscrimination clause.

12. Severability

If any provision of this Agreement is held invalid, the remainder of the Agreement shall not be affected thereby and all other parts of this Agreement shall nevertheless be in full force and effect.

IN WITNESS WHEREOF, the parties hereto cause this Agreement to be executed in their respective names.

CASA

SIGNATURE

PRINTED NAME & TITLE

WITNESS

PRINTED NAME & TITLE

TOWN OF CARRBORO

TOWN MANAGER

ATTEST BY TOWN CLERK:

TOWN CLERK

TOWN SEAL

Town Clerk attests date this the ____ day of _____, 20____.

Approved as to Form and Authorization

TOWN LEGAL STAFF

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

FINANCE OFFICER

DATE

**A RESOLUTION GRANTING THE TOWN MANAGER AUTHORITY TO ENTER
INTO A PERFORMANCE AGREEMENT FOR THE MERRITT MILL CASA
DEVELOPMENT**

1/23/2018

BE IT RESOLVED BY THE BOARD OF ALDERMEN OF THE TOWN OF CARRBORO
THAT:

Section 1. The Town Manager is hereby authorized to enter into a performance agreement for the affordable housing project on Merritt Mill Road with CASA.

Section 2. The resolution shall become effective upon adoption.



Town of Carrboro

Town Hall
301 W. Main St.
Carrboro, NC 27510

Legislation Details (With Text)

File #: 17-393 **Version:** 1 **Name:**
Type: Agendas **Status:** Agenda Ready
File created: 1/16/2018 **In control:** Board of Aldermen
On agenda: 1/23/2018 **Final action:**
Title: Public Hearing for Community Input on Town Budget for Upcoming FY 2018-19

PURPOSE: This is a public hearing to receive comments from the public regarding the upcoming budget for the Town beginning July 1, 2018.

Indexes:

Code sections:

Attachments:

Date	Ver.	Action By	Action	Result
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TITLE:

Public Hearing for Community Input on Town Budget for Upcoming FY 2018-19

PURPOSE: This is a public hearing to receive comments from the public regarding the upcoming budget for the Town beginning July 1, 2018.

DEPARTMENT: Town Manager and Finance

CONTACT INFORMATION: David Andrews, Town Manager; and Arche McAdoo, Finance Officer

INFORMATION: The Board of Aldermen is required to adopt an annual operating budget ordinance by July 1st. As part of the budget development process, the Board holds a public hearing at the beginning of the process to receive comments from residents about Town services. These comments are considered in developing the recommended operating and capital budgets for FY 2018-19.

A notice of this public hearing was advertised in [The Chapel Hill Herald](#) and on the Town's website. The advertisement notifies residents of a public hearing to receive public input and invites residents to submit written comments about the budget for the upcoming year. Residents may also email their comments to the Town Clerk via the Town's website (townofcarrboro.org). Residents will have another opportunity to speak about the Town Manager's Recommended Budget for FY 2018-19 at a public hearing planned for Tuesday, May 22, 2018.

The Board of Aldermen is also requested to provide comments, suggestion and inputs to the Town Manager on needs or service improvements they consider important in developing the manager's recommended budget for FY 2018-19.

FISCAL & STAFF IMPACT: None

RECOMMENDATION: Staff recommends that the Board of Aldermen hold a public hearing to receive community comments for the upcoming budget year and provide input to the Town Manager on needs and service improvements to consider when developing the budget for FY 2018-19.



Town of Carrboro

Town Hall
301 W. Main St.
Carrboro, NC 27510

Legislation Details (With Text)

File #: 17-389 **Version:** 1 **Name:**
Type: Agendas **Status:** Agenda Ready
File created: 1/15/2018 **In control:** Board of Aldermen
On agenda: 1/23/2018 **Final action:**
Title: Public Hearing on a Land Use Ordinance Amendment Relating to Consistency
PURPOSE: The purpose of this agenda item is for the Board of Aldermen to receive public comments on an amendment to the text of the Land Use Ordinance relating to consistency for map and text amendments.

Indexes:

Code sections:

Attachments: [Attachment A - Consistency Resolutions](#)
[Attachment B - Draft Ordinance 11-16-17](#)
[Attachment C - Excerpt from LUO ART-XX with tracking](#)
[Attachment D - Excerpt from S131v7](#)
[Attachment E - OC Comments 1-23-2017](#)

Date	Ver.	Action By	Action	Result
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TITLE:

Public Hearing on a Land Use Ordinance Amendment Relating to Consistency

PURPOSE: The purpose of this agenda item is for the Board of Aldermen to receive public comments on an amendment to the text of the Land Use Ordinance relating to consistency for map and text amendments.

DEPARTMENT: Planning Department

CONTACT INFORMATION: Christina Moon - 919-918-7325; Patricia McGuire - 919-918-7327; Bob Hornik - 919-929-3905

INFORMATION: Staff is in the process of reviewing changes to state legislation from the North Carolina General Assembly Session 2017 to identify the potential need to amend certain Land Use Ordinance provisions for conformity. Senate Bill 131 modified NCGS 160A-383, the section which requires the approval of a “consistency statement” with respect to zoning map and zoning text amendments. The statute, as amended, now offers a third option (previously there had only been 2 options stated in the statute) for local governing boards to consider when commenting on the consistency of proposed amendments with the Town’s “comprehensive plan” - a statement that the amendment is not consistent with the plan but that there are good reasons to adopt the amendment anyway. In this scenario, the approval of the consistency statement and adoption of the amendment is deemed, by operation of law and without any further action required, to be an amendment to the “comprehensive plan”. The statutory language was amended to address a circumstance that occurs from time to time, but which the statute had not previously expressly addressed.

A draft ordinance has been prepared that expands the provisions under Section 15-324(d), Board Action on Amendments, to reflect this new legislation (*Attachment B*). Copies of existing ordinance provisions in Article

XX- Amendments, with changes tracked, and an excerpt of Senate Bill 131 are included as *Attachments C and D*. The draft ordinance was referred to Orange County and was presented to the Planning Board on December 4, 2017. Comments from Orange County are provided (*Attachment E*).

The Planning Board was scheduled to adopt its comments on the amendment at the January 18th meeting. Due to inclement weather, that action is now expected to be scheduled for February 1st. The Board of Aldermen may wish to receive any public comment, but continue the hearing to the February 6th meeting so that it might consider any Planning Board comments.

FISCAL & STAFF IMPACT: Public hearings involve staff and public notice costs associated with advisory board and Board of Aldermen review.

RECOMMENDATION: Staff recommends that the Board of Aldermen consider receiving public comments on the attached resolutions and draft ordinance (*Attachments A and B*) and continuing the public hearing and final action to February 6th.

A RESOLUTION ADOPTING A STATEMENT EXPLAINING THE BOARD OF
ALDERMEN'S REASONS FOR ADOPTING AN AMENDMENT TO THE TEXT OF THE
CARRBORO LAND USE ORDINANCE

Draft Resolution No.

WHEREAS, an amendment to the text of the Carrboro Land Use Ordinance has been proposed, which amendment is described or identified as follows: AN ORDINANCE AMENDING THE TOWN OF CARRBORO LAND USE ORDINANCE TO COMPLY WITH NEW STATUTORY REQUIREMENT FOR ZONING CONSISTENCY STATEMENTS.

NOW, THEREFORE, the Board of Aldermen of the Town of Carrboro Resolves:

Section 1. The Board concludes that the above described amendment affirms the existing policy in Land Use Ordinance relating to consistency.

Section 2. The Board further concludes that the above described amendment which will conform the provisions of the Land Use Ordinance, with regard to map and text amendment consistency, to recent changes in state legislation, is in the public interest.

Section 3. This resolution becomes effective upon adoption.

This the 23th day of January 2018.

**A RESOLUTION ADOPTING A STATEMENT EXPLAINING THE BOARD OF
ALDERMEN'S REASONS FOR REJECTING AN AMENDMENT TO THE TEXT OF
THE CARRBORO LAND USE ORDINANCE**

Draft Resolution No.

WHEREAS, an amendment to the text of the Carrboro Land Use Ordinance has been proposed, which amendment is described or identified as follows: AN ORDINANCE AMENDING THE TOWN OF CARRBORO LAND USE ORDINANCE TO COMPLY WITH NEW STATUTORY REQUIREMENT FOR ZONING CONSISTENCY STATEMENTS.

NOW, THEREFORE, the Board of Aldermen of the Town of Carrboro Resolves:

Section 1. The Board concludes that the above described amendment is not consistent with Town plans and policies.

Section 2. The Board concludes that its rejection of the above described amendment is reasonable and in the public interest because existing regulations are appropriate.

Section 3. This resolution becomes effective upon adoption.

This the 23th day of January 2018.

**AN ORDINANCE TO AMEND THE TOWN OF CARRBORO'S LAND USE
ORDINANCE TO COMPLY WITH NEW STATUTORY REQUIREMENTS FOR
ZONING CONSISTENCY STATEMENTS**

DRAFT 11-16-2017

BE IT HEREBY ORDAINED BY THE CARRBORO BOARD OF ALDERMEN THE
FOLLOWING:

Section 1. Subsection 15-324 (d) of the Carrboro Land Use Ordinance is revised to reflect the requirements of Session Law 2017-10 so that the entirety of the Section 15-324 Board Action on Amendments now reads as follows:

(a) At the conclusion of the public hearing on a proposed amendment, the Board may proceed to vote on the proposed ordinance, refer it to a committee for further study, or take any other action consistent with its usual rules of procedure.

(b) The Board is not required to take final action on a proposed amendment within any specific period of time, but it should proceed as expeditiously as practicable on petitions for amendments since inordinate delays can result in the petitioner incurring unnecessary costs.

(c) Voting on amendments to this chapter shall proceed in the same manner as on other ordinances, subject to Section 15-326 of the Land Use Ordinance and Section 2-15 of the Town Code.

(d) Prior to adopting or rejecting any zoning amendment, the Board shall adopt one of the following statements which shall not be subject to judicial review:

- (1) A statement approving the zoning amendment and describing its consistency with an adopted comprehensive plan and explaining why the action taken is reasonable and in the public interest.
- (2) A statement rejecting the zoning amendment and describing its inconsistency with an adopted comprehensive plan and explaining why the action taken is reasonable and in the public interest.
- (3) A statement approving the zoning amendment and containing at least all of the following:
 - a. A declaration that the approval is also deemed an amendment to the comprehensive plan. The governing board shall not require any additional request or application for amendment to the comprehensive plan.
 - b. An explanation of the change in conditions the governing board took into account in amending the zoning ordinance to meet the development needs of the community.
 - c. Why the action was reasonable and in the public interest.
- (4) The Board retains the right to find a zoning amendment to be consistent with any duly adopted plan, but to deny the zoning amendment request.

- (5) For the purposes of this section, "comprehensive plan" includes a unified development ordinance and any other officially adopted plan that is applicable.
- (e) A Board member shall not vote on any zoning map or text amendment where the outcome of the matter being considered is reasonably likely to have a direct, substantial, and readily identifiable financial impact on the member. (See also Carrboro Town Code Section 2-35).

Section 2. All provisions of any Town ordinance or resolution in conflict with this ordinance are repealed.

Section 3. This ordinance is effective upon adoption.

ARTICLE XX

AMENDMENTS

Section 15-320 Amendments in General

(a) Amendments to the text of this chapter or to the zoning map may be made in accordance with the provisions of this article, or in the case of nonsubstantive editorial changes, may be made administratively by the planning director, as described in Section 15-38 of this ordinance. **(AMENDED 09/01/87)**

(b) The term “major map amendment” shall refer to an amendment that addresses the zoning district classification of five or more tracts of land in separate ownership or any parcel of land (regardless of the number of lots or owners) in excess of fifty acres. All other amendments to the zoning district map shall be referred to as “minor map amendments.”

(c) All properties within the University Lake Watershed are zoned WR, B-5, WM-3 or C. As provided in Subsection 15-137(b), no additional areas may be rezoned WM-3 or B-5, and no areas within the University Lake Watershed may be rezoned to any classification other than WR, or C. **(AMENDED 10/15/96)**

(d) The regulations applicable to the watershed districts do, and all amendments to these regulations shall, comply with the water supply watershed protection rules promulgated by the State pursuant to G.S. 143-214.5. Copies of all amendments to Sections 15-265 or 15-266 shall be sent to the Division of Community Assistance, Division of Environmental Health, and Division of Water Quality. **(AMENDED 10/15/96)**

Section 15-321 Initiation of Amendments

(a) Whenever a request to amend this chapter is initiated by the Board of Aldermen, the planning board, the board of adjustment, the appearance commission, or the town administration, the town attorney in consultation with the planning staff shall draft an appropriate ordinance and present that ordinance to the Board of Aldermen so that a date for a public hearing may be set.

(b) Any other person may also petition the Board to amend this chapter. The petition shall be filed with the planning department and shall include, among the information deemed relevant by the planning department:

- (1) The name, address, and phone number of the applicant.
- (2) A description of the land affected by the amendment if a change in zoning district classification is proposed.
- (3) Stamped envelopes containing the names and addresses of all those to whom notice of the public hearing must be sent as provided in Section 15-323.

Art. XX AMENDMENTS

- (4) A description of the proposed map change or a summary of the specific objective of any proposed change in the text of this chapter.
 - (5) A concise statement of the reasons why the petitioner believes the proposed amendment would be in the public interest.
- (c) Upon receipt of a petition as provided in (b), the planning staff shall either:
- (1) Treat the proposed amendment as one initiated by the town administration and proceed in accordance with subsection (a) if it believes that the proposed amendment has significant merit and would benefit the general public interest; or
 - (2) Forward the petition to the Board with or without written comment for a determination of whether an ordinance should be drafted and a public hearing set in accordance with subsection (d).
- (d) Upon receipt of a proposed ordinance as provided in subsection (a), the Board may establish a date for a public hearing on it. Upon receipt of a petition for an ordinance amendment as provided in subsection (b), the Board may summarily deny the petition or set a date for a public hearing on the requested amendment and order the attorney, in consultation with the planning staff, to draft an appropriate ordinance.

Section 15-322 Planning Board and Other Advisory Consideration of Proposed Amendments

(a) If the Board sets a date for a public hearing on a proposed amendment, it shall also refer the proposed amendment to the planning board for its consideration and may refer the amendment to the appearance commission if community appearance is involved, and may refer the amendment to the transportation advisory board if the amendment involves community transportation issues and may refer the amendment to the environmental advisory board if the amendment involves community environment issues. **(AMENDED 09/19/95, REWRITTEN 02/25/14)**

(b) The planning board shall advise and comment on whether the proposed amendment is consistent with the Land Use Plan, Thoroughfare Plan, or other applicable plans officially adopted by the Board of Aldermen. The planning board shall provide a written recommendation to the Board of Aldermen that addresses plan consistency and other matters as deemed appropriate by the planning board. If no written report is received from the planning board within 30 days of referral of the amendment to that board, the Board of Aldermen may proceed in its consideration of the amendment without the planning board report. **(AMENDED 10/24/06)**

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(c) A comment by the planning board that a proposed amendment is inconsistent with the Land Use Plan, Thoroughfare Plan or other officially adopted plan shall not preclude consideration or approval of the proposed amendment by the Board of Aldermen, and the Board of Aldermen is not bound by the recommendations of the planning board. **(AMENDED 10/24/06)**

(d) A member of the planning board and any other advisory committee that provides direct advice to the Board of Aldermen (i.e. it does not report to the planning board) shall not vote on recommendations regarding any zoning map or text amendment where the outcome of the matter being considered is reasonably likely to have a direct, substantial, and readily identifiable financial impact on the member. **(AMENDED 10/24/06)**

Section 15-323 Hearing Required: Notice

(a) No ordinance that amends any of the provisions of this chapter may be adopted until a public hearing has been held on such ordinance.

(b) The planning staff shall publish a notice of the public hearing on any ordinance that amends the provisions of this chapter once a week for two successive weeks in a newspaper having general circulation in the Carrboro area. The notice shall be published for the first time not less than ten days nor more than twenty-five days before the date fixed for the hearing. This period is to be computed in accordance with G.S. 160A-364, which provides that the date of publication is not counted but the date of the hearing is.

(c) With respect to all map amendments, the planning staff shall mail, by first class mail, written notice of the public hearing to the record owners of all properties whose zoning classification is changed by the proposed amendment as well as the owners of all properties any portion of which is within 1000 feet of the property rezoned by the amendment. For purposes of this section the term "owners" shall mean the persons shown as owners on Orange County's computerized land records system. The planning staff shall also make reasonable efforts to mail a similar written notice to the non-owner occupants of residential rental property located within 1,000 feet of the lot that is the subject of the rezoning. The notices required by this subsection shall be deposited in the mail at least 10 but not more than 25 days prior to the date of the public hearing. The staff member mailing such notices shall certify to the board that the notices have been mailed, and such certificate shall be deemed conclusive in the absence of fraud. **(AMENDED 10/12/82; 1/22/85; 10/1/85; 04/15/97; 3/26/02)**

(d) The first class mail notice required under subsection (c) of this section shall not be required if the zoning map amendment directly affects more than 50 properties, owned by a total of at least 50 different property owners, and the Town elects to use the expanded published notice provided for in this subsection. In this instance, the Town may elect to either make the mailed notice provided for in subsection (c) of this section or may, as an alternative, elect to publish notice of the hearing as required by G.S. 160A-364, but provided that each advertisement shall not be less than one-half (1/2) of a newspaper page in size. The advertisement shall only be effective for property owners who reside in the area of general circulation of the newspaper

Art. XX AMENDMENTS

which publishes the notice. Property owners who reside outside of the newspaper circulation area, according to the address listed on the most recent Orange County property tax listing for the affected property, shall be notified according to the provisions of subsection (c) of this section. **(AMENDED 10/24/06)**

(e) For proposed zoning map amendments, the planning staff shall prominently post a notice of the public hearing on the site proposed for a rezoning or an adjacent public street or highway right-of-way. When multiple parcels are included within a proposed zoning map amendment, a posting on each individual parcel is not required, but the planning staff shall post sufficient notices to provide reasonable notice to interested persons.

(f) The planning staff shall take any other action deemed by the Planning Department to be useful or appropriate to give notice of the public hearing on any proposed amendment.

(g) The notice required or authorized by this section (other than the posted notice required by subsection (e)) shall: **(AMENDED 11/24/09)**

- (1) State the date, time, and place of the public hearing.
- (2) Summarize the nature and character of the proposed change.
- (3) If the proposed amendment involves a change in zoning district classification, reasonably identify the property whose classification would be affected by the amendment.
- (4) State that the full text of the amendment can be obtained from the town clerk.
- (5) State that substantial changes in the proposed amendment may be made following the public hearing.

(h) The planning staff shall make every reasonable effort to comply with the notice provisions set forth in this section. However, it is the Board's intention that the notice requirements set forth in this section that are not required by state law shall not be regarded as mandatory, and therefore a failure to comply with such requirements shall not render any amendment invalid. **(AMENDED 11/24/09)**

(i) Except for a town-initiated zoning map amendment, when an application is filed to request a zoning map amendment and that application is not made by the owner of the parcel of land to which the amendment would apply (regardless of how the staff treats the proposed amendment under subsection 15-321(c)), the applicant shall certify to the Board of Aldermen that the owner of the parcel of land as shown on the county tax listing has received actual notice of the proposed amendment and a copy of the notice of public hearing. The person or persons required to provide notice shall certify to the Board of Aldermen that proper notice has been

provided in fact, and such certificate shall be deemed conclusive in the absence of fraud. (AMENDED 11/24/09)

(j) Actual notice of the proposed amendment and a copy of the notice of public hearing required under subsection 15-323(i) of this section shall be by any manner permitted under G.S. 1A-1, Rule 4(j). If notice cannot with due diligence be achieved by personal delivery, registered or certified mail, or by a designated delivery service authorized pursuant to 26 U.S.C. § 7502(f)(2), notice may be given by publication consistent with G.S. 1A-1, Rule 4(j1). This subsection applies only to an application to request a zoning map amendment where the application is not made by the owner of the parcel of land to which the amendment would apply. This subsection does not apply to a city-initiated zoning map amendment. (AMENDED 11/24/09)

Section 15-324 Board Action on Amendments (AMENDED 10/24/06)

(a) At the conclusion of the public hearing on a proposed amendment, the Board may proceed to vote on the proposed ordinance, refer it to a committee for further study, or take any other action consistent with its usual rules of procedure.

(b) The Board is not required to take final action on a proposed amendment within any specific period of time, but it should proceed as expeditiously as practicable on petitions for amendments since inordinate delays can result in the petitioner incurring unnecessary costs.

(c) Voting on amendments to this chapter shall proceed in the same manner as on other ordinances, subject to Section 15-326 of the Land Use Ordinance and Section 2-15 of the Town Code.

~~(d) Prior to adopting or rejecting any zoning amendment, the Board shall adopt a statement describing whether its action is consistent with the Land Use Plan, Thoroughfare Plan, or other applicable plan officially adopted by the Board and explaining why the Board considers the action taken to be reasonable and in the public interest. This statement is not subject to judicial review.~~

(d) Prior to adopting or rejecting any zoning amendment, the Board shall adopt one of the following statements which shall not be subject to judicial review:

- (1) A statement approving the zoning amendment and describing its consistency with an adopted comprehensive plan and explaining why the action taken is reasonable and in the public interest.
- (2) A statement rejecting the zoning amendment and describing its inconsistency with an adopted comprehensive plan and explaining why the action taken is reasonable and in the public interest.
- (3) A statement approving the zoning amendment and containing at least all of the following:
 - a. A declaration that the approval is also deemed an amendment to the comprehensive plan. The governing board shall not require any

- additional request or application for amendment to the comprehensive plan.
 - b. An explanation of the change in conditions the governing board took into account in amending the zoning ordinance to meet the development needs of the community.
 - c. Why the action was reasonable and in the public interest.
- (4) The Board retains the right to find a zoning amendment to be consistent with any duly adopted plan, but to deny the zoning amendment request.
- (5) For the purposes of this section, "comprehensive plan" includes a unified development ordinance and any other officially adopted plan that is applicable.

(e) A Board member shall not vote on any zoning map or text amendment where the outcome of the matter being considered is reasonably likely to have a direct, substantial, and readily identifiable financial impact on the member. (See also Carrboro Town Code Section 2-35).

Section 15-325 Ultimate Issue Before Board on Amendments

In deciding whether to adopt a proposed amendment to this chapter, the central issue before the Board is whether the proposed amendment advances the public health, safety or welfare. All other issues are irrelevant, and all information related to other issues at the public hearing may be declared irrelevant by the mayor and excluded. In particular, when considering proposed minor map amendments:

- (1) Except when the request is to rezone property to a conditional use district or conditional zoning district, the Board shall not consider any representations made by the petitioner that, if the change is granted, the rezoned property will be used for only one of the possible range of uses permitted in the requested classification. Rather, the Board shall consider whether the entire range of permitted uses in the requested classification is more appropriate than the range of uses in the existing classification. (AMENDED 05/25/99; 05/27/08)
- (2) The Board shall not regard as controlling any advantages or disadvantages to the individual requesting the change, but shall consider the impact of the proposed change on the public at large.

Section 15-326 Citizen Comments on Zoning Map and Text Amendments (AMENDED 10/24/06, REWRITTEN 12/6/16).

The Town of Carrboro Land Use Ordinance may from time to time be amended, supplemented, changed, modified or repealed. If any resident or property owner in the Town

Art. XX AMENDMENTS

submits a written statement regarding a proposed amendment, modification or repeal to this Ordinance to the Clerk of the Board of Aldermen at least two (2) business days prior to the proposed vote on such change, the Clerk to the Board shall deliver such written statement to the Board. If the proposed change is the subject of a quasi-judicial proceeding under North Carolina General Statutes Section 160A-388 (such as conditional use rezoning in which the legislative rezoning is accompanied by or followed by a quasi-judicial conditional use permit process), the Clerk shall provide only the names and addresses of the individuals providing written comment, and the provision of such names and addresses to all members of the Board shall not disqualify any member of the Board from voting. Written statements submitted in connection with a quasi-judicial proceeding may be admitted into evidence at such a proceeding if the Board determines that such statements are admissible in the proceeding. (Amended 12-6-16 ; and enacted pursuant to a Resolution in Opposition to the General Assembly's Repeal of Statutory Authority for Qualified Protest Petitions to Trigger a Super Majority Vote for Certain Zoning Map Amendments, dated 12-6-16).

**GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2017**

**SESSION LAW 2017-10
SENATE BILL 131**

AN ACT TO PROVIDE FURTHER REGULATORY RELIEF TO THE CITIZENS OF
NORTH CAROLINA.

The General Assembly of North Carolina enacts:

PART I. BUSINESS REGULATION

EMPLOYMENT STATUS OF FRANCHISES

SECTION 1.1. Article 2A of Chapter 95 of the General Statutes is amended by adding a new section to read:

"§ 95-25.24A. Franchisee status.

Neither a franchisee nor a franchisee's employee shall be deemed to be an employee of the franchisor for any purposes, including, but not limited to, this Article and Chapters 96, 97, and 105 of the General Statutes. For purposes of this section, "franchisee" and "franchisor" have the same definitions as set out in 16 C.F.R. § 436.1."

STREAMLINE MORTGAGE NOTICE REQUIREMENTS

SECTION 1.2. G.S. 45-91 reads as rewritten:

"§ 45-91. Assessment of fees; processing of payments; publication of statements.

A servicer must comply as to every home loan, regardless of whether the loan is considered in default or the borrower is in bankruptcy or the borrower has been in bankruptcy, with the following requirements:

- (1) Any fee that is incurred by a servicer shall be both:
 - a. Assessed within 45 days of the date on which the fee was incurred. Provided, however, that attorney or trustee fees and costs incurred as a result of a foreclosure action shall be assessed within 45 days of the date they are charged by either the attorney or trustee to the servicer.
 - b. Explained clearly and conspicuously in a statement mailed to the borrower at the borrower's last known address within 30 days after assessing the fee, provided the servicer shall not be required to take any action in violation of the provisions of the federal bankruptcy code. The servicer shall not be required to send such a statement for a fee ~~that: (i) results that either:~~
 1. Is otherwise included in a periodic statement sent to the borrower that meets the requirements of paragraphs (b), (c), and (d) of 12 C.F.R. § 1026.41.
 2. Results from a service that is affirmatively requested by the borrower, (ii) is paid for by the borrower at the time the service is provided, and (iii) is not charged to the borrower's loan account.
- (2) All amounts received by a servicer on a home loan at the address where the borrower has been instructed to make payments shall be accepted and



- credited, or treated as credited, within one business day of the date received, provided that the borrower has made the full contractual payment and has provided sufficient information to credit the account. If a servicer uses the scheduled method of accounting, any regularly scheduled payment made prior to the scheduled due date shall be credited no later than the due date. Provided, however, that if any payment is received and not credited, or treated as credited, the borrower shall be notified within 10 business days by mail at the borrower's last known address of the disposition of the payment, the reason the payment was not credited, or treated as credited to the account, and any actions necessary by the borrower to make the loan current.
- (2a) The notification required by subdivision (2) of this section is not necessary if
- (i) the servicer complies with the terms of any agreement or plan made with the borrower and has applied and credited payments received in the manner required, and
 - (ii) the servicer is applying and crediting payments to the borrower's account in compliance with all applicable State and federal laws, including bankruptcy laws, and if at least one of the following occurs:
 - a. The borrower has entered into a written loss mitigation, loan modification, or forbearance agreement with the servicer that itemizes all amounts due and specifies how payments will be applied and credited;
 - b. The borrower has elected to participate in an alternative payment plan, such as a biweekly payment plan, that specifies as part of a written agreement how payments will be applied and credited; or
 - c. The borrower is making payments pursuant to a bankruptcy plan.
- (3) Failure to charge the fee or provide the information within the allowable time and in the manner required under subdivision (1) of subsection (a) of this section constitutes a waiver of such fee.
- (4) All fees charged by a servicer must be otherwise permitted under applicable law and the contracts between the parties. Nothing herein is intended to permit the application of payments or method of charging interest which is less protective of the borrower than the contracts between the parties and other applicable law.
- (5) The obligations of mortgage servicers set forth in G.S. 53-244.110."

CLARIFY PRIVATE DRINKING WATER WELL PERMITTING REQUIREMENTS

SECTION 1.3.(a) G.S. 87-97 reads as rewritten:

"§ 87-97. Permitting, inspection, and testing of private drinking water wells.

(a) **Mandatory Local Well Programs.** – Each county, through the local health department that serves the county, shall implement a private drinking water well permitting, inspection, and testing program. The local health department shall be the exclusive authority for the permitting of wells and well systems as described in G.S. 143-138(b17)(2). Local health departments shall administer the program and enforce the minimum well construction, permitting, inspection, repair, and testing requirements set out in this Article and rules adopted pursuant to this Article. No person shall unduly delay or refuse to permit a well that can be constructed or repaired and operated in compliance with the requirements set out in this Article and rules adopted pursuant to this Article.

(a1) **Use of Standard Forms.** – Local well programs shall use the standard forms created by the Department for all required submittals and shall not create their own forms.

(b) **Permit Required.** – Except for those wells required to be permitted by the Environmental Management Commission pursuant to G.S. 87-88, no person shall:

- (1) Construct or assist in the construction of a private drinking water well unless a construction permit has been obtained from the local health department.
- (2) Repair or assist in the repair of a private drinking water well unless a repair permit has been obtained from the local health department, except that a permit shall not be required for the repair or replacement of a pump or tank.

(b1) ~~Permit to Include Authorization for Piping and Electrical Inspections.~~ – When a permit is issued under this section, the local health department shall be responsible for notifying the appropriate building inspector of the issuance of the well permit. The appropriate building inspector may request from the local health department the opportunity to inspect the activities authorized by the permit. The inspection must be performed prior to the final inspection performed by the local health department, and the well contractor shall not be required to be onsite for the inspection by the building inspector. If an inspection by a building inspector after the final inspection has been performed by the local health department is determined to be necessary for the protection of public health, safety, or welfare, the local building inspections department shall be responsible for (i) the additional costs for the inspection and related activities necessary for the inspection and (ii) any damages to the well system caused during the inspection.

(b2) Permit to Include Authorization for Piping and Electrical. – A permit issued under this section shall also be deemed to include authorization for all of the following:

- (1) The installation, construction, maintenance, or repair of electrical wiring, devices, appliances, or equipment by a person certified as a well contractor under Article 7A of this Chapter when running electrical wires from the well pump to the pressure switch.
- (2) The installation, construction, maintenance, or repair of water pipes by a person certified as a well contractor under Article 7A of this Chapter when running water pipes from the well to the water tank.
- (3) The installation of both water pipes and electrical wiring in a single ditch by a person certified as a well contractor under Article 7A of this Chapter when running electrical wires from the well pump to the pressure switch and water pipes from the well to the water tank. The ditch shall be as deep as the minimum cover requirements for either electrical wiring or water pipes, whichever is greater.

This subsection shall not be interpreted to prohibit any person licensed by an independent occupational licensing board from performing any authorized services within the scope of practice of the person's license.

...."

SECTION 1.3.(b) G.S. 143-138 is amended by adding a new subsection to read:

"§ 143-138. North Carolina State Building Code.

...

(b17) Exclusion for Private Drinking Water Well Installation, Construction, Maintenance, and Repair. – No permit shall be required under the Code or any local variant approved under subsection (e) of this section for the electrical and plumbing activities associated with the installation, construction, maintenance, or repair of a private drinking water well when all of the following apply:

- (1) The work is performed by a contractor certified under Article 7A of Chapter 87 of the General Statutes under the terms of a permit issued by the local health department pursuant to G.S. 87-97.
- (2) The scope of work includes only the connection or disconnection of a well system to either the plumbing served by the well system or the electrical service that serves the well system. For purposes of this subsection, a well system includes the well, the pressure tank, the pressure switch, and all

plumbing and electrical equipment in the well and between the well, pressure tank, and pressure switch.

...."

EXEMPT CERTAIN BUILDING CODE CLASSIFICATIONS FROM ENERGY EFFICIENCY STANDARDS

SECTION 1.4. G.S. 143-138 is amended by adding a new subsection to read:

"(b18) Exclusion From Energy Efficiency Code Requirements for Certain Use and Occupancy Classifications. – The Council shall provide for an exemption from any requirements in the energy efficiency standards pursuant to Chapter 13 of the 2012 North Carolina Building Code and the 2012 Energy Conservation Code, and any subsequent amendments to the Building Code and Energy Conservation Code, for the following use and occupancy classifications pursuant to Chapter 3 of the 2012 North Carolina Building Code: Section 306, Factory Group F; Section 311, Storage Group S; and Section 312, Utility and Miscellaneous Group U. This exclusion shall apply to the entire floor area of any structure for which the primary use or occupancy is listed herein."

PART II. STATE AND LOCAL GOVERNMENT REGULATION

WILDLIFE RESOURCES COMMISSION, DIVISION OF MARINE FISHERIES, AND UTILITIES COMMISSION PRIVATE IDENTIFYING INFORMATION

SECTION 2.1.(a) G.S. 143-254.5 reads as rewritten:

"§ 143-254.5. Disclosure of personal identifying information.

Social security numbers and identifying information obtained by the Commission shall be treated as provided in G.S. 132-1.10. For purposes of this section, "identifying information" also includes a person's mailing address, residence address, e-mail address, Commission-issued customer identification number, date of birth, and telephone number."

SECTION 2.1.(b) G.S. 143B-289.52(h) reads as rewritten:

"§ 143B-289.52. Marine Fisheries Commission – powers and duties.

...

(h) Social security numbers and identifying information obtained by the Commission or the Division of Marine Fisheries shall be treated as provided in G.S. 132-1.10. For purposes of this subsection, "identifying information" also includes a person's mailing address, residence address, e-mail address, Commission-issued customer identification number, date of birth, and telephone number."

SECTION 2.1.(c) Chapter 132 of the General Statutes is amended by adding a new section to read:

"§ 132-1.14. Personally identifiable information of public utility customers.

(a) Except as otherwise provided in this section, a public record, as defined by G.S. 132-1, does not include personally identifiable information obtained by the Public Staff of the Utilities Commission from customers requesting assistance from the Public Staff regarding rate or service disputes with a public utility, as defined by G.S. 62-3(23).

(b) The Public Staff may disclose personally identifiable information of a customer to the public utility involved in the matter for the purpose of investigating such disputes.

(c) Such personally identifiable information is a public record to the extent disclosed by the customer in a complaint filed with the Commission pursuant to G.S. 62-73.

(d) For purposes of this section, "personally identifiable information" means the customer's name, physical address, e-mail address, telephone number, and public utility account number."

SECTION 2.1.(d) This section becomes effective October 1, 2017.

WATER AND SEWER BILLING BY LESSORS

SECTION 2.2.(a) G.S. 42-42.1 reads as rewritten:

"§ 42-42.1. Water and electricity conservation.

(a) For the purpose of encouraging water and electricity conservation, pursuant to a written rental agreement, a landlord may charge for the cost of providing water or sewer service to tenants ~~who occupy the same contiguous premises~~ pursuant to G.S. 62-110(g) or electric service pursuant to G.S. 62-110(h).

(b) The landlord may not disconnect or terminate the tenant's electric service or water or sewer services due to the tenant's nonpayment of the amount due for electric service or water or sewer services."

SECTION 2.2.(b) G.S. 62-110(g) reads as rewritten:

"(g) In addition to the authority to issue a certificate of public convenience and necessity and establish rates otherwise granted in this Chapter, for the purpose of encouraging water conservation, the Commission may, consistent with the public interest, adopt procedures that allow a lessor to charge for the costs of providing water or sewer service to persons who occupy the ~~same contiguous leased~~ premises. The following provisions shall apply:

- (1) All charges for water or sewer service shall be based on the user's metered consumption of water, which shall be determined by metered measurement of all water consumed. The rate charged by the lessor shall not exceed the unit consumption rate charged by the supplier of the service.
- (1a) If the ~~contiguous leased~~ premises were are contiguous dwelling units built prior to ~~1989-1989~~, and the lessor determines that the measurement of the tenant's total water usage is impractical or not economical, the lessor may allocate the cost for water and sewer service to the tenant using equipment that measures the tenant's hot water usage. In that case, each tenant shall be billed a percentage of the landlord's water and sewer costs for water usage in the dwelling units based upon the hot water used in the tenant's dwelling unit. The percentage of total water usage allocated for each dwelling unit shall be equal to that dwelling unit's individually submetered hot water usage divided by all submetered hot water usage in all dwelling units. The following conditions apply to billing for water and sewer service under this subdivision:
 - a. A lessor shall not utilize a ratio utility billing system or other allocation billing system that does not rely on individually submetered hot water usage to determine the allocation of water and sewer costs.
 - b. The lessor shall not include in a tenant's bill the cost of water and sewer service used in common areas or water loss due to leaks in the lessor's water mains. A lessor shall not bill or attempt to collect for excess water usage resulting from a plumbing malfunction or other condition that is not known to the tenant or that has been reported to the lessor.
 - c. All equipment used to measure water usage shall comply with guidelines promulgated by the American Water Works Association.
 - d. The lessor shall maintain records for a minimum of 12 months that demonstrate how each tenant's allocated costs were calculated for water and sewer service. Upon advanced written notice to the lessor, a tenant may inspect the records during reasonable business hours.
 - e. Bills for water and sewer service sent by the lessor to the tenant shall contain all the following information:

1. The amount of water and sewer services allocated to the tenant during the billing period.
 2. The method used to determine the amount of water and sewer services allocated to the tenant.
 3. Beginning and ending dates for the billing period.
 4. The past-due date, which shall not be less than 25 days after the bill is mailed.
 5. A local or toll-free telephone number and address that the tenant can use to obtain more information about the bill.
- (2) The lessor may charge a reasonable administrative fee for providing water or sewer service not to exceed the maximum administrative fee authorized by the Commission.
- (3) The Commission shall ~~issue-adopt~~ rules to ~~define contiguous premises and to implement this subsection. In issuing the rule to define contiguous premises, the Commission shall consider contiguous premises where manufactured homes, as defined in G.S. 143-145(7), or spaces for manufactured homes are rented.~~
- (4) The Commission shall develop an application that lessors must submit for authority to charge for water or sewer service. The form shall include all of the following:
- a. A description of the applicant and the property to be served.
 - b. A description of the proposed billing method and billing statements.
 - c. The schedule of rates charged to the applicant by the supplier.
 - d. The schedule of rates the applicant proposes to charge the applicant's customers.
 - e. The administrative fee proposed to be charged by the applicant.
 - f. The name of and contact information for the applicant and its agents.
 - g. The name of and contact information for the supplying water or sewer system.
 - h. Any additional information that the Commission may require.
- (4a) The Commission shall develop an application that lessors must submit for authority to charge for water or sewer service at single-family homes that allows the applicant to serve multiple homes in the State subject to single Commission approval. The form shall include all of the following:
- a. A description of the applicant and a listing of the address of all the properties to be served, which shall be updated annually with the Commission.
 - b. A description of the proposed billing method and billing statements.
 - c. The administrative fee proposed to be charged by the applicant.
 - d. The name and contact information for the applicant and its agents.
 - e. Any additional information the Commission may require.
- (5) The Commission shall approve or disapprove an application within 30 days of the filing of a completed application with the Commission. If the Commission has not issued an order disapproving a completed application within 30 days, the application shall be deemed approved.
- (6) A provider of water or sewer service under this subsection may increase the rate for service so long as the rate does not exceed the unit consumption rate charged by the supplier of the service. A provider of water or sewer service under this subsection may change the administrative fee so long as the administrative fee does not exceed the maximum administrative fee authorized by the Commission. In order to change the rate or administrative

fee, the provider shall file a notice of revised schedule of rates and fees with the Commission. The Commission may prescribe the form by which the provider files a notice of a revised schedule of rates and fees under this subsection. The form shall include all of the following:

- a. The current schedule of the unit consumption rates charged by the provider.
 - b. The schedule of rates charged by the supplier to the provider that the provider proposes to pass through to the provider's customers.
 - c. The schedule of the unit consumption rates proposed to be charged by the provider.
 - d. The current administrative fee charged by the provider, if applicable.
 - e. The administrative fee proposed to be charged by the provider.
- (7) A notification of revised schedule of rates and fees shall be presumed valid and shall be allowed to become effective upon 14 days notice to the Commission, unless otherwise suspended or disapproved by order issued within 14 days after filing.
 - (8) Notwithstanding any other provision of this Chapter, the Commission shall determine the extent to which the services shall be regulated and, to the extent necessary to protect the public interest, regulate the terms, conditions, and rates that may be charged for the services. Nothing in this subsection shall be construed to alter the rights, obligations, or remedies of persons providing water or sewer services and their customers under any other provision of law.
 - (9) A provider of water or sewer service under this subsection shall not be required to file annual reports pursuant to G.S. 62-36 or to furnish a bond pursuant to G.S. 62-110.3."

CLARIFY THAT RECYCLING PROGRAMS BY LOCAL SCHOOL BOARDS MUST COMPLY WITH G.S. 160A-327

SECTION 2.3. G.S. 115C-47(41) reads as rewritten:

"(41) To Encourage Recycling in Public Schools. – Local boards of education shall encourage recycling in public schools and may develop and implement recycling programs at public schools. Local boards of education shall comply with G.S. 160A-327."

REZONING/SIMULTANEOUS COMPREHENSIVE PLAN AMENDMENT

SECTION 2.4.(a) G.S. 153A-341 reads as rewritten:

"§ 153A-341. Purposes in view.

- (a) Zoning regulations shall be made in accordance with a comprehensive plan.
- (b) Prior to adopting or rejecting any zoning amendment, the governing board shall ~~adopt a statement~~ one of the following statements which shall not be subject to judicial review:
 - (1) A statement approving the zoning amendment and describing whether its action is consistent with an adopted comprehensive plan and explaining why the board considers the action taken to be reasonable and in the public interest. That statement is not subject to judicial review. The
 - (2) A statement rejecting the zoning amendment and describing its inconsistency with an adopted comprehensive plan and explaining why the action taken is reasonable and in the public interest.
 - (3) A statement approving the zoning amendment and containing at least all of the following:

- a. A declaration that the approval is also deemed an amendment to the comprehensive plan. The governing board shall not require any additional request or application for amendment to the comprehensive plan.
- b. An explanation of the change in conditions the governing board took into account in amending the zoning ordinance to meet the development needs of the community.
- c. Why the action was reasonable and in the public interest.

(c) Prior to consideration by the governing board of the proposed zoning amendment, the planning board shall advise and comment on whether the proposed amendment is consistent with any comprehensive plan that has been adopted and any other officially adopted plan that is applicable. The planning board shall provide a written recommendation to the governing board of county commissioners that addresses plan consistency and other matters as deemed appropriate by the planning board, but a comment by the planning board that a proposed amendment is inconsistent with the comprehensive plan shall not preclude consideration or approval of the proposed amendment by the governing board.

(d) Zoning regulations shall be designed to promote the public health, safety, and general welfare. To that end, the regulations may address, among other things, the following public purposes: to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to lessen congestion in the streets; to secure safety from fire, panic, and dangers; and to facilitate the efficient and adequate provision of transportation, water, sewerage, schools, parks, and other public requirements. The regulations shall be made with reasonable consideration as to, among other things, the character of the district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout the county. In addition, the regulations shall be made with reasonable consideration to expansion and development of any cities within the county, so as to provide for their orderly growth and development.

(e) As used in this section, "comprehensive plan" includes a unified development ordinance and any other officially adopted plan that is applicable."

SECTION 2.4.(b) G.S. 153A-349.13 reads as rewritten:

"§ 153A-349.13. Relationship of agreement to building or housing ~~code~~code; comprehensive plan amendment.

(a) A development agreement adopted pursuant to this Chapter shall not exempt the property owner or developer from compliance with the State Building Code or State or local housing codes that are not part of the local government's planning, zoning, or subdivision regulations.

(b) When the governing board approves the rezoning of any property associated with a development agreement adopted pursuant to this Chapter, the provisions of G.S. 153A-341 apply."

SECTION 2.4.(c) G.S. 160A-383 reads as rewritten:

"§ 160A-383. Purposes in view.

(a) Zoning regulations shall be made in accordance with a comprehensive plan. ~~When~~

(b) Prior to adopting or rejecting any zoning amendment, the governing board shall also approve a statement adopt one of the following statements which shall not be subject to judicial review:

- (1) A statement approving the zoning amendment and describing whether its action is consistent its consistency with an adopted comprehensive plan and any other officially adopted plan that is applicable, and briefly explaining why the board considers the action taken to be is reasonable and in the public interest. That statement is not subject to judicial review. The

- (2) A statement rejecting the zoning amendment and describing its inconsistency with an adopted comprehensive plan and explaining why the action taken is reasonable and in the public interest.
- (3) A statement approving the zoning amendment and containing at least all of the following:
 - a. A declaration that the approval is also deemed an amendment to the comprehensive plan. The governing board shall not require any additional request or application for amendment to the comprehensive plan.
 - b. An explanation of the change in conditions the governing board took into account in amending the zoning ordinance to meet the development needs of the community.
 - c. Why the action was reasonable and in the public interest.

(c) Prior to consideration by the governing board of the proposed zoning amendment, the planning board shall advise and comment on whether the proposed amendment is consistent with any comprehensive plan that has been adopted and any other officially adopted plan that is applicable. The planning board shall provide a written recommendation to the governing board that addresses plan consistency and other matters as deemed appropriate by the planning board, but a comment by the planning board that a proposed amendment is inconsistent with the comprehensive plan shall not preclude consideration or approval of the proposed amendment by the governing board.

(d) Zoning regulations shall be designed to promote the public health, safety, and general welfare. To that end, the regulations may address, among other things, the following public purposes: to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to lessen congestion in the streets; to secure safety from fire, panic, and dangers; and to facilitate the efficient and adequate provision of transportation, water, sewerage, schools, parks, and other public requirements. The regulations shall be made with reasonable consideration, among other things, as to the character of the district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout such city.

(e) As used in this section, "comprehensive plan" includes a unified development ordinance and any other officially adopted plan that is applicable."

SECTION 2.4.(d) G.S. 160A-400.32 reads as rewritten:

"§ 160A-400.32. Relationship of agreement to building or housing code; comprehensive plan amendment.

(a) A development agreement adopted pursuant to this Chapter shall not exempt the property owner or developer from compliance with the State Building Code or State or local housing codes that are not part of the local government's planning, zoning, or subdivision regulations.

(b) When the governing board approves the rezoning of any property associated with a development agreement adopted pursuant to this Chapter, the provisions of G.S. 160A-383 apply."

SECTION 2.4.(e) Nothing in this section shall repeal, modify, or amend any prior or subsequent local act giving authority to a governing board to delegate zoning decisions to a planning board, planning agency, or planning commission.

SECTION 2.4.(f) This section becomes effective October 1, 2017, and applies to proposed zoning amendment applications filed on or after that date.

PARENT PARCEL/SUBDIVISION CLARIFICATION

SECTION 2.5.(a) G.S. 153A-335 reads as rewritten:

"§ 153A-335. "Subdivision" defined.

ORANGE COUNTY PLANNING & INSPECTIONS DEPARTMENT

Craig N. Benedict, AICP, Director

Administration
(919) 245-2575
(919) 644-3002 (FAX)
www.orangecountync.gov



131 W. Margaret Lane
P O Box 8181
Hillsborough,
North Carolina, 27278



TRANSMITTAL DELIVERED VIA EMAIL

January 3, 2018

Christina Moon, AICP
Planning Administrator
Town of Carrboro
301 W. Main St.
Carrboro, NC 27510

SUBJECT: Joint Planning Review of Proposed Ordinance Amendments

Dear Tina:

Thank you for the opportunity to review the following Land Use Ordinance amendments received by us December 19, 2017 and proposed for town public hearing on January 23, 2018:

- *An Ordinance Amending Town of Carrboro Land Use Ordinance Provisions Relating to Tree Protection, Shading and Canopy Requirements.*
- *An Ordinance to Amend the Town of Carrboro's Land Use Ordinance to Comply with New Statutory Requirements for Zoning Consistency Statements.*

We have reviewed the amendments and find no inconsistency with the adopted *Joint Planning Area Land Use Plan*.

If you have any questions or need additional information, please let me know.

Sincerely,

A handwritten signature in cursive script that reads "Perdita Holtz".

Perdita Holtz, AICP
Planning Systems Coordinator



Town of Carrboro

Town Hall
301 W. Main St.
Carrboro, NC 27510

Legislation Details (With Text)

File #: 17-390 **Version:** 1 **Name:**

Type: Agendas **Status:** Agenda Ready

File created: 1/15/2018 **In control:** Board of Aldermen

On agenda: 1/23/2018 **Final action:**

Title: Public Hearing on Land Use Ordinance Amendments Relating to Tree Protection, Shade Trees, Canopy Coverage and Replacement Standards
PURPOSE: The purpose of this item is for the Board of Aldermen to receive public comment on text amendments to the Land Use Ordinance relating to the provisions in Article XIX, Screening and Trees, and the associated appendices A and E. A draft ordinance has been prepared.

Indexes:

Code sections:

Attachments: [Attachment A - Consistency Resolution](#)
[Attachment B - Draft Ordinance Trees, shading and buffers_1-19-2018](#)
[Attachment C- StaffMemoJointReview_102717](#)
[Attachment D - Article XIX with tracking](#)
[Attachment E - APPENDIX A with tracking](#)
[Attachment F - APPENDIX E with tracking](#)
[Attachment G - Review Comments](#)

Date	Ver.	Action By	Action	Result
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TITLE:

Public Hearing on Land Use Ordinance Amendments Relating to Tree Protection, Shade Trees, Canopy Coverage and Replacement Standards

PURPOSE: The purpose of this item is for the Board of Aldermen to receive public comment on text amendments to the Land Use Ordinance relating to the provisions in Article XIX, Screening and Trees, and the associated appendices A and E. A draft ordinance has been prepared.

DEPARTMENT: Planning

CONTACT INFORMATION: Christina Moon - 919-918-7325, Patricia McGuire - 919-918-7327, Randy Dodd - 919-918-7341, Bob Hornik - 919-929-3905

INFORMATION: On May 27, 2014, the Board of Aldermen adopted an ordinance relating to tree protection and tree replacement that included new requirements for tree canopy coverage. It was anticipated that certain provisions, particularly the sections relating to canopy cover, might need further refinement and that staff would evaluate the ordinance after a few years for that purpose. On May 16, 2017, staff presented the Board with a working draft of potential modifications, (<https://carrboro.legistar.com/MeetingDetail.aspx?ID=532853&GUID=D4BCC6CB-AD87-4982-913A-60D9A830EA88&Options=&Search=>>). On October 17, 2017, staff brought forth a draft ordinance with a request to set a public hearing (meeting materials may be found at: <https://carrboro.legistar.com/MeetingDetail.aspx?ID=532855&GUID=2C206BEA-A612-4EEF-A7F5->

[38345172F41E&Options=&Search>=](#)).

The draft ordinance is designed to create an opportunity for minor deviations from the provisions in Article XIX, Screening and Trees, for specific situations where meeting the 2014 requirements have proven difficult, while retaining the overall intent to protect trees during construction, and to plant new trees for improved shading and canopy cover (Attachment B). The draft includes new language to allow a payment in lieu of trees, in certain circumstances. In the short term, staff could identify a few possible locations on Town-owned property that could be used as receiving areas for trees, but in the long term, such a mitigation program would necessitate the adoption of a tree planting plan to guide the collection of payment for this specific purpose. Other changes--a new calculation worksheet in the appendices, substantially updated plant lists reorganized into a single table, and other minor formatting improvements--are designed for better ease of reading.

To facilitate the review of the proposed language, staff has provided the following:

- A new version of the consistency resolution that incorporates the plan amendment provision (Attachment A)
- Draft ordinance (Attachment B)
- Staff memo with quick overview of changes (Attachment C)
- Current LUO Article XIX showing tracked changes (Attachment D)
- Current LUO Appendix A showing tracked changes (Attachment E)
- Current LUO Appendix E showing tracked changes (Attachment F).

The Board must receive public input before taking action on amendments to the LUO. The draft ordinance was referred to Orange County, and was presented at the joint advisory board review meeting on November 2, 2017. The Planning Board completed comments, but the Environmental Advisory Board (EAB) was scheduled to adopt its comments on the amendment at the January 18th meeting. Due to inclement weather, that action is expected to be scheduled for February 1st. The Board of Aldermen may wish to receive any public comment, but continue the hearing to the February 6th meeting so that it might consider formal comments from the EAB. Comments from the Planning Board and Orange County are provided (Attachment G).

FISCAL & STAFF IMPACT: Public hearings involve staff and public notice costs associated with advisory board and Board of Aldermen review.

RECOMMENDATION: Staff recommends that the Board of Aldermen consider receiving public comments on the attached resolutions and draft ordinance (Attachments A and B) and continuing the public hearing and final action to February 6th.

A RESOLUTION ADOPTING A STATEMENT EXPLAINING THE BOARD OF
ALDERMEN’S REASONS FOR ACTING ON AN AMENDMENT TO THE TEXT OF THE
CARRBORO LAND USE ORDINANCE (N.C. Gen. Stat. 160A-383)

WHEREAS, an amendment to the text of the Carrboro Land Use Ordinance has been proposed, which amendment is described or identified as follows: AN ORDINANCE AMENDING THE CARRBORO LAND USE ORDINANCE PROVISIONS RELATING TO TREE PROTECTION, SHADING AND CANOPY REQUIREMENTS.

NOW, THEREFORE, the Board of Aldermen of the Town of Carrboro Resolves:

Section 1. The Board has reviewed the draft amendment to the text of the Land Use Ordinance and concludes that the proposed amendment is:

_____ *Consistent* with current adopted plans, Carrboro Vision2020 (provisions 2.23 & 2.43) and the Downtown Carrboro New Vision, for the following reason(s):

2.23 The town encourages the planting of native plant species, as well as non-native species that are not invasive. Removal of invasive species is encouraged. Carrboro Vision2020

2.43 Carrboro should plan and encourage the growth of tree canopies over roads to mitigate the heat and smog effect caused by superheated pavement. Carrboro should strongly encourage the electric utilities to put their lines underground to allow for full canopy coverage.

Downtown Identity – The Town should develop and adhere consistently to a streetscape and landscape master plan that establishes a planting scheme, etc.

_____ *Inconsistent* with current adopted plans. The proposed action is *inconsistent* with the comprehensive plan for the following reason(s):

_____ *Inconsistent* with the current adopted plans; however, because of the following changed circumstance(s), the Board of Aldermen’s approval shall also be deemed an amendment to the existing adopted plan, _____, as described below.

Changed circumstance(s):

Amendment to current adopted plan:

Section 2. The Board of Aldermen's action is reasonable and in the public interest for the following reason(s):

The benefits that trees, shrubs and other plants provide to the community such as, providing oxygen and improving air quality, reducing heat island effect, maintaining the hydrologic cycle, providing pollen and nectar for pollinators and contributing to the vitality and character of the Town making it a more aesthetic and emotionally satisfying place in which to live, work and spend leisure time.

Section 3. Therefore, the Carrboro Board of Aldermen has: approved / denied the proposed amendment to the text of the Carrboro Land Use Ordinance.

Section 4. This resolution becomes effective upon adoption.

Adopted by the Carrboro Board of Aldermen this 23rd day of January 2018.

**AN ORDINANCE AMENDING TOWN OF CARRBORO LAND USE ORDINANCE
PROVISIONS RELATING TO TREE PROTECTION, SHADING AND CANOPY
REQUIREMENTS**

Draft 10-12-2017

THE BOARD OF ALDERMEN OF THE TOWN OF CARRBORO ORDAINS:

Section 1. Section 15-314 (Board Findings and Declaration of Policy on Protecting Trees and Other Plants), subsection (a)(2) is amended and a new provision (a)(12) is added to read as follows:

(2) Trees, shrubs, and other plants appreciably reduce carbon emissions by shading buildings thereby lowering energy use to cool buildings, and also store carbon as biomass; and

(12) Certain flowering trees, shrubs, and other plants are important sources of pollen and nectar for pollinators.

Section 2: Section 15-314 (Board Findings and Declaration of Policy on Protecting Trees and Other Plants), subsection (b) is amended to ~~ex A~~ read as follows:

(b) Based upon the findings set forth in subsection (a), the Board declares that it is not only desirable but essential to the health, safety, and welfare of all persons living or working within the town's planning jurisdiction, present and future, to protect certain existing trees and tree stands and, under the circumstances set forth in this article, to require the planting of new trees, especially larger trees, in certain types of developments, and to ensure the protection of those trees whether on individual lots or on common space.

Section 3. Section 15-315 of Article XIX, (Definitions) is rewritten as follows:

Section 15-315 Definitions

Unless otherwise specifically provided, or unless the context clearly indicates otherwise, the words and phrases defined below shall have the meaning indicated when used in this Part.

- (1) CANOPY TREE. A healthy evergreen or deciduous tree species that matures at a height of at least thirty (30) feet.
- (2) DRIPLINE. Perimeter formed by the points farthest away from the trunk of a tree where precipitation falling from the branches of that tree lands on the ground.
- (3) CLEARCUTTING. The large-scale, indiscriminate removal of trees, shrubs, and undergrowth with the intention of preparing real property for nonagricultural purposes.
- (4) HABITAT. The natural environment for animals and plants that is made up of physical factors such as soil, moisture, range of temperature, and availability of light as well as biotic factors such as the availability of food, nesting sites, and shelter.
- (5) INFILL DEVELOPMENT. The development of vacant or under-used lots within existing areas that are already developed.
- ~~(5)(6)~~ REDEVELOPMENT. Any development on previously developed land.

~~(6)~~(7) SPECIMEN OR RARE TREE. Any healthy tree that:

- a. Has a trunk diameter at breast height (dbh) of twenty-four (24) inches or more for pine tree species; or
- b. Has a trunk dbh of eighteen (18) inches or more for any species besides pine tree species; or
- c. Has a trunk dbh of twelve (12) inches or more in the case of any of the species from the following list of North Carolina native canopy tree genera; or

<i>Chamaecyparis</i> (Atlantic White Cedar)	<i>Magnolia</i> (Magnolia)
<i>Carya</i> (Southern Shagbark Hickory)	<i>Pinus</i> (Longleaf pine)
<i>Diospyros</i> (Persimmon)	<i>Taxodium</i> (Bald cypress)
<i>Fagus</i> (Beech)	<i>Tsuga</i> (Hemlock)
<i>Juniperus</i> (Eastern Red Cedar)	<i>Ulmus</i> (American Elm)

- d. has a trunk dbh of six (6) inches or more in the case of the species from the following list of North Carolina native understory tree genera: or

<i>Amelanchier</i> (Serviceberry)	<i>Halesia</i> (Silverbell)
<i>Asimina</i> (Pawpaw)	<i>Hamamelis</i> (Witch-hazel)
<i>Carpinus</i> (Hornbeam)	<i>Ilex</i> (Holly)
<i>Cercis</i> (Redbud)	<i>Ostrya</i> (Hophornbeam)
<i>Chionanthus</i> (Fringetree)	<i>Oxydendrum</i> (Sourwood)
<i>Cornus</i> (Dogwood)	<i>Sassafras</i> (Sassafras)
<i>Crataegus</i> (Hawthorn)	

- e. is listed as a State or National Champion by the North Carolina Forest Service or the American Forestry Association; or
- f. provides unique habitat for any endangered or threatened wildlife species protected by Federal law; or
- g. has been cited by the Board of Aldermen as being historically significant; or
- h. any other tree species listed in the North Carolina Natural Heritage Program as being significantly rare, of special concern, threatened, or endangered.

~~(7)~~(8) TREE. A perennial woody plant, single or multiple trunks, with few if any branches on its lower part, which at maturity will obtain a minimum six (6) inch caliper.

~~(8)~~(9) TREE CANOPY. The combined area encompassing the drip zones of all canopy trees.

~~(9)~~(10) TREE PROTECTION PERIMETER. That area within a circle drawn with the tree's trunk as the center. Radius is dependent upon site conditions and the relative tolerance of tree species to construction damage. Standard accepted radius is 1-1.5 feet per diameter inch of tree to be retained.

~~(10)~~(11) TREE STAND. An aggregation of trees occupying a specific area and generally uniform in species composition, size, age, arrangement, and condition that distinguishes it from vegetation in adjoining areas.

Section 4. Section 15-317 (Retention and Protection of Specimen and Rare Trees), subsections (a) through (c) are rewritten to read as follows:

Section 15-317 Retention and Protection of Specimen and Rare Trees

(a) Every development shall retain all existing specimen and rare trees. When a site would be so unreasonably burdened by the retention of all such trees that a choice must be made as to which trees will be retained, the following criteria shall be used by the applicant, in consultation with the land use administrator and a landscape or forestry professional, who is a certified arborist, to evaluate the trees for the purpose of deciding which to retain:

- (1) The rareness of the species, relative to the species representation on the site and to the species representation within the region and the state. This shall be the most important criterion in the evaluation;
- (2) Size and age, large old trees being considered more valuable than smaller, younger trees of the same species;
- (3) The expected longevity of the tree, including such factors as the tree's relative health at the time of the evaluation;
- (4) The hardiness of the tree, including wind firmness, climatic requirements, susceptibility to insects and diseases;
- (5) Aesthetic values, including flowers, fruit, form characteristics, potential for autumn coloration;
- (6) Size at maturity; and
- (7) Potential to provide shading.

(b) Flexible approaches such as adjustments to lot layout, placement of buildings and paved surfaces and location of utilities should be pursued in order to save rare and specimen trees.

(c) Subsurface disturbance within the Tree Protection Perimeter around any tree to be retained in accordance with (a) above, shall be limited to the minimum extent practicable as determined by a certified arborist during construction or after completion of the development.

Section 5. Section 15-318 (Shade Trees in Parking Lots), subsections (a) is amended with an additional sentence added to the end of the subsection, and subsection (c) is amended with updated Land Use Ordinance section references and an additional sentence added to the end of the subsection, to read as follows:

(a) Vehicle accommodation areas containing more than four parking spaces that are required by Section 15-296 must be shaded by deciduous trees (either retained or planted by developer) that have or will have when fully mature a trunk at least twelve inches in diameter.

When trees are planted by the developer to satisfy the requirements of this subsection, the developer shall choose trees that meet the standards set forth in Appendix E. As part of ~~the redevelopment or development~~ redevelopment of an infill lot in the B-1(C), B-1(G) or B-2 districts, up to 25% of the shading requirement may be from existing or proposed building(s) providing shadow as identified in the provisions of Appendix A, A-6 (26).

(c) No paving may be placed within 15 feet (measured from the trunk) of any tree retained to comply with subsection (a), unless such tree is eighteen inches or greater in diameter or a very rare species as described in Section 15-315, in which case no paving may be placed within the Tree Protection Perimeter for such trees as described in 15-315(8). New trees planted to comply with subsection (a) shall be located so that they are surrounded by at least 200 square feet of unpaved area. Notwithstanding the foregoing, new trees planted on redeveloped or infill lots in the B-1(C), B-1(G) or B-2 districts may be surrounded by less than 200 square feet of unpaved area if installed with an urban tree planting system, specified by a professional engineer and landscape architect or certified arborist, that will ensure the survival of the tree for its typical life expectancy.

Section 6. Section 15-319 (Tree Canopy coverage Standards) is rewritten to read as follows:

Section 15-319 Tree Canopy Coverage Standards

(a) Minimum Canopy Coverage Standards. Subject to the remaining provisions of this section, the following minimum tree canopy coverage percentages are required within the boundaries of every lot or tract for which a zoning, special use, or conditional use permit is issued, exclusive of required cleared active recreation areas, water bodies, access easements, public and private right-of-way, stormwater and utility easements.

Table 1: Minimum Tree Canopy Coverage Standards

Land Use	Minimum Canopy Coverage
Residential	40%
Other than residential excluding districts (B-1(C), (B-1(G), (B-2)	30%
Other than residential in districts (B-1(C), (B-1(G), (B-2)	15%

When a tract is subdivided and pursuant to the provisions of Article XIII the developer sets aside open space areas or recreation areas that contain canopy trees (with a minimum caliper of six inches) or when a developer of a subdivision plants canopy trees to comply with the shading requirements of Article XIII, the total tree canopy area so preserved or established shall be credited against the minimum canopy coverage percentages set forth above. The remaining required tree canopy coverage area shall be allocated by the subdivider among the subdivided lots, and this allocation shall be shown on the recorded plat of such subdivision with a disclosure note that such trees, to fulfill the requirements of this section, shall be subject to maintenance and replacement.

(b) Implementation of Standards. Compliance with the tree canopy standards shall be achieved as follows:

- (1) Protection of existing tree canopy. The extent of existing tree canopy coverage retained at the time of permit application may be documented by survey or by using current aerial photographs available on the Town's web page or similar resource. Protection of the existing tree canopy will be demonstrated by the tree protection plan required by Section 15-320.
- (2) Replacement of canopy. If the existing protected tree canopy is less than the minimum standard as shown in Table 1, the deficit shall be made up by the planting of additional trees as provided herein:
 - a. One (1) or more replacement tree(s) shall be planted in accordance with an approved planting plan. When trees are planted by the developer to satisfy the requirements of this subsection, the developer shall choose trees that meet the standards set forth in Appendix E. Each tree shall be presumed to create a canopy circular area with the trunk of the tree as the center, and there must be sufficient trees so that, using this standard, the canopy requirements in 15-319(a) are met.
 - b. Canopy trees planted to meet the Town's screening and parking lot shading standards can be counted toward the replacement canopy tree calculation.
 - c. Supplemental canopy trees planted to complete the canopy coverage requirements shall be planted no less than twenty (20) feet from any other proposed or existing canopy tree.
 - d. Replacement trees that are planted in an adjacent right-of-way may count toward total tree canopy.
 - e. Replacement tree caliper shall be at least two and one-half (2.5) inches at installation.
 - f. Landscaped areas with shrubs of at least 100 square feet on a redeveloped or ~~an~~ infill lot in the B-1(C), B-1(G) or B-2 districts. The developer shall choose shrubs that meet the standards set forth in Appendix E.

(c) Modifications to Canopy Coverage Standards. The permit issuing authority may approve a development application that does not fully comply with the canopy coverage standards when it finds that the application substantially (50 % or more) complies with these standards and that such a deviation:

- (1) Enables the development to better achieve other Town objectives such as: i) the promotion of solar access to encourage active and passive solar technology for water and space heating and renewable energy generation, ii) improved stormwater management, and iii) the preservation of established landscapes professionally designed and installed by an architect or landscape architect, or landscape designer; or
- (2) Is for property enrolled in the present use value taxation program or subject to a forest management plan; or

- (3) Is part of ~~the~~ redevelopment proposal or development of an infill lot in the B-1(C), B-1(G) or B-2 districts, where the applicant is seeking a reduction of the shading requirement per Section 15-318, has planted trees in the right-of-way to count toward the canopy coverage, and/or uses a landscaped area with shrubs of at least 100 square feet.

Large expanses of open space, meadowland (excepting a meadow consisting of species native to the Piedmont), or manicured lawn shall not satisfy the canopy coverage standards of this section.

(d) Exemption from Canopy Coverage Standards. Zoning permit applications for structures that are exempt from building permit requirements, or are the lessor of either i) additions to existing permitted structures that do not exceed 25% of an existing building footprint or ii) do not increase the footprint of the existing building by more than 250 square feet, shall be exempt from the tree canopy standards.

Section 7. Section 15-321.1 is amended by creating a new Section 15-321.1 (Payment in Lieu of Providing Shade or Canopy Cover Trees), as follows, and renumbering the existing Section 321.1 (Regulation of Forestry Activities) to 15-321.2.

(a) When the permit issuing authority determines that as part of ~~the a~~ redevelopment or the development of an infill lot in the B-1(C), B-1(G) or B-2 districts, it is physically impossible or impracticable for a development to satisfy the requirements of Section 15-318 (shading trees), or Section 15-319 (canopy coverage) of this Article, then the permit-issuing authority may allow the developer to pay a fee to a tree planting fund in accordance to an adopted tree planting master plan.

(b) The amount of the fee authorized by this section shall be determined by estimating the cost of providing the required trees (including the cost of the plant and labor for installation) that meets the requirements of this Article. This determination shall be made annually and the fee shall be included in the Miscellaneous Fees and Charges Schedule adopted by the Board of Aldermen.

(c) Any fees collected in accordance with this section shall be reserved and used exclusively to meet the purposes for which they have been obtained as specified above in subsection (a). The required fee shall be submitted to the Town prior to construction plan approval.

Section 8. Appendix A, Section A-5. (Existing, Natural, Man-Made and Legal Features) (b)(2), is rewritten to read as follows:

(b) Existing natural features:

- (1) Tree line of wooded areas.
- (2) The location and sizes of all trees which are to be retained in accordance with Section 15-317, and which are to be removed; a written justification for the need

to remove any specimen or rare species trees protected by the provisions of Article XIX, along with a description of the extent of the hardship that would occur if such removal were not permitted to occur.

Section 9. Appendix A, Section A-6. (Proposed Changes in Existing Features or New Features), provisions (b)(23) and (b)(24) are rewritten to read as follows:

- (23) Proposed plantings or construction of other devices to comply with the screening requirements of Article XIX, Part I, as well as proposed plantings of trees to comply with the shading, street tree, and canopy requirements of Article XIX, Part II. Plans shall label shrubbery by common and scientific name, show the distance between plants and indicate the height at the time of planting and expected mature height and width. Plans shall label trees by common and scientific name, show the circles of the mature crowns (major trees shall be drawn at diameter = 30 feet; dwarf or decorative trees shall be drawn at their actual mature crown), and indicate the height at the time of planting.
- (24) A Tree Protection Plan, will be completed and stamped by a certified arborist or landscape architect, illustrating the methods proposed to be used to protect, during construction, the trees that are required to be protected under the provisions of ~~Article~~Chapter XIX including specifications as to how the grade, drainage, and aeration will be maintained around the trees. The location of all rare and specimen trees to be retained on the site that will not be within the area to be disturbed by construction activities near a building site, or near roads within the development shall also be shown on the plan, along with a note stating that these trees will not be within the area to be disturbed by construction activities. The Administrator may recommend that applicants consult with experts in arboriculture, landscape architecture or forestry about appropriate tree protection methods for the particular conditions and species in question.

Section 10. Appendix E (Screening and Trees – Guide for Landscaping), provision title for E-3) shall be amended to read as follows:

E-3 Formulas for Calculating Thirty-five Percent Shading of Paved Vehicle Accommodation Areas and Tree Canopy Deficit Replacement.

Section 11. Appendix E-1 (Guide for Protecting Existing Trees), shall be amended to change the Section number from 15-316 to 15-317 in the first sentence and in subsection (b) to read as follows:

E-1 Guide for Protecting Existing Trees

Section 15-317 provides for the retention and protection of large trees when land is developed. In order to better ensure the survival of existing trees, the developer should heed the following guidelines:

- (b) Avoid excavations beneath the crown of the tree as required by Section 15-317(c).

Section 12. Appendix E-2 (Standards for Street and Parking Lot Trees), shall be amended to correct the references to other Sections, as follows:

Trees planted in compliance with the requirements of Sections 15-316, 15-318 and 15-319 should have most or all of the following qualities. The trees recommended in Section E-10 represent the best combinations of these characteristics.

Section 13. Appendix E-3 (Formulas for Calculating 35% Shading of Vehicle Accommodation Areas and Tree Canopy Deficit Replacement) shall be amended to include a new formula for determining the number of replacement trees required to presumptively satisfy the tree canopy requirements of Section 15-319, as follows:

Formulas for Calculating the Number of Replacement Trees Required to Satisfy the Tree Canopy Deficit

Following is an elementary formula for determining the number of replacement trees required to presumptively satisfy the tree canopy requirements of Section 15-319.

- | | | |
|----|--|------------------|
| 1. | Enter square footage of the site to which canopy standards apply (15-319(a)): | _____ sq. ft. |
| 2. | Multiply (by 40%, 30%, or 15% depending on the Land Use) | x .4, .3, or .15 |
| 3. | Canopy Required | _____ sq. ft. |
| | ***** | |
| | Add: | |
| 4. | Canopy from existing trees to be retained:* | _____ sq. ft. |
| 5. | Canopy area of required screening trees, if any: | _____ sq. ft. |
| 6. | Canopy area of required shade trees, if any: | _____ sq. ft. |
| 7. | Subtotal (add lines 4-6) | _____ sq. ft. |
| | (if line #7 is greater than line #3, then the canopy requirement has been met. If not, go on to line #8) | |
| 8. | Enter the difference between line #7 and line #3 | _____ sq. ft. |
| | Divide line #8: | ÷ 707 |
| 9. | Total number of replacement trees required**: | _____ trees |

*Existing trees retained will be credited according to their actual crown radius on the site as determined by survey or aerial photography.

**The actual number of replacement trees to be planted will be determined as described below.

Trees planted that are generally recognized as canopy or overstory trees are credited with shading 707 sq. ft. (based on a crown radius of 15'). New trees planted within 5' of the lot line are credited for having only half a crown (e.g., new perimeter trees will be credited for 354 sq. ft.). When smaller trees generally recognized as understory trees such as Dogwoods are planted, the credited area will be adjusted downward to 314 sq. ft. for interior trees and 157 sq. ft. for perimeter trees (based on a crown radius of 10').

Section 14. Appendix E-9 (Guide for Planning Shrubs) is amended to read as follows:

E-5 Guide for Planting Trees

After the pit is dug, observe sub surface drainage conditions. Most soils in the Carrboro area are poorly drained. Planting depth where poor drainage exists should be dependent upon the water needs of the tree species. If the species is more sensitive to poor drainage, the tree should be planted higher than existing grade, not to exceed $\frac{1}{4}$ root of the ball above grade. If a wire cage surrounds the root ball, it should be removed prior to planting. Back fill should then be sloped gradually from top of root ball to existing grade. Gravel placed at the bottom of the hole will not improve drainage.

Section 15. Appendix E-9 (Guide for Planning Shrubs) is amended to read as follows:

E-9 Guide for Planting Shrubs

Shrubs planted for screening purpose should be given a proper culture and be spaced based on expected size at maturity. Most soils in the Carrboro area are poorly drained. Planting depth where poor drainage exists should be dependent upon the water needs of the tree species. If the species is more sensitive to poor drainage, the shrub should be planted higher than existing grade, not to exceed one quarter of the root ball above grade. If a wire cage surrounds the root ball, it should be removed prior to planting. Back fill should then be sloped gradually from the top of the root ball to the existing grade. Gravel placed at the bottom of the hole, underneath the shrub, will not improve drainage. Many of the guidelines for tree planting listed in Section E-5 also apply to shrubs. However, because specific requirements vary considerably between shrub types, this Appendix does not attempt to generalize the needs of all shrubs.

Section 16. Appendix E-10 (Lists of Recommended Trees and Shrubs) is completely rewritten with the lists of trees and shrubs listed as under subsection E-10(A) through E-10(F) are reorganized into a table, as follows:

E-10 Table of Recommended Trees and Shrubs

The following table, indicates plants which will meet the screening, shading, and tree canopy replacement requirements of Article XIX of the Land Use Ordinance. Additional desirable aspects of plants are also provided. The lists are not intended to be comprehensive or absolute, but rather are intended as guidance for species that are appropriate.

Plants were selected for inclusion on these lists according to two principal criteria in addition to providing the indicated service: i.) general suitability for the Piedmont of North Carolina and support of Piedmont ecosystems and food webs; and ii.) for a particular site, species native to the Piedmont of North Carolina which are thriving on or near the site should be favored. When trees are planted to replace native tree specimens removed, native tree species should always be selected. Plantings of multiple species are also recommended to increase biodiversity and provide resilience. Further information on recommended native plants is available from the North

Carolina Native Plant Society. The Land Use Administrator has the discretion to not approve of planting plans to comply with Article XIX that substantially deviate from the list provided

Sections E-11 through E-16 contain descriptions of the trees and shrubs listed here.

DRAFT

E-10 TABLE OF RECOMMENDED TREES AND SHRUBS

Common Name (<i>Latin name</i>)	Human Services						Ecological Services		
	Shading (1)		Screening (2)			Other	Rare/specimen (3)	Native (a)	Pollinator (b)
	Parking / VAA	Street	Partial	Evergreen	Broken	Planting Strip			
Large Trees (4)									
American Beech (<i>Fagus grandifolia</i>)							*	*	
American Elm (<i>Ulmus americana</i>)							*	*	
American Hemlock (<i>Tsuga canadensis</i>)							*	*	
American Persimmon (<i>Diospyrus virginiana</i>)			*		*		*	*	*
Atlantic White Cedar (<i>Chamaecyparis thyoides</i>)				*			*	*	
Bald Cypress (<i>Taxodium distichum</i>)				*			*	*	
Basswood (<i>Tilia americana</i>)	*							*	
Black Gum (<i>Nyssa sylvatica</i>)			*					*	
Black Oak (<i>Quercus velutina</i>)	*	*						*	
Blackjack Oak (<i>Quercus marilandica</i>)								*	
Chestnut Oak (<i>Quercus montana</i> ; <i>Q. prinus</i>)	*							*	
Cucumber Tree (<i>Magnolia acuminata</i>)	*							*	
Eastern Red Cedar (<i>Juniperus virginiana</i>)				*			*	*	
Laurel Oak (<i>Quercus laurifolia</i>)				*				*	
Loblolly Pine (<i>Pinus taeda</i>)				*				*	
Longleaf Pine (<i>Pinus palustris</i>)							*	*	
Mockernut hickory (<i>Carya tomentosa</i>)								*	*
Ohio Buckeye (<i>Aesculus glabra</i>)							*	*	
Post Oak (<i>Quercus stellata</i>)								*	
Red Oak (Eastern) (<i>Quercus rubra</i>)	*	*						*	
River Birch (<i>Betula nigra</i>)	*	*				*		*	
Scarlet Oak (<i>Quercus coccinea</i>)	*	*						*	
Shortleaf Pine (<i>Pinus echinata</i>)				*				*	
Southern Catalpa (<i>Catalpa bignonioides</i>)	*							*	
Southern Magnolia (<i>Magnolia grandiflora</i>)				*			*	*	
Shagbark Hickory (<i>Carya caroliniana-septentrionalis</i>)							*	*	
Southern Sugar Maple (<i>Acer saccharum</i> ; <i>A. barbatum</i>)	*							*	
Swamp Chestnut Oak (<i>Quercus michauxii</i>)	*						*	*	
Swamp White Oak (<i>Quercus bicolor</i>)	*				*			*	

Sycamore (<i>Platanus occidentalis</i>)	*								*	
Tulip Poplar (<i>Liriodendron tulipifera</i>)	*	*							*	*
Virginia Pine (<i>Pinus virginiana</i>)				*					*	
White Oak (<i>Quercus alba</i>)	*								*	
Willow Oak (<i>Quercus phellos</i>)	*	*							*	
<u>Small Trees (5)</u>										
American Holly (<i>Ilex opaca</i>)			*	*	*				*	*
American Hop Hornbeam (<i>Ostrya virginiana</i>)			*						*	
American Hornbeam/Ironwood (<i>Carpinus carolinia</i>)			*			*			*	
American Smoketree (<i>Cotinus obovatus</i>)			*		*					
Carolina Cherry Laurel (<i>Prunus caroliniana</i>)			*	*		*			*	
Crabapple (southern) (<i>Malus spp.</i>)			*				*		*	
Eastern Redbud (<i>Cercis canadensis</i>)			*						*	*
Flowering dogwood (<i>Cornus florida</i>)			*						*	
Fringetree (<i>Chionanthus virginiana</i>)			*		*				*	*
Loblolly Bay (<i>Gordonia lasianthus</i>)			*						*	
Mock Orange <i>Philadelphus inodorus</i> (other native cultivars)			*						*	*
Paw Paw (<i>Asimina triloba</i>)			*				*		*	*
Red Bay (<i>Persea borbonia</i>)			*						*	
Sassafras (<i>Sassafras albidum</i>)			*		*		*		*	
Serviceberry (<i>Amelanchier canadensis/arborea</i>)			*			*	*		*	
Silverbell (<i>Halesia carolina</i>)									*	
Sourwood (<i>Oxyndrum arboreum</i>)			*			*			*	
Southern Wax Myrtle (<i>Myrica cerifera</i>)			*	*					*	
Sumac (<i>Rhus aromatica</i> (fragrant); <i>copallina</i> (Shining); <i>R. glabra</i> (Smooth); <i>R. typhina</i> (Staghorn))					*		*		*	*
Umbrella Magnolia (<i>Magnolia tripetala</i>)									*	*
Washington Hawthorn (<i>Crataegus phaenophyrum</i>)			*							
Witch Hazel (Common) (<i>Hamamelis virginiana</i>)					*		*		*	
Witch Hazel (Vernal) (<i>Hamamelis vernalis</i>)					*	*	*			
Yaupon Holly (<i>Ilex vomitoria</i>)			*	*		*	*		*	
<u>Shrubs (6)</u>										
Anise Bush (<i>Illicium anisatum</i>)			*	*		*				
Azaleas (<i>Rhodendron calendulaceum, canescens, periclymenoides, prunifolium</i>)					*				*	*
Beautyberry (<i>Callicarpa americana</i>)					*	*			*	
Blueberry (<i>Vaccinium spp.</i>)					*		*		*	

Buttonbush (<i>Cephalanthus occidentalis</i>)					*				*	
Carolina Allspice (Sweetshrub) (<i>Calycanthus floridus</i>)					*				*	
Carolina Rose (<i>Rosa carolina</i>)					*				*	
Clethra (<i>Clethra alnifolia</i>)					*				*	
Devil's Walking Stick (<i>Aralia spinosa</i>)					*				*	*
Flowering dogwood (<i>Cornus florida</i>)										
Drooping Leucothoe (<i>Leucothoe fontanesiana</i>)					*				*	
Fortune Tea Olive (<i>Osmanthus fortunei</i>)			*	*						
Glossy Abelia (<i>Abelia grandiflora</i>)			*	*						
Hearts-a-burstin (<i>Eunonymus americanus</i>)					*				*	
Highbush Blueberry (<i>Vaccinium corymbosum</i>)					*				*	
Inkberry (<i>Ilex glabra</i>)			*	*					*	
Japanese Yew (<i>Taxus cuspidata</i>)			*	*						
Magnolia "Little Gem" (<i>Magnolia grandiflora</i>)		*		*					*	
Mountain Laurel (<i>Kalmia latifolia</i>)				*					*	
Oakleaf Hydrangea (<i>Hydrangea quercifolia</i>)					*					*
Poet's Laurel (<i>Danae racemosa</i>)			*	*						
Possumhaw (<i>Ilex decidua</i>)									*	
Savannah Holly (<i>Ilex x attenuata</i>)	*	*		*		*			*	
Silky dogwood (<i>Cornus amomus</i>)									*	
Spicebush (<i>Lindera benzoin</i>)					*	*			*	
Viburnum (<i>acerifolium, dentatum, nudum, rafinesquianum, prunifolium, rufidulum</i>)			*		*				*	
Virginia sweetspire (<i>Itea virginica</i>)									*	
Winterberry Holly (<i>Ilex verticillata</i>)			*	*					*	
Vines										
Carolina Jessamine (<i>Gelsemium sempervirens</i>)			*	*						
Confederate Jasmine (<i>Trachelospermum jasminoides</i>)			*	*						
Trumpet Honeysuckle (<i>Lonicera sempervirens</i>)			*	*						
Virginia Creeper (<i>Parthenocissus quinquefolia</i>)			*	*						

Footnotes: (1) See 15-316 & 15-318. (2) See 15-307. (3) See 15-317. (4,5) Trees that are credited with 707 sf (4) and 314 sf (5) towards canopy requirements per Appendix E (E-3). (6) Shrubs may be credited towards canopy requirements, see 15-319. (a) as defined by NC Cooperative Extension Service and Natural Resources Conservation Service; native plants are preferred for all plantings. (b): as identified by Pollinator Partnership, for southeastern region.

Section 17. Appendix E-11 (Small Trees for Partial Screening) is amended to read as follows:

E-11 Small Trees for Partial Screening

The following trees are recommended for use in all types of screens. Though smaller than the trees listed in planting lists E-12 and E-13, each of these trees will reach a height of at least 20 feet. Selections marked with an (*) are also recommended as shade trees and may be credited for meeting the 35% shading requirement for paved parking lots.

Section 18. Appendix E-13 (Large Trees for Shading) is rewritten to read as follows:

E-13 Large Trees for Shading (Amended 6/22/04)

The following trees may be used for screening, but they are recommended especially for shading streets and parking lots. Unless otherwise noted, they will grow rapidly. Each species will attain a mature spread of at least thirty feet. The trees on the following list marked with an “*” are appropriate selections to satisfy Section 15-315, Required Trees Along Dedicated Streets.

***BLACK OAK (*Quercus velutina*) Height: 50 to 60 feet; Spread: 40 to 50 feet**

A large, deciduous oak of the red oak group with a globular, spreading crown. This tree is primarily native to upland hills, slopes and ridges. It is similar in appearance to red oak with which it may on occasion hybridize. Bark is almost black on mature trunks with deep furrows. Inner bark is yellow to orange. Trunk matures to 3' in diameter. Leathery, shiny, dark green leaves (to 10" long) have 7-9 deeply incised lobes (each with 1-3 bristle tipped teeth). Leaves turn yellow to yellow-brown to dull red in fall. Easily grown in average, acidic, dry to medium moisture, well-drained soils in full sun.

CHESTNUT OAK (*Quercus montana*; *Q. prinus*) Height: 60 to 70 feet; Spread: 50 to 70 feet

Chestnut oak is a medium-sized, native, deciduous, tree that is suited to dry, infertile, rocky upland sites, yet grows best on rich well-drained soils along streams. At maturity, it is a medium-sized long-lived tree with an irregular dense crown. The sweet acorns are an important food for many wildlife species including deer, turkeys, squirrels, chipmunks, and mice, while small birds, mammals, and bees use chestnut oak cavities for nesting.

CUCUMBER TREE (*Magnolia acuminata*; *M. Fraserii*) Height: 50 to 80 feet; Spread: 50 to 80 feet

Cucumber tree is the most widespread and hardiest of the eight native magnolia species. It grows fairly rapidly and well in rich, moist soils of slopes and valleys and matures in 80 to 120 years. This park-like tree is planted as an ornamental for its attractive leaves, flowers, and cucumber-shaped fruit, producing seeds that are eaten by birds and small mammals. Its shape is pyramidal when young, developing a straight trunk and a rounded crown.

***EASTERN RED OAK (*Quercus rubra*) Height: 50-70'; Spread: 40'+.**

This tree grows faster than any other Oak, two feet or more per year. It is prized as a street tree because its high branching habit gives it an ideal shape. The Red Oak grows in almost any average soil and presents no special maintenance problems.

***LAUREL OAK (*Quercus laurifolia*) Height: 40-60'; Spread: 30'+.**

The Laurel Oak grows more slowly than the other Oaks listed above, but it has the advantage of being nearly evergreen in Piedmont sections of North Carolina. It has proven to be a good street tree and does quite well under city conditions. It presents no special maintenance problems.

POST OAK (*Quercus stellata*) Height: 40 to 50 feet; Spread: 35 to 50 feet

Post oak is a small to medium-sized tree with a crown that has snarled and twisted branches and found on upland sites with full sun. This slow-growing drought resistant oak typically occupies rocky or sandy ridges and dry woodlands with a variety of soils. Acorns provide high-energy wildlife food during fall and winter for wild turkey, white-tailed deer, and squirrels, and provide habitat for birds and mammals. Post oak can be a beautiful shade tree for parks and to stabilize soil on dry, sloping, stony sites where few other trees will grow. It develops an attractive crown with strong horizontal branches.

***SCARLET OAK (*Quercus Coccinea*) Height: 60-80'; Spread: 40'+.**

This is a third Oak which grows rapidly and is easy to maintain. The Scarlet Oak is more difficult to transplant than the Red or the Willow, but it may be a worthwhile selection for its excellent foliage

SOUTHERN CATALPA (*Catalpa bignonioides*) Height: 25 to 40 feet; Spread: 20 to 30 feet

Catalpa is a medium-sized tree with spreading branches, an irregular crown, and generally crooked bole that is suited to moist, well-drained soils with full sun. The flowers and leaves make this an interesting landscape tree but the fruit can be messy.

SOUTHERN SUGAR MAPLE (*Acer saccharum*; *A. barbatum*) Height: 20 to 25 feet; Spread: 20 to 40 feet

Sugar maple grows on moist, well-drained soils and is very tolerant of shade. Seeds are eaten by birds and small animals. A popular ornamental for the fall color, Sugar Maple at maturity is a medium to tall tree with very dense elliptical crown.

SWAMP CHESTNUT OAK (*Quercus michauxii*) Height: 60 to 70 feet; Spread: 50 to 70 feet

Swamp chestnut oak grows in full sun on moist and wet loamy soils of bottomlands, along streams and borders of swamps, tolerates saturated or flooded soils for a few days to a few weeks. The acorns are sweet and serve as food to wildlife. The crown is round, compacted, and narrow.

SWAMP WHITE OAK (*Quercus bicolor*) Height: 50 to 60 feet; Spread: 50 to 60 feet

Swamp white oak is a medium sized tree with an irregular crown suitable to river bottomlands, depressions, swamp borders, and along edges of streams. It is rapid growing and long lived, attaining 300 to 350 years. Many kinds of wildlife eat the acorns, particularly ducks. Swamp white oak is intermediate in shade tolerance but not very drought tolerant.

SYCAMORE (*Platanus occidentalis*) Height: 70-100'; Spread: 60'+.

The Sycamore is probably the fastest growing shade tree on this list. Within ten years, it can grow to a height of between thirty and forty feet. It is easily transplanted, but it needs plenty of space. As one of nature's most massive trees, Sycamores have been known to grow to a height of 170 feet with a trunk 10 feet across. The Sycamore is a native tree which typically grows in flood plains, but it thrives in a variety of situations. Its tolerance of severe conditions has long made it a favorite choice as a street tree. Sycamores are susceptible to fungi and leaf blight and their large leaves and seed balls may present a litter problem.

***TULIP POPLAR (*Liriodendron tulipifera*) - Height 60'-150'; Spread 30-40'.**

Very common in eastern woodlands, this is a rapidly growing tree with colorful yellow leaves in Fall. Spring flowers, however, are not very noticeable. Difficult to transplant except when young. Excellent street tree.

WHITE OAK (*Quercus alba*) Height: 60 to 100 feet; Spread: 50 to 90 feet

White oak is found on fertile, moist, well-drained soils under partial sun. Acorns are eaten by game birds, deer, bear, and many small mammals. Pyramidal in youth, this species matures into a rugged, irregular crown that is wide spreading, with a stocky bole. While this species is potentially valuable for use in reforestation projects, it is not recommended near paved areas.

***WILLOW OAK (*Quercus phellos*) Height: 60-80'; Spread: 30'+.**

This is another rapidly growing Oak. It has proven to be quite successful as a street and parking lot tree in the Carrboro area. Its slender leaves give it a finer texture than that of other Oaks, but it still casts excellent shade. The Willow Oak is native to bottomland soils, and thus it needs plenty of moisture. It often spreads majestically as it matures so it should be given ample room to grow. No significant pests or diseases afflict the Willow Oak.

Section 19. Appendix E-14 (Small Shrubs for Evergreen Screening) is rewritten to read as follows:

E-14 Small Shrubs and Vines for Evergreen Screening (Amended 6/22/04)

The following shrubs and vines are recommended for informal (unclipped) hedges or screens. These are generally small species and appropriate for Semi-Opaque Screens.

CAROLINA JESSAMINE* (*Gelsemium sempervirens*) - Height up to 20'; Spread varies.

A moderate growing, mostly evergreen vine that grows very well on fences. Fragrant yellow flowers in springtime. Prefers sun or partial shade. All parts of this plant are poisonous.

CONFEDERATE JASMINE* (*Trachelospermum jasminoides*) - Height up to 20'; Spread varies.

Commonly called star jasmine, this is a twining, evergreen, woody vine. Axillary and terminal clusters of salverform, sweetly fragrant, starry, creamy white flowers appear in late spring with sporadic additional bloom in summer. Flowers are attractive to bees.

GLOSSY ABELIA (*Abelia grandiflora*) Height: 4-6'; Spread: 3-5'.

Abelia is quite common in local nurseries and tends to be less expensive than other shrubs on this list. It bears pale pink flowers throughout the summer. Although it has proven quite popular for informal hedges, it has several drawbacks. Abelia should be pruned and thinned to maintain its best form. It may drop its leaves due to low temperatures, lack of pruning, or starvation.

INKBERRY (*Ilex Glabra*) Height: 5-10'; Spread: 4-8'

Inkberry is an evergreen shrub with alternate leaves with a smooth or toothed margin. The bark is greenish brown and smooth. In early summer, small greenish white flowers mature. The shrub produces a black drupe that matures in the fall. It is a host plant for the Henry's Elfin butterfly. Fruits are eaten by birds and small mammals.

JAPANESE YEW (*Taxus cuspidata*) Height: 4-6'; Spread: 5-7'.

The versatile Yew is commonly available from local nurseries in a wide variety of sizes and shapes. The Japanese Yew serves as excellent screening material in either a clipped or unclipped form. It tolerates poor growing conditions and flourishes in almost any kind of soil. (Soggy soil may hamper its growth, however.) It is comparatively pest free and is hardy under trying winter conditions. The Yew's best feature is its rich shiny green needles which grow densely on all varieties.

MOUNTAIN LAUREL (*Kalmia Latifolia*) Height: 6-10'; Spread: 5-8'

A shrub that is abundant in the mountains with leaves that are alternate with a smooth margin, raised mid-vein, and yellow underside. The bark is thin, smooth, and dark brown-red in color in young trees. The bark shreds and splits as the plant ages. In late spring to early summer, very showy clusters of white to rose flowers mature.

POET'S LAUREL (*Danae racemosa*) Height: 2 to 3 feet; Spread: 2 to 3 feet

Poet's Laurel prefers partial to full shade, moist, well-drained soil enriched with organic matter; but does tolerate clay soils. It has an open growth habit with slender branches that arch up and away from center of crown. It can spread by rhizomes. While foliage discolors in sun; it can be long-lasting for flower arrangements.

TRUMPET HONEYSUCKLE* (*Lonicera sempervirens*) - Height up to 50'; Spread varies.

A rapid growing, mostly evergreen vine with beautiful orange to red to yellow flowers occurring in late spring and throughout the summer. Best in full sun.

WINTERBERRY HOLLY (*Ilex verticillata*) Height: 6 to 15 feet; Spread: 6 to 10 feet

With a slow to moderate growth rate, this species is suited to partial to full sun on moist soils, but can tolerate drought. Early summer brings small white flowers that mature into dense clusters of bright red berries.

Note: * Vines - which if grown on a trellis would make a nice evergreen screen.

Section 20. Appendix E-15 (Small Trees and Large Shrubs for Evergreen Screening is rewritten to read as follows:

E-15 Small Trees and Large Shrubs and Trees for Evergreen Screening

The following shrubs are recommended for high hedges or screens. Each species grows to a height of more than 6 feet and are generally appropriate for Opaque Screens.

ANISE BUSH (*Illicium anisatum*) - Height 8-12'; Spread 8-10'.

moderate growing, evergreen shrub with an open habit. Small flowers appear in mid-Summer. Prefers a fair amount of moisture, with partial to full sun. Subject to damage during very cold winters.

CAROLINA CHERRY-LAUREL (*Prunus caroliniana*) Height: 20-30'; Spread: 15-20'.

This tree is prized for its dense evergreen foliage. It may be trimmed as a hedge, but also serves as an excellent screen in its natural form. The Cherry-Laurel grows rapidly and has no pests. However, it may not be as cold hardy as other trees on this list.

FORTUNE TEA OLIVE (*Osmanthus fortunei*) Height: 9-12'; Spread: 5-7'.

This *Osmanthus* hybrid is a popular, though non-descript, shrub. With its vigorous growth, it will form an excellent screen or border. It is soil tolerant. The Fortune Tea Olive is most notable for its inconspicuous yet highly fragrant flowers.

LOBLOLLY BAY (*Gordonia lasianthus*) Height 30 to 60 feet; Spread 10 to 15 feet

Loblolly-bay is a small to medium-sized native, evergreen tree that grows on acid soils in flat woodlands or shallow depressions with little or no slope, slow runoff, and poor to very poor drainage. It has a narrow crown and straight trunk.

MAGNOLIA "LITTLE GEM" Height 15 to 30 feet; Spread 15 to 20 feet

'Little Gem' is a much smaller and slower growing Magnolia cultivar that typically grows as a compact upright multi-stemmed shrub or small tree. It features glossy green leaves (to 5" long) that are bronze-brown underneath. Fragrant white flowers (to 4" diameter) bloom in summer. It is effective as a screen, a small street tree or in containers.

RED BAY (*Persea borbonia*) Height: 15 to 40 feet; Spread 10 to 20 feet

Redbay is an attractive aromatic evergreen tree suitable for sites with partial to full sun and prefers drier soils. Birds and small mammals eat the fruit.

SAVANNAH HOLLY (*Ilex X Attenuata* 'Savannah') Height: 25 to 40'; Spread 8 to 12 feet

This holly grows quickly in full sun or partial shade on moist, acid soils. Plants in full sun can grow a dense canopy, those in partial shade are more open. Trees attract cedar waxwings, mockingbirds, robins and many other birds. This holly makes a fairly durable street tree. It is quite drought-tolerant once it becomes well-established. The crown grown with one central trunk is preferred, making it well-suited for urban areas having restricted vertical space. Savannah Holly has also performed well in sidewalk cutouts/small tree pits, in parking lots and median strip plantings and for screens.

SOUTHERN WAX MYRTLE (*Myrica cerifera*) Height 40 feet; Spread 20 to 25 feet

Southern wax myrtle is an erect, shade tolerant, ornamental, evergreen, small tree or shrub. Its flat leaves are aromatic when crushed and may repel. Underground runners extend the growth laterally and root nodules are capable of atmospheric nitrogen fixation.

YAUPON HOLLY (*Ilex vomitoria*) Height: 5-15'; Spread: 6-12'

This is another versatile Holly, slower growing than the Burford, but equally as adaptable to adverse conditions. It is a native shrub which has proven to be one of the most drought resistant of all Hollies. It may be clipped to maintain any desired height. The Yaupon Holly is very heavily fruited and will attract birds.

Section 21. Appendix E-16 (Assorted Plantings for Broken Screens) is rewritten to read as follows:

E-16 Assorted Plantings for Broken Screens (Amended 6/22/04)

The following is a sampling of shrubbery which would be appropriate in a Broken Screen. Because many of these plants are deciduous, they are not suitable for Opaque and Semi-Opaque Screens. (Note: Many of the evergreen shrubs described in planting lists E-14 and E-15 are also suitable for Broken Screens.)

AZALEAS (*Rhododendron calendulaceum* (Flame); *R. nudiflora* & *R. periclymenoides* (Pinxterbloom); *R. prunifolium* (Plumleaf)) Height 3 to 10 feet; Spread 4 to 8 feet.

These three azaleas are excellent naturalizing plants that do not require a lot of space. With great orange, pink, and red colors, these species attract hummingbirds and butterflies. Good for sites with full sun to part shade with medium moisture on well-drained soils with a southwest aspect.

BEAUTYBERRY (*Callicarpa americana*) - Height 6'.

Very colorful deciduous shrub with springtime flowers, followed by purple fruit which lasts into winter. Prefers full sun.

***BLUEBERRY (*Vaccinium ashei*) - Height 4-6'; Spread 3-5'.**

Also known as Rabbiteye blueberry, this is a heat tolerant, native shrub. White flowers in springtime followed by blue fruits that birds enjoy. Has a moderate growth rate. This shrub prefers well drained, acid soil.

BUTTON BUSH (*Cephalanthus occidentalis*) Height: 6 to 10 feet Spread: 6 to 10 feet

Buttonbush is a deciduous, warm-season, tall shrub or small tree that grows along swamps, marshes, bogs, ditches, and other riparian areas that are seasonally inundated for at least part of the year. Its base is often swollen, with green branches when young but turns brown at maturity. Tiny, white flowers occur in dense, spherical clusters at branch ends attract bees and butterflies with fruits arranged in a round cluster of brown, cone-shaped nutlets.

CAROLINA ALLSPICE OR SWEETSHRUB (*Calycanthus floridus*) - Height 6-9'; Spread 5-8'.

This is a deciduous shrub native to the Southeast. Fragrant, maroon flowers appear in late Spring. Takes sun or shade.

CAROLINA ROSE (*Rosa carolina*) Height 3 to 6 feet Spread: 5 to 10 feet

Best grown in average, medium-wet to wet, well-drained soil in full sun. Fragrant, showy flowers attract birds and butterflies, but this plant does have thorns.

CLETHRA (*Clethra alnifolia*) - Height 10'.

Another native of the Eastern United States, Clethra has fragrant white flowers in late Summer. Grows well in acid soils. Full sun, however in the Piedmont it would do best with some shade. Varieties are available with pink flowers.

COMMON WITCH HAZEL (*Hamamelis virginiana*) Height: 8-15'; Spread 7-14'.

This shrub is a larger version of Vernal Witch Hazel with many of the same qualities. It is another native woodland plant which has adapted well to landscaping uses. The Common Witch Hazel is recommended for shady areas, but when planted in the sun it grows to be a splendid well rounded specimen. It is especially useful in large areas.

DROOPING LEUCOTHOE (*Leucothoe fontanesiana*) Height: 3-4'; Spread: 4-6'.

Drooping Leucothoe is a moundlike shrub which is good for planting in front of and between other flora and beneath trees. It is hardy in city conditions and gives a natural effect when planted along borders. This native evergreen is graceful and attractive in all seasons. It is easy to transplant but requires a heavy mulch and should be provided with at least partial shade. Old branches should be pruned occasionally to stimulate new growth.

EUONYMUS AMERICANA (Hearts-a-Burstin; Strawberry Bush) Height: 3-5'; Spread: 4-6'

Strawberry Bush is a native deciduous shrub with leaves that are opposite with finely toothed margins. The bark is green, but does split and become darker as the tree ages. In early summer, small, 5-petaled, greenish purple flowers mature. The shrub produces 4-lobed capsules which when opened reveal an orange-red, warty seed.

FRINGETREE (*Chioanthus virginicus*) Height: 10-30'; Spread: 8-10'.

The Fringetree is known for its profusion of beautiful flowers. It is considered to be one of the most striking native American shrubs. It is relatively difficult to transplant, but once established it does well in cities as it endures heavy smoke and dust. The mature Fringetree's only drawback is that its leaves appear rather late in the Spring.

HIGHBUSH BLUEBERRY (*Vaccinium Corymbosum*) Height: 8-15'; Spread: 8-12'

Highbush Blueberry is a deciduous shrub with alternate leaves with a smooth or toothed margin and fuzzy underside. The bark is gray-brown to reddish brown and very shreddy. In early spring, small, white, bell-shaped flowers mature in clusters. The shrub produces a dark blue berry that matures in mid to late summer. It is a host plant for the Brown Elfin butterfly. Fruits are eaten by a variety of birds and mammals, including humans.

INKBERRY (*Ilex Glabra*) Height: 5-10'; Spread: 4-8'

Inkberry is an evergreen shrub with alternate leaves with a smooth or toothed margin. The bark is greenish brown and smooth. In early summer, small greenish white flowers mature. The shrub produces a black drupe that matures in the fall. It is a host plant for the Henry's Elfin butterfly. Fruits are eaten by birds and small mammals.

OAKLEAF HYDRANGEA (*Hydrangea quercifolia*) - Height 4-6'; Spread 3-5'

Deciduous shrub with large, white flower clusters during the Summer. Colorful crimson foliage in Fall. Makes an excellent specimen plant.

SMOKETREE (*Cotinus coggygia*) - Height 10-15'; Spread 8-14'

Large shrub or small deciduous tree with attractive round leaves. Colorful lavender panicles appear in Summer. Prefers well drained soil, but otherwise does well in poor soils. Full sun is best for this shrub.

SPICEBUSH (*Lindera benzoin*) - Height 6-10'; Spread 4 -8'

Spicebush is a deciduous shrub alternate leaves with a smooth margin that produce a spicy odor when crushed. The bark is brown to gray-brown and speckled with light colored lenticels. In early spring, small, yellow flowers mature in axillary clusters. The shrub produces a bright red drupe with a peppery taste and scent. The fruit matures in the fall. It is a host plant for the Spicebush Swallowtail butterfly. Fruits are eaten by songbirds, especially during fall migration.

STAR MAGNOLIA (*Magnolia stellata*) Height: 10-12'; Spread: 8-10'

This handsome specimen shrub is considered to be the hardiest of all the Magnolias. It forms a broad, rounded mass. It becomes tree-like with age but continues to branch to the ground. Early in the spring, it produces numerous fragrant white flowers. The Star Magnolia should not be planted adjacent to shallow rooting trees. It should be allowed plenty of sun.

SUMAC (*Rhus copallina* (Shining); *R. glabra* (Smooth) *R. typhina* (Staghorn)) Height 7 to 40 feet; Spread 9 to 20 feet

These species are perennial, deciduous, sun-loving, thicket-forming shrubs or small trees with branches that tend to be fairly sparse and stout. Sumac does well on dry to medium moisture sites. The tart fruits are eaten by birds and are very tart in taste. These species provide good fall color.

****** SWAMP WHITE OAK (*Quercus bicolor*) Height: 50 to 60 feet; Spread: 50 to 60 feet**

Swamp white oak is a medium sized tree with an irregular crown suitable to river bottomlands, depressions, swamp borders, and along edges of streams. It is rapid growing and long lived, reaching 300 to 350 years. Many kinds of wildlife eat the acorns, particularly ducks. Swamp white oak is intermediate in shade tolerance but not very drought tolerant.

VERNAL WITCH HAZEL (*Hamamelis vernalis*) Height: 4-6'; Spread: 2- 3'

This rapidly growing native shrub is excellent for bordering and naturalizing. It assumes a dense, upright form, thriving in even the most polluted air. Other than plenty of watering, the Vernal Witch Hazel requires no special maintenance.

*****Viburnum (Viburnum prunifolium; V. dentatum) Height: 12 to 15 feet; Spread: 8 to 12 feet**

Black Haw is a small tree with twisted trunk and arching branches with an overall round crown appearance. Does best on partially sunny sites on moist, well-drained soils.

Section 22. Appendix E-17 (List of Invasive Plant Species) is rewritten to read as follows:

E-17 Invasive Plant Species

Invasive plant species identified by the North Carolina Native Plant Society are prohibited from planting for all plantings to comply with Article XIX.

Section 23. All provisions of any Town Ordinance in conflict with this Ordinance are repealed.

Section 24. This Ordinance shall become effective upon adoption.



TOWN OF CARRBORO

NORTH CAROLINA

TRANSMITTAL: PLANNING DEPARTMENT

DELIVERED VIA: ☒ HAND ☐ MAIL ☐ FAX ☒ EMAIL

To: Advisory Boards
From: Christina Moon, Planning Administrator
 Randy Dodd, Environmental Planner
Date: October 27, 2017
Subject: Draft Tree Ordinance Text Amendment

Summary

The purpose of this memo is to provide a quick summary of draft LUO text amendments related to tree protection, shading, canopy, and landscaping provisions in the LUO. The draft amendments have been developed in response to: a) feedback from the Board of Aldermen; b) staff experience since the most recent amendments in 2014 in implementing the provisions; and c) ongoing/continuous review of the LUO by staff. They represent a mixture of policy related, technical, and editorial revisions.

Information

A draft ordinance has been prepared that is designed to create an opportunity for minor deviations from the provisions in Article XIX, Screening and Trees, for certain situations while retaining the overall intent to retain and protect trees, and to plant new trees for improved shading and canopy cover (Attachment B). It includes language to allow the planting of trees and shrubs in tighter urban conditions if accompanied by a recommendation/guarantee of an certified arborist or other tree specialist of the tree's survival, until maturity. The draft ordinance also includes new language to allow a payment in lieu of tree replacement, in certain situations. In the short term, staff could identify a few possible locations on Town-owned property that could be used as receiving areas for trees, but in the long term, such a mitigation program would necessitate the adoption of a more comprehensive tree planting program and plan to guide the collection of payment for this specific purpose. Other changes—a new calculation worksheet in the appendices, updated plant lists reorganized into a single table, and other minor formatting improvements--are included primarily to make these provisions clearer and more straightforward in their implementation. The table on the next pages summarizes the draft amendments and rationale for pursuing these changes.

Recommendation

It is recommended that the Advisory Boards consider this information as part of reviewing the draft text amendment.

Draft Revision	Rationale for Draft Amendment
LUO Section	
15-314: Findings and Declaration of Policy	Additions to clarify and emphasize several Town policy priorities
15-315: Definitions	Added definitions for habitat and tree stand per BoA feedback.
15-317: Protection of Specimen and Rare Trees	Edits for clarity and to include arborists as qualified professionals to evaluate tree retention.
15-318: Parking Lot Shading	Modifications to offer additional flexibility for downtown/infill/redevelopment properties based on experience with development applications.
15-319: Tree Canopy Coverage	Edits to provide additional clarity, specificity, and flexibility on the implementation and modification of standards based on experience with development applications.
15-321.1 Payment in Lieu	Sets up a payment in lieu ability/mechanism for downtown/infill/redevelopment projects that have difficulty complying with shading and/or canopy provisions
Appendix A: Information Required with Application	Minor wording changes for clarity.
Appendix E: Technical Guide for Landscaping	<ol style="list-style-type: none"> 1) Minor wording changes for clarity 2) Added formula for calculating number of replacement trees 3) Rewording of introduction to recommended plant list to emphasize native plants and making explicit that Administrator has the discretion to not approve of landscaping/planting plans that deviate from list. 4) Restructuring of recommended plant lists for both planting and protection into a table to make information easier to navigate and convey helpful information about plant species characteristics. 5) Removal of 14 non native plant species from the recommended plant list and addition of 9 plant species (8 natives) from a list of 97 species 6) Expansion of list of invasive plant species that are prohibited from planting to include all invasive plants identified by NC Native Plant Society (rather than a fixed list of highest priority invasive plants).

ARTICLE XIX

SCREENING AND TREES

PART I. SCREENING

Section 15-304 Board Findings Concerning the Need for Screening Requirements.

The Board finds that:

- (1) Screening between two lots lessens the transmission from one lot to another of noise, dust, and glare.
- (2) Screening can lessen the visual pollution that may otherwise occur within an urbanized area. Even minimal screening can provide an impression of separation of spaces, and more extensive screening can shield entirely one use from the visual assault of an adjacent use.
- (3) Screening can establish a greater sense of privacy from visual or physical intrusion, the degree of privacy varying with the intensity of the screening.
- (4) The provisions of this part are necessary to safeguard the public health, safety, and welfare.

Section 15-305 General Screening Standards

Every development shall provide sufficient screening so that:

- (1) Neighboring properties are shielded from any adverse external effects of that development;
- (2) The development is shielded from the negative impacts of adjacent uses such as streets or railroads.

Section 15-306 Compliance with Screening Standards

(a) The table set forth in Section 15-308, in conjunction with the explanations in Section 15-307 concerning the types of screens, establishes screening requirements that, presumptively, satisfy the general standards established in Section 15-305. However, this table is only intended to establish a presumption and should be flexibly administered, as provided in Section 15-309.

(b) The numerical designations contained in the Table of Screening Requirements (Section 15-308) are keyed to the Table of Permissible Uses (Section 15-146), and the letter designations refer to types of screening as described in Section 15-307. This table indicates the type of screening that may be required between two uses. Where such screening is required,

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only one of the two adjoining uses is responsible for installing the screening; the use assigned this responsibility is referred to as the “servient” use in Section 15-308, and the other use is the “dominant” use. To determine which of the two adjoining uses is required to install the screening, find the use classification number of one of the adjoining uses in the servient column and follow that column across the page to its intersection with the use classification number in the dominant use column that corresponds to the other adjoining use. If the intersecting square contains a letter, then the use whose classification number is in the servient column is responsible for installing that level of screening. If the intersecting square does not contain a letter, then begin the process again, starting this time in the servient column with the other adjoining use.

(c) If, when the analysis described in subsection (b) is performed, the servient use is an existing use, but the required screening is not in place, then this lack of screening shall constitute a nonconforming situation, subject to all the provisions of Article VIII of this ordinance.

(d) Notwithstanding any other provision of this article, a multi-family development shall be required at the time of construction, to install any screening that is required between it and adjacent existing uses according to the table set forth in Section 15-308, regardless of whether, in relation to such other uses, the multi-family development is the dominant or servient use.

Section 15-307 Descriptions of Screens.

The following three basic types of screens are hereby established and are used as the basis for the Table of Screening Requirements set forth in Section 15-308.

- (1) **OPAQUE SCREEN. TYPE “A”.** A screen that is opaque from the ground to a height of at least six feet, with intermittent visual obstructions from the opaque portion to a height of at least twenty feet. An opaque screen is intended to exclude completely all visual contact between uses and to create a strong impression of spatial separation. The opaque screen may be composed of a wall, fence, landscaped earth berm, planted vegetation, or existing vegetation. Compliance of planted vegetation screens or natural vegetation will be judged on the basis of the average mature height and density of foliage of the subject species, or field observation of existing vegetation. The opaque portion of the screen must be opaque in all seasons of the year. At maturity, the portion of intermittent visual obstruction should not contain any completely unobstructed openings more than ten feet wide. The portion of intermittent visual obstructions may contain deciduous plants. Suggested planting patterns that will achieve this standard are included in Appendix E.
- (2) **SEMI-OPAQUE SCREEN. TYPE “B”.** A screen that is opaque from the ground to a height of three feet, with intermittent visual obstruction from above the opaque portion to a height of at least twenty feet. The semi-opaque screen is intended to partially block visual contact between uses and to create a strong impression of

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the separation of spaces. The semi-opaque screen may be composed of a wall, fence, landscaped earth berm, planted vegetation, or existing vegetation. Compliance of planted vegetation screens or natural vegetation will be judged on the basis of the average mature height and density of foliage of the subject species, or field observation of existing vegetation. At maturity, the portion of intermittent visual obstructions should not contain any completely unobstructed openings more than ten feet wide. The zone for intermittent visual obstruction may contain deciduous plants. Suggested planting patterns which will achieve this standard are included in Appendix E.

- (3) **BROKEN SCREEN. TYPE "C".** A screen composed of intermittent visual obstructions from the ground to a height of at least twenty feet. The broken screen is intended to create the impression of a separation of spaces without necessarily eliminating visual contact between the spaces. It may be composed of a wall, fence, landscaped earth berm, planted vegetation, or existing vegetation. Compliance of planted vegetative screens or natural vegetation will be judged on the basis of the average mature height and density of foliage of the subject species, or field observation of existing vegetation. The screen may contain deciduous plants. Suggested planting patterns which will achieve this standard are included in Appendix E.

Section 15-308 Table of Screening Requirements (AMENDED 06/26/07)

[PLEASE REFER TO THE NEXT TEN PAGES]

Section 15-309 Flexibility in Administration Required.

(a) The Board recognizes that because of the wide variety of types of developments and the relationships between them, it is neither possible nor prudent to establish inflexible screening requirements. Therefore, as provided in Section 15-306, the permit-issuing authority may permit deviations from the presumptive requirements of Section 15-308 and may require either more intensive or less intensive screening whenever it finds such deviations are more likely to satisfy the standard set forth in Section 15-308 without imposing unnecessary costs on the developer.

(b) Without limiting the generality of subsection (a), the permit-issuing authority may modify the presumptive requirements for:

- (1) Commercial developments located adjacent to residential uses in business zoning districts.
- (2) Commercial uses located adjacent to other commercial uses within the same zoning district.
- (3) Uses located within planned unit developments.

(c) Whenever the permit-issuing authority allows or requires a deviation from the presumptive requirements set forth in Section 15-308, it shall enter on the face of the permit the screening requirement that it imposes to meet the standard set forth in Section 15-308 and the reasons for allowing or requiring the deviation.

(d) If the permit-issuing authority concludes, based upon information it (or the appearance commission) receives in the consideration of a specific development proposal, that a presumption established by Section 15-308 is erroneous, it shall initiate a request for an amendment to the Table of Screening Requirements in accordance with the procedures set forth in Article XX.

Section 15-310 Combination Uses.

(a) In determining the screening requirements that apply between a combination use and another use, the permit-issuing authority shall proceed as if the principal uses that comprise the combination use were not combined and reach its determination accordingly, relying on the table set forth in Section 15-308, interpreted in the light of Section 15-309.

(b) When two or more principal uses are combined to create a combination-use, screening shall not be required between the composite principal uses unless they are clearly separated physically and screening is determined to be necessary to satisfy the standard set forth in Section 15-305. (For example, screening may be required in a residential combination use consisting of single-family and multi-family components.)

Art. XIX - SCREENING AND TREES**Section 15-311 Landscaping Plan.**

Any person who has been issued a permit under this chapter for any development in a non-residential district involving the construction of new buildings or parking areas or additions to or exterior modifications of existing buildings or parking areas, as well as (i) any similar development in a residential district, if such development requires a special or conditional use permit, shall prepare and file a landscaping plan prior to the issuance of a building permit for such development. No building permit shall be issued for such development until the Appearance Commission has had the opportunity, pursuant to regular agenda procedures, to review and comment upon such landscaping plan. (AMENDED 2/4/86)

Section 15-311.1 Screening of Flag Lots in the Historic District (HD) (AMENDED 11/21/95).

Notwithstanding the provisions of Section 15-308, every flag lot in the Historic District (HD) shall provide a Type B screen [as described in Section 15-307 (1)] between the flag lot and adjacent property [see Section 15-175.10(c)].

Section 15-312 Protective Buffer Along Major Roads (AMENDED 05/25/99; 10/23/07)

Notwithstanding the provisions of Section 15-308, but subject to the remaining provisions of this section, an undisturbed protective buffer shall be maintained along Old N.C. 86, Dairyland Road, Union Grove Church Road, Homestead Road, Eubanks Road and Smith Level Road south of Ray Road that will help preserve the scenic views and elements of this area. With respect to each property that fronts one of the named streets, any development other than use classification 13.200, Fire Station, that occurs after the effective date of this section shall provide an undisturbed buffer (except for necessary crossings) that is a minimum of 50 feet in width and on average is 100 feet in width along such frontage. If the buffer area does not provide the equivalent of a Type 'A' screen, the developer shall provide a Type 'A' screen on the development's side of the buffer (one hundred (100) feet from the right-of-way)

Section 15-313 Reserved.

*Art. XIX - SCREENING AND TREES***PART II. SHADING AND TREE PROTECTION****Section 15-314 Board Findings and Declaration of Policy on Protecting Trees and Other Plants (REWRITTEN 06/24/14)**

- (a) The Board finds that:
- (1) Trees, shrubs, and other plants are proven producers of oxygen, a necessary element for human survival; and
 - (2) Trees, shrubs, and other plants appreciably reduce carbon emissions by shading buildings and thereby lowering energy use to cool buildings, and also store carbon as biomass; and
 - (3) Trees, shrubs, and other plants improve air quality by lowering air temperatures and removing air pollutants; and
 - (4) Trees, shrubs, and other plants transpire considerable amounts of water each day and thereby maintain the natural hydrologic cycle; and
 - (5) Trees, shrubs, and other plants through their canopies and root systems intercept precipitation and encourage rain to infiltrate into the soil and maintain soil water for plants and recharge ground water and play an important and effective part in soil conservation, erosion control, creek protection and flood control; and
 - (6) Trees, especially large, old trees, provide invaluable beneficial physical, aesthetic, historic, and psychological counterpoint to the urban setting, making urban life more comfortable by providing shade and cooling the air and land, and built environment, reducing noise levels and glare, shielding people from high winds, and breaking the monotony of human developments on the land, particularly for parking areas and streets; and
 - (7) Trees, shrubs and other plants help improve soil quality by breaking up heavy soils, mining nutrients and remediating soils at contaminated sites by absorbing, transforming and containing a number of contaminants; and
 - (8) Tree stands create habitats that support a diversity of plants and animals; and
 - (9) Trees, shrubs and other plants make important contributions to the vitality and character of the Town and its neighborhoods and create a more aesthetic, pleasant and emotionally satisfying place in which to live, work and spend leisure time; and

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- (10) Trees, shrubs and other plants provide numerous human health benefits such as shading ultraviolet radiation, reducing rates of respiratory disease and illness and stress management; and
- (11) Trees, shrubs and other plants have an important impact on the desirability of land and, consequently, on property values, as well as benefitting commercial activity by creating a more enjoyable environment. **(AMENDED 03/21/89)**

(12) Certain flowering trees, shrubs, and other plants are important sources of pollen and nectar for pollinators.

(b) Based upon the findings set forth in subsection (a), the Board declares that it is not only desirable but essential to the health, safety, and welfare of all persons living or working within the town's planning jurisdiction, present and future, to protect certain existing trees and tree stands and, under the circumstances set forth in this article, to require the planting of new trees, especially larger trees, in certain types of developments, and to ensure the protection of those trees whether on individual lots or on common space.

Section 15-315 Definitions (REWRITTEN 06/24/14)

Unless otherwise specifically provided, or unless the context clearly indicates otherwise, the words and phrases defined below shall have the meaning indicated when used in this Part.

- (1) Canopy tree: A healthy evergreen or deciduous tree species that matures at a height of at least thirty (30) feet.
- (2) Dripline: Perimeter formed by the points farthest away from the trunk of a tree where precipitation falling from the branches of that tree lands on the ground).
- (3) Clearcutting: The large-scale, indiscriminate removal of trees, shrubs, and undergrowth with the intention of preparing real property for nonagricultural purposes. **(AMENDED 05/25/99)**
- (4) Habitat. The natural environment for animals and, plants a that is made up of physical factors such as soil, moisture, range of temperature, and availability of light as well as biotic factors such as the availability of food, nesting sites, and shelter.
- (5) Infill Development. The development of vacant or under-used lots within existing aeas that are already developed.
- (6) Redevelopment. Any development on previously developed land.
- (47) A specimen or rare tree is defined as any healthy tree that:
 - i. has a trunk diameter at breast height (dbh) of thirty-six (36) inches or more for pine tree species; or
 - ii. has a trunk dbh of 18" inches or more for any species; or

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iii. has a trunk dbh of 12 inches or more in the case of the species from the following list of North Carolina native canopy tree genera; or

Aesculus (Ohio Buckeye)
Chamaecyparis (Atlantic White Cedar)
Carya (Southern Shagbark Hickory)
Diospyros (Persimmon)
Fagus (Beech)
Juniperus (Eastern Red Cedar)
Magnolia (Magnolia)
Pinus (Longleaf pine)
Quercus (Swamp Chestnut Oak)
Taxodium (Bald cypress)
Tsuga (Hemlock)
Ulmus (American Elm)

iv. has a trunk dbh of six inches or more in the case of the species from the following list of North Carolina native understory tree genera: or

Amelanchier (Serviceberry)
Asimina (Pawpaw)
Carpinus (Hornbeam)
Cercis (Redbud)
Chionanthus (Fringetree)
Cornus (Dogwood)
Crataegus (Hawthorn)
Halesia (Silverbell)
Hamamelis (Witch-hazel)
Ilex (Holly)
Ostrya (Hophornbeam)
Oxydendrum (Sourwood)
Sassafras (Sassafras)

v. is listed as a State or National Champion by the North Carolina Forest Service or the American Forestry Association; or

vi. provides unique habitat for any endangered or threatened wildlife species protected by Federal law; or

vii. has been cited by the Board of Aldermen as being historically significant; or

viii. any other tree species listed in the North Carolina Natural Heritage Program as being significantly rare, of special concern, threatened, or endangered.

(58) Tree. A perennial woody plant, single or multiple trunks, with few if any branches on its lower part, which at maturity will obtain a minimum six (6) inch caliper.

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(69) Tree canopy. The combined area encompassing the drip zones of all canopy trees.

(710) Tree Protection Perimeter: That area within a circle drawn with the tree's trunk as the center. Radius is dependent upon site conditions and the relative tolerance of tree species to construction damage. Standard accepted radius is 1-1.5 feet per diameter inch of tree to be retained.

(11) Tree Stand: An aggregation of trees occupying a specific area and generally uniform in species composition, size, age, arrangement, and condition that distinguishes it from vegetation in adjoining areas.

Section 15-316 Required Trees Along Dedicated Streets.

Along both sides of all newly created streets with respect to which an offer of dedication is required to be made by this chapter, the developer shall either plant or retain sufficient trees so that, between the paved portion of the street and a line running parallel to and fifty feet from the center line of the street, there is for every thirty feet of street frontage at least an average of one deciduous tree that has or will have when fully mature a trunk at least twelve inches in diameter. Trees planted to satisfy this section shall not be placed uniformly but in an irregular pattern with a minimum of one twelve inch (12") diameter tree (when fully mature) every one hundred feet (100'). When trees are planted by the developer pursuant to this section, the developer shall choose trees that meet the standards set forth in Appendix E. (AMENDED 11/19/96)

Section 15-317 Retention and Protection of Specimen and Rare Trees

(a) Every development shall retain all existing specimen and rare trees ~~unless the retention of such trees would unreasonably burden the development~~. When a site would be so unreasonably burdened by the retention of all such trees that a choice must be made as to which trees will be retained, the following criteria shall be used by the applicant, in consultation with the land use administrator and a landscape or forestry professional, who is a certified arborist, to evaluate the trees for the purpose of deciding which to retain: (AMENDED 06/24/14)

- (1) The rareness of the tree species, both relative to the species representation on the site and relative to the species representation within the region and the state. This shall be the most important criterion in the evaluation;
- (2) ~~S~~The tree's relative size and age, large old trees being considered more valuable than smaller, younger trees of the same species;
- (3) The expected longevity of the tree, ~~trees' relative expected longevities~~, including such factors as the trees' relative health at the time of the evaluation;
- (4) The ~~relative~~ hardiness of the trees ~~in question~~, including wind firmness, climatic requirements, susceptibility to insects and diseases;

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- (5) ~~A~~The trees' relative aesthetic values, including flowers, fruit, form characteristics, potential for autumn coloration;
- (6) ~~S~~The trees' relative sizes at maturity; and
- (7) ~~P~~The trees' relative contribution to summertime comfort through their potential to provide shading. (AMENDED 03/21/89)

(b) Flexible approaches such as adjustments to lot layout, placement of buildings and paved surfaces and location of utilities should be pursued in order to save rare and specimen trees. (AMENDED 03/21/89; 06/24/14)

(c) ~~S~~No excavation or other subsurface disturbance ~~may be undertaken~~ within the Tree Protection Perimeter around any tree to be retained in accordance with (a) above, shall be limited to the minimum extent practicable as determined by a certified arborist. ~~In addition, no impervious surface (including but not limited to equipment, paving, and structures) may be located within the Tree Protection Perimeter, either~~ during construction or after completion of the development. (AMENDED 03/21/89; 06/24/14)

(d) There shall be no clearcutting in any development within the Transition Area portion of the Carrboro Joint Development Area as identified in the Joint Planning Agreement. The term "clearcutting" shall refer to the large-scale, indiscriminate removal of trees, shrubs, and undergrowth with the intention of preparing real property for nonagricultural purposes. (AMENDED 05/25/99; 06/24/14)

(e) If space that would otherwise be devoted to parking cannot be so used because of the requirements of subsections (a) or (b), and, as a result, the parking requirements set forth in Article XVIII cannot be satisfied, the number of required spaces may be reduced by the number of spaces "lost" because of the provisions of subsections (a) and (b), up to a maximum of fifteen percent of the required spaces. (AMENDED 06/24/14)

Section 15-318 Shade Trees In Parking Areas.

(a) Vehicle accommodation areas containing more than four parking spaces that are required by Section 15-296 must be shaded by deciduous trees (either retained or planted by developer) that have or will have when fully mature a trunk at least twelve inches in diameter. When trees are planted by the developer to satisfy the requirements of this subsection, the developer shall choose trees that meet the standards set forth in Appendix E. As part of redevelopment or development of an infill lot in the B-1(C), B-1(G), or B-2 districts, up to 25% of the shading requirement may be from existing or proposed buildings providing shadow as identified in the provisions of Appendix A, A-6(26). (AMENDED 11/10/81; 06/24/14)

(b) Each tree of the type described in subsection (a) shall be presumed to shade a circular area having a radius of fifteen feet with the trunk of the tree as the center, and there must

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be sufficient trees so that, using this standard, thirty-five percent of the vehicle accommodation area will be shaded. (AMENDED 06/24/14)

(c) No paving may be placed within 15 feet (measured from the trunk) of any tree retained to comply with subsection (a), unless such tree is eighteen inches or greater in diameter or a very rare species as described in Section 15-31~~56~~, in which case no paving may be placed within the Tree Protection Perimeter for such trees as described in 15-31~~5(8)6(b)~~. New trees planted to comply with subsection (a) shall be located so that they are surrounded by at least 200 square feet of unpaved area. Notwithstanding the foregoing, new trees planted on redeveloped or infill lots in the B-1(C), B-1(G) or B-2 districts may be surrounded by less than 200 square feet of unpaved area if installed with an urban tree planting system, specified by a professional engineer and landscape architect or certified arborist, that will ensure the survival of the tree for its typical life expectancy. (AMENDED 5/10/83; 03/21/89)

(d) Vehicle accommodation areas shall be laid out and detailed to prevent vehicles from striking trees. Vehicles will be presumed to have a body overhang of three feet six inches.

(e) The foregoing requirements shall not apply to 19.100 classification uses where such uses do not involve the construction of a permanent structure and are conducted not more than two days per week on the site of a vehicle accommodation area that is used primarily in connection with another use. Furthermore, when a 19.100 classification use meeting the foregoing requirements is installed on a lot that is nonconforming with respect to the shading requirements of this section, the lot shall not be required to comply with these shading requirements solely because of installation of such use, even though a new permit applicable to the entire lot may be required. (AMENDED 9/2/86)

Section 15-319 Tree Canopy Coverage Standards (REWRITTEN 06/24/14)

(a) Minimum Canopy Coverage Standards. Subject to the remaining provisions of this section, the following minimum tree canopy coverage percentages are required within the boundaries of every lot or tract for which a zoning, special use, or conditional use permit is issued ~~after June 24th, 2014~~, exclusive of required cleared active recreation areas, water bodies, access easements, public and private right-of-way, stormwater and utility easements.

Table 1: Minimum Tree Canopy Coverage Standards

Land Use	Minimum Canopy Coverage
Residential	40%
Other than residential excluding districts (B-1(c), (B-1(g), (B-2)	30%
Other than residential in districts (B-1(c), (B-1(g), (B-2)	15%

~~(4)~~ When a tract is subdivided and pursuant to the provisions of Article XIII the developer sets aside open space areas or recreation areas that contain canopy trees (with a minimum caliper of

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six inches) or when a developer of a subdivision plants canopy trees to comply with the shading requirements of Article XIII, the total tree canopy area so preserved or established shall be credited against the minimum canopy coverage percentages set forth above. The remaining required tree canopy coverage area shall be allocated by the subdivider among the subdivided lots, and this allocation shall be shown on the recorded plat of such subdivision with a disclosure note that such trees, to fulfill the requirements of this section, shall be subject to maintenance and replacement.

~~(b) Modifications to Canopy Coverage Standards~~

~~The permit issuing authority may approve a development application that does not fully comply with the canopy coverage standards when it finds that the application substantially complies with these standards and that such a deviation enables the development to better achieve other Town objectives, such as the promotion of solar access to encourage active and passive solar technology for water and space heating and renewable energy generation, improved stormwater management, and the preservation of established managed landscapes, or established streetscapes.~~

(be) Implementation of Standards. Compliance with the tree canopy standards shall be achieved as follows:

1) Protection of existing tree canopy. The extent of existing tree canopy coverage retained at the time of permit application may be documented by survey or by using current aerial photographs available on the Town's web page or similar resource. Protection of the existing tree canopy will be demonstrated by the tree protection plan required by Section 15-320;

2) Replacement of canopy. If the existing protected tree canopy is less than the minimum standard as shown in Table 1, the deficit shall be made up by the planting of additional trees as provided herein:

a. One (1) or more replacement tree(s) shall be planted in accordance with an approved planting plan. When trees are planted by the developer to satisfy the requirements of this subsection, the developer shall choose trees that meet the standards set forth in Appendix E. Each tree shall be presumed to create a canopy circular area with the trunk of the tree as the center, and there must be sufficient trees so that, using this standard, the canopy requirements in 15-319(a) are met—per 500 square feet of tree canopy coverage deficit shall be planted in accordance with an approved planting plan.

b. All canopy trees planted to meet the Town's screening and parking lot shading standards can be counted when calculating replacement canopy trees provided.

c. Supplemental canopy trees planted to complete the canopy coverage requirements shall be planted no less than twenty (20) feet from any other proposed or existing canopy tree.

d. Replacement trees that are planted in an adjacent right-of-way may count toward total tree canopy.

e. Replacement tree caliper shall be at least two and one-half (2.5) inches at installation. ~~A replacement tree with a caliper of four (4) inches or greater may count for two replacement trees.~~

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f. Landscaped areas with shrubs of at least 100 square feet on a redeveloped or infill lot in the B-1(C), B-1(G) or B-2 districts.

(c) Modifications to Canopy Coverage Standards. The permit issuing authority may approve a development application that does not fully comply with the canopy coverage standards when it finds that the application substantially (50% or more) complies with these standards and that such a deviation:

(1) ~~E~~-enables the development to better achieve other Town objectives, such as: i) the promotion of solar access to encourage active and passive solar technology for water and space heating and renewable energy generation, ii) improved stormwater management, and iii) the preservation of ~~established managed~~ landscapes professionally designed and installed by an architect or landscape architect, or landscape designer; or, or established streetscapes.

(2) Is for property enrolled in the present use value taxation program or subject to a forest management plan; or

(3) Is part of a redevelopment proposal or development of an infill lot in the B-1(C), B-1(G) or B-2 districts, where the applicant is seeking a reduction of the shading requirement per Section 15-318, has planted trees in the right-of-way to count toward the canopy coverage, and/or uses a landscaped area with shrubs of at least 100 square feet.

Large expanses of open space, meadowland; (excepting a meadow consisting of species native to the Piedmont), or manicured lawn shall not satisfy the canopy coverage standards of this section.

(d) Exemption from Canopy Coverage Standards. Zoning permit applications for structures that are exempt from building permit requirements, or are the lessor of either i) additions to existing permitted structures that do not exceed 25% of an existing building footprint or ii) do not increase the footprint of the existing building by more than 250 square feet, shall be exempt from the tree canopy standards.

Section 15-320 Protection of Trees During Construction.

(a) The permit recipient shall be responsible for ensuring that all existing trees specifically shown on approved plans as being retained to comply with this article are protected, during the construction process, from removal, destruction, or injury. As described in Appendix A, a tree protection plan detailing the methods for such protection shall be submitted as part of the land use permit application and construction plan package. Tree protection methods shall meet accepted industry standards in accordance with ANSI A300 and associated Best Practices. (AMENDED 3/12/85; 2/24/87; 03/21/89; 06/24/14)

(1) The permit recipient shall ensure that, before any excavation takes place on the site, a barrier is erected around the Tree Protection Perimeter of all

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trees to be retained on the site that are within the area to be disturbed by construction activities, and other provisions made such as are necessary and sufficient to put on notice all construction personnel that the area within the Tree Protection Perimeter of all such trees is to be retained is not be disturbed. During the construction process, the permit recipient shall ensure that all activities are kept outside the Tree Protection Perimeter of all such trees. The barrier required by this subsection shall be installed before the issuance of any grading or construction permits for such site. **(AMENDED 06/24/14)**

- (2) The permit recipient shall ensure that all such trees to be retained on the site that are within the area to be disturbed by construction activities, or near roads within the development, shall be further protected from accidental equipment damage by wrapping their trunks with sections of snow fence or boards wired together from the ground to a height six (6) feet above the ground. **(AMENDED 06/24/14)**
- (3) The permit recipient shall ensure that land disturbing activity shall not occur, and that building materials, construction trailers, vehicles, equipment or machinery, dirt, fill, and/or other debris shall not be stored within the Tree Protection Perimeter of such trees as are to be retained.
- (4) The permit recipient shall ensure that all such trees as are to be preserved shall not be used as supports for roping, cable, signs, or fencing, and that nails shall not be driven into the trunks of trees.
- (5) The permit recipient shall ensure that any damage done during construction to the limbs or trunks of such trees as are to be retained shall be properly treated so as to assure the continued health of the trees. The land use administrator shall be consulted, and may suggest that the applicant seek advice from landscape or forestry professionals as to the appropriate method for such treatment. **(AMENDED 06/24/14)**
- (6) Prior to the commencement of any land alteration on a site for which a Tree Protection Plan has been approved, including all clearing or grading activities, the land use administrator shall certify in writing based on an inspection of the site that all tree protection measures required by the approved Tree Protection Plan have been put in place properly and accurately. The land use administrator shall provide this certification in a timely fashion on being notified by the permit recipient that the site is ready for such inspection and certification. **(AMENDED 03/21/89)**

(b) If a violation of subsection (a) occurs, and as a result (b) rare or specimen tree(s) specifically shown on approved plans as being retained die or otherwise must be removed within four years after a certificate of occupancy is granted for that portion of a development on which the trees are or were located, then the permit recipient shall be required to replace such trees with

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trees of the same species, if available, or of a similar species. The choice of the replacement species, where necessary, shall be made subject to approval by the Town. Each replacement tree shall be at least of tree diameter equivalent in size to one (1) inch per every four (4) inches of tree diameter of the tree it replaces, up to a maximum replacement tree diameter of five inches. In cases where the tree to be replaced had a diameter greater than twenty inches, it shall be replaced by more than one tree, such that the ratio of one inch of replacement tree diameter to four inches of original tree diameter is satisfied, and at least one of the replacement trees is of the maximum replacement tree diameter of five inches. In addition, no replacement tree may be smaller than one inch in diameter. For example, a twenty-eight inch diameter tree would be replaced by one five inch diameter tree and one two-inch diameter tree of the same species. Tree replacement shall be performed by either a landscape contractor or forester licensed to practice in the State of North Carolina, or by an arborist certified by the International Society of Arboriculture or National Arborists Association. Such replacement must take place within one year after the death or removal of the trees occur, and this obligation shall be a continuing condition of the validity of the permit. Violators of the tree protection requirements described in subsection (a) shall be subject to the penalties and remedies for all land use ordinance and land use permit condition violations described in Section 15-114. **(AMENDED 03/21/89; 06/24/14)**

Section 15-321 Performance Security May Be Required (AMENDED 03/21/89; 10/24/06; 06/24/14)

(a) In cases when the land use administrator has reasonable cause to believe that a Tree Protection Plan has been violated, he or she may require that the developer post a security, for the five year period (four years plus one year in which replacement may occur) described in subsections (b) and (c) of section 15-318, to cover the potential replacement of all such large and rare species trees as are called out in the Tree Protection Plan as being protected. The purpose of this security is to ensure that the financial capability will exist, during the full five year period described in subsections (b) and (c) of section 15-318, to replace any large or rare species trees as are called out on a Tree Protection Plan as being protected during construction, and which have died due to construction damage caused by a violation of the Tree Protection Plan.

(b) It is the intent of this section that the removal and replacement of such trees that die due to construction damage shall be arranged by the Town only when the developer cannot be located at the time when the removal and replacement becomes necessary.

(c) The required security shall be in the form of an interest-bearing account or certificate of deposit payable to the Town, in the amount necessary for the removal of all of the large and rare species trees as are called out in the Tree Protection Plan as being preserved, their replacement as described in subsections (b) and (c) of section 15-318, and the one-time violation penalty described in section 15-114 at the time the security is required. At such time as the four year period described in subsections (b) and (c) of section 15-318 is complete, and no deaths of trees called out in the Tree Protection Plan as being preserved have occurred, the security and all interest accrued on it shall revert to the developer. In the event that some but not all of the security amount is used or needed for tree removal and replacement at the end of the four year period described in subsections (b) and (c) of section 15-318, the remaining security amount and the interest it has accrued shall revert to the developer at the end of that four year period.

Art. XIX - SCREENING AND TREES**Section 15-321.1 Payment in Lieu of Providing Shade or Canopy Cover Trees**

(a) When the permit issuing authority determines that as part of a redevelopment or development of an infill lot in the B-1(C), B-1(G) or B-2 districts, it is physically impossible or impracticable for a development to satisfy the requirements of Section 15-318 (shading trees), or Section 15-319 (canopy coverage) of this Article, then the permit-issuing authority may allow the developer to pay a fee to a tree planting fund in accordance to an adopted tree planting master plan.

(b) The amount of the fee authorized by this section shall be determined by estimating the cost of providing the required trees (including the cost of the plant and labor for installation) that meets the requirements of this Article. This determination shall be made annually and the fee shall be included in the Miscellaneous Fees and Charges Schedule adopted by the Board of Aldermen.

(c) Any fees collected in accordance with this section shall be reserved and used exclusively to meet the purposes for which they have been obtained as specified above in subsection (a). The required fee shall be submitted to the Town prior to construction plan approval.

Section 15-321.21 Regulation of Forestry Activities. (AMENDED 06/24/14)

(a) The terms “forestry,” “forestry activity,” “forestland,” “forest management plan” and “timber harvest” shall be defined by and used in the same manner as in G.S. 160A-458.5.

(b) Notwithstanding any other provisions of this chapter, this chapter does not regulate either:

(1) Forestry activity on forestland that is taxed on the basis of its present-use value as forestland under G.S. Chpt. 105, Art. 12; or

(2) Forestry activity that is conducted in accordance with a forest management plan that is prepared or approved by a forester registered in accordance with G.S. Chpt. 89B.

(c) Notwithstanding subsection (b) above, the Town may deny a zoning, special use, conditional use, or building permit for a tract of land for a period of up to three years after the completion of a timber harvest if the harvest results in the removal from that tract of all or substantially all of the trees protected by this chapter. If the removal of such trees was in willful violation of the requirements of this chapter, then such permits may be refused for a period of five years.

Appendix A

INFORMATION REQUIRED WITH APPLICATIONS

A-1. In General.

(a) As provided in Section 15-49, it is presumed that all of the information listed in this appendix must be submitted with an application for a zoning, sign, special use, or conditional use permit to enable the permit-issuing authority to determine whether the development, if completed as proposed, will comply with all the requirements of Chapter 15. As set forth in Section 15-92, applications for variances are subject to the same provisions. However, the permit-issuing authority may require more information or accept as sufficient less information according to the circumstances of the particular case. A developer who believes information presumptively required by this appendix is unnecessary shall contact the planning staff for an interpretation.

(b) As also provided in Section 15-49, the administrator shall develop application processes, including standard forms, to simplify and expedite applications for simple development that do not require the full range of information called for in this appendix. In particular, developers seeking only permission to construct single-family houses or duplexes or to construct new or modify existing signs should contact the administrator for standard forms.

A-2. Written Applications.

Every applicant for a variance or a zoning, sign, special use or conditional use permit shall complete a written application containing at least the following information:

- (1) The name, address, and phone number of the applicant.
- (2) If the applicant is not the owner of the property in question, (i) the name, address, and phone number of the owner, and (ii) the legal relationship of the applicant to the owner that entitles the applicant to make application.
- (3) The date of the application.
- (4) Identification of the particular permit sought.
- (5) A succinct statement of the nature of the development proposed under the permit or the nature of the variance.
- (6) Identification of the property in question by street address and tax map reference.
- (7) The zoning district within which the property lies.

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- (8) The number of square feet in the lot where the development is to take place.
- (9) The gross floor area of all existing or proposed buildings located on the lot where the development is to take place.
- (10) If the proposed development is a multi-family residential development, the number of one, two, three, or four bedroom dwelling units proposed for consideration.

A-3. Development Site Plans.

Subject to Section A-1 of this appendix, every application for a variance or a zoning, sign, special use, or conditional use permit shall contain plans that locate the development site and graphically demonstrate existing and proposed natural, man-made, and legal features on and near the site in question, all in conformity with Section A-4 through A-6 of this appendix.

A-4 Graphic Materials Required for Plans

(a) The plans shall include a location map that shows the location of the project in the broad context of the town or planning jurisdiction. This location map may be drawn on the development site plans or it may be furnished separately using reduced copies of maps of the Carrboro planning jurisdiction available at the planning department.

(b) Development site plans shall be drawn to scale, using such a scale that all features required to be shown on the plans are readily discernible. Very large developments may require that plans show the development in sections to accomplish this objective without resort to plans that are so large as to be cumbersome, or the objective may be accomplished by using different plans or plans drawn to different scales to illustrate different features. In all cases, the permit-issuing authority shall make the final determination whether the plans submitted are drawn to the appropriate scale, but the applicant for a conditional or special use permit rely in the first instance on the recommendations of the administration.

(c) Development site plans should show on the first page the following information:

- (1) Name of applicant
- (2) Name of development (if any)
- (3) North arrow
- (4) Legend
- (5) Scale

(d) All of the features required to be shown on plans by Sections A-5 and A-6 may be included on one set of plans, so long as the features are distinctly discernible.

A-5. Existing Natural, Man-Made and Legal Features.

(a) Development site plans shall show all existing natural, man-made, and legal features on the lot where the development is to take place, including but not limited to those listed below. In addition, the plans shall also show those features indicated below by an asterisk (*) that are located within fifty feet in any direction of the lot where the development is to take place, and shall specify (by reference to the Table of Permissible Uses or otherwise) the use made of adjoining properties.

(b) *Existing natural features:*

- (1) Tree line of wooded areas.
- (2) The location and sizes of all trees which are to be retained in accordance with Section 15-~~316~~317, and which are to be removed; ~~along with~~ a written justification for the need to remove any ~~large or rare-specimen or rare~~ species trees protected by the provisions of Article XIX, along with ~~and~~ description of the extent of the hardship that would occur if such removal were not permitted to occur. (AMENDED 03/21/89)
- (3) Orchards or other agricultural groves by common or scientific name.
- *(4) Streams, ponds, drainage ditches, swamps, boundaries of floodways and floodplains.
- (5) (If the proposed development is a subdivision or mobile home park of more than fifty lots or if more than five acres of land are to be developed), base flood elevation data (See Article XVI, Part I). (AMENDED 4/21/87; REPEALED 1/16/07).
- *(6) Contour lines (shown as dotted lines) with no larger than two foot contour intervals. (As indicated in Subsection A-6(b)(17), proposed contour lines shall be shown as solid lines.)

(c) *Existing man-made features.*

- *(1) Vehicle accommodation areas (including parking areas, loading areas and circulation areas, see Section 15- 290), all designated by surface material and showing the layout of existing parking spaces and direction of travel lanes, aisles, or driveways.
- (2) Streets, private roads, sidewalks, and other walkways, all designated by surface material.

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- (3) Curbs and gutters, curb inlets and curb cuts, and drainage grates.
- (4) Other storm water or drainage facilities, including manholes, pipes, and drainage ditches.
- (5) Underground utility lines, including water, sewer, electric power, telephone, gas, cable television.
- (6) Above ground utility lines and other utility facilities.
- *(7) Fire hydrants.
- *(8) Buildings, structures and signs (including dimensions of each).
- (9) Location of exterior light fixtures.
- *(10) Location of dumpsters.
- (d) *Existing legal features.*
 - (1) The zoning of the property, including zoning district lines where applicable.
 - (2) Property lines (with dimensions identified).
 - (3) Street right-of-way lines.
 - (4) Utility or other easement lines.

A-6. Proposed Changes in Existing Features or New Features (AMENDED 6/20/06).

(a) Development site plans shall show proposed changes in (i) existing natural features [see A-5(b)], (ii) existing man-made features [see A-5(c)], and (iii) existing legal features [see A- 5(d)].

(b) Development site plans shall also show proposed new legal features (especially new property lines, street right-of-way lines, and utility and other easements), as well as proposed man-made features, including, but not limited to, the following:

- (1) The number of square feet in every lot created by a new subdivision.
- (2) Lot dimensions, including lot widths measured in accordance with Section 15-183.

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- (3) The location and dimensions of all buildings and freestanding signs on the lot, as well as the distances all buildings and freestanding signs are set back from property lines, streets or street right-of-way lines (see Section 15-184).
- (4) Principal side(s) building elevations for typical units of new buildings or exterior remodelings of existing buildings, showing building heights (see Section 15-185) and proposed wall sign or window sign area.
- (5) Elevation in relation to mean sea level of the proposed lowest floor (including basement) of all structures. **(AMENDED 4/21/87; REPEALED 1/16/07)**
- (6) Elevation in relation to mean sea level to which any non-residential structure will be floodproofed. **(AMENDED 4/21/87; REPEALED 1/16/07)**
- (7) Description of the extent to which any watercourse will be altered or relocated as a result of the proposed development. **(AMENDED 4/21/87; REPEALED 1/16/07)**
- (8) The location and dimensions of all recreational areas provided in accordance with Article XIII, with each area designated as to type of use. **(AMENDED 4/21/87)**
- (9) Areas intended to remain as usable open space (Section 15-198) or designated buffer areas (Section 15-265). The plans shall clearly indicate whether such areas are intended to be offered for dedication to public use or shall remain privately owned. **(AMENDED 4/21/87)**
- (10) Streets, labeled by classification (see Section 15-210) and street name showing whether curb and gutter or shoulders and swales are to be provided and indicating street paving widths. Private roads in subdivisions shall also be shown and clearly labeled as such. **(AMENDED 4/21/87)**
- (11) Curb and gutters, curb inlets and curb cuts, drainage grates.
- (12) Other storm water or drainage facilities, including manholes, pipes, drainage ditches, retention ponds, etc.
- (13) Sidewalks and walkways, showing widths and surface material.

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- (14) Bridges.
- (15) Outdoor illumination, including the following information:
(REWRITTEN 4/20/10)
 - a. Plans showing the location, type, and height of luminaires including both building and ground fixtures. The plan shall include a point-by-point footcandle array in a printout format indicating the location and aiming of illuminating devices, and indicate compliance with the maximum maintained footcandles required by Section 15-242.4 of this chapter.
 - b. A description of the luminaires, including lamps, supports, reflectors, raised foundations, poles or other supports and shielding devices, which may be provided as electric utility catalogue illustrations, sheets and/or drawings, and product specifications from the manufacturer.
 - c. Photometric data, such as that furnished by the manufacturer, showing the angle of light emission; and
 - d. A demonstration or showing that the applicant has attempted to reduce energy consumption through the selection of energy efficient luminaires, timers, or other methods (such as fixtures that automatically change wattage output). **(AMENDED 05/25/09; REWRITTEN 4/20/10)**
- (16) Underground utility lines, including water, sewer, electric power, telephone, gas, cable television. Water and sewer pipe line signs shall be labeled.
- (17) Above ground utility lines and other facilities.
- (18) Fire hydrants.
- (19) Dumpsters.
- (20) New contour lines resulting from earth movement (shown as solid lines) with no larger than two foot contour intervals (existing lines should be shown as dotted lines).
- (21) Scale drawings of all signs requiring permits pursuant to Article XVII, together with an indication of the location and dimensions of all such signs.

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- (22) Vehicle accommodation areas (including parking areas, loading areas, and circulation areas, see Section 15-290), all designated by surface material and showing the dimensions and layout of proposed parking spaces and the dimensions and direction of travel lanes, aisles, and driveways.
- (23) Proposed plantings or construction of other devices to comply with the screening requirements of Article XIX, Part I, as well as proposed plantings of trees to comply with the shading, street tree, and canopy requirements of Article XIX, Part II. Plans shall label shrubbery by common or scientific name, show the distance between plants and indicate the height at the time of planting and expected mature height and width. Plans shall label trees by common or scientific name, show the circles of the mature crowns (major trees shall be drawn at diameter = 30'; dwarf or decorative trees shall be drawn at their actual mature crown), and indicate the height at the time of planting.
- (24) A Tree Protection Plan, will be completed and stamped by a Certified Arborist of Landscape Architect, illustrating the methods proposed to be used to protect, during construction, the trees that are required to be protected under the provisions of ~~Article~~Chapter XIX including specifications as to how the grade, drainage, and aeration will be maintained around the trees. The location of all rare and specimen trees to be retained on the site that will not be within the area to be disturbed by construction activities near a building site, or near roads within the development shall also be shown on the plan, along with a note stating that these trees will not be within the area to be disturbed by construction activities. The Administrator may recommend that applicants consult with professionals with expertise in arboriculture, landscape architecture/design or forestry about appropriate tree protection methods for the particular conditions and species in question, ~~and request that their contractors review two videotapes on tree protection during construction developed by the International Society of Arboriculture, entitled "Effect of Building Construction on Trees in Wooded Lots" and "Avoidance of Construction Damage to Trees on Wooded Lots" that are on file in the Public Works Department.~~ (AMENDED 03/21/89; 06/24/14)
- (25) Plan for Downtown Architectural Standards to comply with Section 15-178 and including, but not limited to, elevation drawings/illustrations of existing and neighboring property building facades.

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- (26) Plans showing the maximum extent to which all buildings taller than 40 feet will cast a shadow on June 21st and December 21st.
(AMENDED 03/25/14)

A-7. Documents and Written Information in Addition to Plans.

In addition to the written application and the plans, whenever the nature of the proposed development makes information or documents such as the following relevant, such documents or information shall be provided. The following is a representation list of the types of information or documents that may be requested: (AMENDED 11/23/10).

- (1) Documentation confirming that the applicant has a legally sufficient interest in the property proposed for development to use it in the manner requested, or is the duly appointed agent of such a person.
- (2) Certifications from the appropriate agencies that proposed utility systems are or will be adequate to handle the proposed development, as set forth in Article XV, and that all necessary easements have been provided.
- (3) Certifications required under Part I of Article XVI.
(AMENDED 4/21/87; REPEALED 1/16/07; AMENDED 11/23/10)
- (4) RESERVED. (AMENDED 4/21/87; REPEALED 1/16/07; REPEALED 11/23/10)
- (5) Detailed description of play apparatus to be provided in miniparks.
- (6) Legal documentation establishing homeowners' associations or other legal entities responsible for control over required common areas and facilities.
- (7) Bonds, letters of credit, or other surety devices.
- (8) Stamped envelopes containing the names and addresses of all those to whom notice of a public hearing must be sent to comply with Section 15-102 or Section 15-52.
- (9) Complete documentation justifying any requested deviation from specific requirements established by this chapter as presumptively satisfying design standards.
- (10) Written evidence of permission to use satellite parking spaces under the control of a person other than the developer when such spaces are allowed pursuant to Section 15-298.

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- (11) Written evidence of good faith efforts to acquire satellite parking under the circumstances set forth in Section 15-299.
- (12) Verification that 4.000 classification uses will meet the performance standards set forth in Article XI. Such verification shall be made by a licensed engineer or other qualified expert unless it is utterly apparent from the nature of the proposed development that such expert verification is unnecessary.
- (13) Time schedules for the completion of phases in staged development, as required by Section 15-61.
- (14) The environment impact of a development, including its effect on historically significant or ecologically fragile or important areas and its impact on pedestrian or traffic safety or congestion.

A-8. Number of Copies of Plans and Documents.

With respect to all plans and other documents required by this appendix, the developer shall submit the number of copies (not to exceed ten) that the administrator deems necessary to expedite the review process and to provide necessary permanent records.

Appendix E

SCREENING AND TREES - GUIDE FOR LANDSCAPING (AMENDED 6/22/04)

- E-1 Guide for Protecting Existing Trees
- E-2 Standards for Street and Parking Lot Trees
- E-3 Formula for Calculating ~~Thirty-five~~^{Twenty} Per Cent Shading of Paved Vehicle Accommodation Areas
- E-4 Typical Parking Lot Planting Islands
- E-5 Guide for Planting Trees
- E-6 Typical Opaque Screens
- E-7 Typical Semi-Opaque Screens
- E-8 Typical Broken Screens
- E-9 Guide for Planting Shrubs
- E-10 Lists of Recommended Trees and Shrubs
- E-11 Small Trees for Partial Screening
- E-12 Large Trees for Evergreen Screening
- E-13 Large Trees for Shading
- E-14 Small Shrubs for Evergreen Screening
- E-15 Large Shrubs for Evergreen Screening
- E-16 Assorted Shrubs for Broken Screens
- E-17 List of Invasive Plant Species

E-1 Guide for Protecting Existing Trees

Section 15-~~316~~317 provides for the retention and protection of large trees when land is developed. In order to better ensure the survival of existing trees, the developer should heed the following guidelines:

(a) Protect trees with fencing and armoring (if needed) during the entire construction period. The fence should enclose an area 1-1.5 feet x the diameter inches of the tree to be retained. The area inside the fence should be off limits and no work should take place inside the tree preservation zone. **(REWRITTEN 06/24/14)**

(b) Avoid excavations beneath the crown of the tree as required by Section 15-~~316(b)~~317(c).

(c) Avoid compaction of the soil around existing trees due to heavy equipment. In areas where storage or vehicular access must take place within the tree preservation area outlined above, a drivable mulch pad with ½" plywood on top may be used to protect the tree's root system, maintaining a minimum distance of 8' from the trunk.. Mulch should be maintained at 12" depth. Preservation fencing should still be placed between the work zone and the tree's trunk. Trunk armoring may be needed when equipment will be used in close proximity to the tree. **(REWRITTEN 06/24/14)**

(d) Keep fires or other sources of extreme heat well clear of existing trees.

(e) Damaged roots should be cleanly cut and covered with topsoil to prevent drying. If damage to limbs or branches is anticipated in certain locations, pruning prior to beginning work may be considered. Limbs and branches broken during the construction process but still attached should be pruned to prevent further damage. An assessment should be performed and corrective pruning may be necessary after construction has been completed around the tree. Pruning / restoration work should be performed under the supervision of a Certified Arborist. **(REWRITTEN 06/24/14)**

(f) As is stipulated in Section 15-316(b), no paving or other impermeable ground cover should be placed within the dripline of trees to be retained. **(REWRITTEN 06/24/14)**

E-2 Standards for Street and Parking Lot Trees

Trees planted in compliance with the requirements of Sections ~~15-316~~~~15-315~~, ~~15-318~~, and ~~15-319~~~~15-317~~ should have most or all of the following qualities. The trees recommended in Section E-10 represent the best combinations of these characteristics.

(a) Hardiness

- (1) Resistance to extreme temperatures.
- (2) Drought resistance.
- (3) Resistance to storm damage.
- (4) Resistance to air pollution.
- (5) Ability to survive physical damage from human activity.

(b) Life Cycle

- (1) Moderate to rapid rate of growth.
- (2) Long life.

(c) Foliage and Branching

- (1) Tendency to branch high above the ground.
- (2) Wide spreading habit.
- (3) Relatively dense foliage for maximum shading.

(d) Maintenance

- (1) Resistance to pests.
- (2) Resistance to plant diseases.
- (3) Little or no pruning requirements.
- (4) No significant litter problems.

(e) Flora Within Planting Strips (**AMENDED 11/19/96**)

- (1) Match foliage size described in Section E-11 through E-16 with planting strip size.

E-3 Formula for Calculating 35% Shading of Vehicle Accommodation Areas (REWRITTEN 06/24/14)

Following is an elementary formula for determining the number of shade trees required in and around parking lots in order to presumptively satisfy the shading requirements of Section 15-317.

1. Calculate square footage of the vehicle accommodation area. Include parking spaces, driveways, loading areas, sidewalks, and other circulation areas. Do not include building area and any area which will remain completely undeveloped: _____ sq. ft.
2. Multiply _____ x .35
3. Areas to be shaded: _____ sq. ft.
- *****
- Add:
4. Area shaded by existing trees to be retained in and around the vehicle accommodation area:* _____ sq. ft.
5. Area shaded by required screening trees, if any:* _____ sq. ft.
6. Area shaded by required street trees, if any:* _____ sq. ft.
7. Subtotal: _____ sq. ft.
(if line #7 is greater than line #3, then the shading requirement has been met. If not, go on to line #8)
8. Enter the difference between line #7 and line #3: _____ sq. ft.
9. Divide line #8: ÷ 707
10. Total number of shade trees required within the vehicle accommodation area: _____ trees

*Existing trees retained in compliance with Section 15-316 will be credited according to their actual crown radius. Shaded area may be calculated as follows:

$$3.14 \times (\text{crown radius})^2 = \text{shaded area}$$

Trees planted within the vehicle accommodation area are credited with shading 707 sq. ft. (Based on a crown radius of 15) New or existing trees on the perimeter of the parking lot are credited for having only half a crown over the vehicle accommodation area (e.g., new perimeter trees will be credited for shading 354 sq. ft.). Generally, all trees planted in compliance with the screening requirements of Article XIX, Part I and the street tree requirements of Section 15-315 will be considered perimeter trees. When smaller trees such as Dogwoods are planted, the credited shading area will be adjusted downward to 314 sq. ft. for interior trees and 157 sq. ft. for perimeter trees. (Based on a crown radius of 10 ft.) (REWRITTEN 06/24/14)

Formulas for Calculating the Number of Replacement Trees Required to Satisfy the Tree Canopy Deficit

Following is an elementary formula for determining the number of replacement trees required to presumptively satisfy the tree canopy requirements of Section 15-319.

<u>1.</u>	<u>Enter square footage of the site to which canopy standards apply (15-319(a)):</u>	<u> </u> sq. ft.
<u>2.</u>	<u>Multiply (by 40%, 30%, or 15% depending on the Land Use)</u>	<u> </u> x .4, .3, or .15
<u>3.</u>	<u>Canopy Required</u>	<u> </u> sq. ft.
	<u>*****</u>	
	<u>Add:</u>	
<u>4.</u>	<u>Canopy from existing trees to be retained:*</u>	<u> </u> sq. ft.
<u>5.</u>	<u>Canopy area of required screening trees, if any:</u>	<u> </u> sq. ft.
<u>6.</u>	<u>Canopy area of required shade trees, if any:</u>	<u> </u> sq. ft.
<u>7.</u>	<u>Subtotal (add lines 4-6)</u>	<u> </u> sq. ft.
	<u>(if line #7 is greater than line #3, then the canopy requirement has been met. If not, go on to line #8)</u>	
<u>8.</u>	<u>Enter the difference between line #7 and line #3</u>	<u> </u> sq. ft.
	<u>Divide line #8:</u>	<u> </u> ÷ 707
<u>9.</u>	<u>Total number of replacement trees required**:</u>	<u> </u> trees

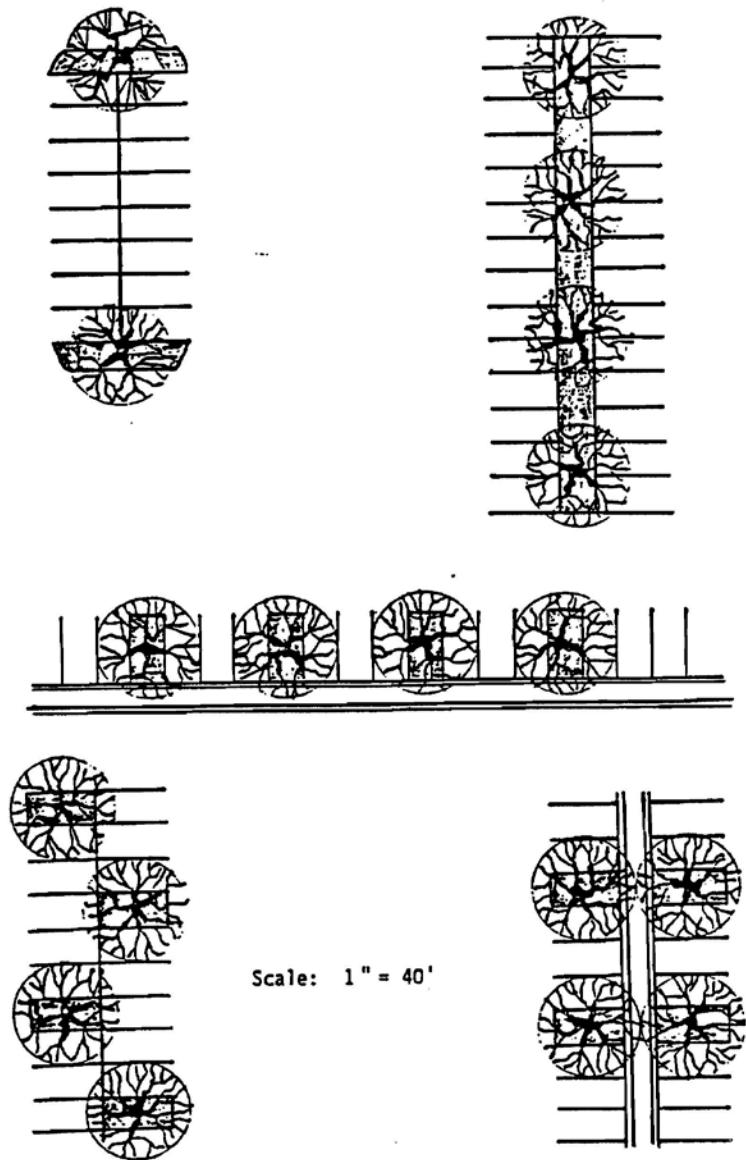
*Existing trees retained will be credited according to their actual crown radius on the site as determined by survey or aerial photography.

**The actual number of replacement trees to be planted will be determined as described below.

Trees planted that are generally recognized as canopy or overstory trees are credited with shading 707 sq. ft. (based on a crown radius of 15'). New trees planted within 5' of the lot line are credited for having only half a crown (e.g., new perimeter trees will be credited for 354 sq. ft.). When smaller trees generally recognized as understory trees such as Dogwoods are planted, the credited area will be adjusted downward to 314 sq. ft. for interior trees and 157 sq. ft. for perimeter trees (based on a crown radius of 10').

GUIDE FOR LANDSCAPING

E-4 Typical Parking Lot Planting Islands



PAGE E-5

When smaller trees such as Dogwoods are planted, the credited shading area will be adjusted downward to 314 square feet for interior trees and 157 square feet for perimeter trees. (Based on a crown radius of 10 feet.)

E-5 Guide for Planting Trees (REWRITTEN 06/24/14)

The trees recommended in Section E-10 have minimal maintenance requirements. However, all trees must receive a certain degree of care, especially during and immediately after planting. In order to protect an investment in new trees, the developer and his or her agents should follow these guidelines in accordance with International Society of Arboriculture (ISA) Best Practices, when planting:

(a) All plant material shall conform to the current American Standards for Nursery Stock and must be free from injury, insect infestations and disease. Tree caliper at time of planting should be 2-3”.

(b) The best times for planting are early spring and early fall, but may vary depending upon tree species and site conditions. These factors must be considered when selecting species and planting schedule. Trees planted in the summer run the risk of dehydration and precautions must be taken to ensure establishment.

(c) Plant all trees at least three-and-a-half feet from the end of head-in parking spaces in order to prevent damage from car overhang.

(d) Planting hole should be at least 2x the diameter of the root ball and not deeper than the distance from the bottom of the root ball to the root flair, which may be hidden beneath root ball soil. Excess soil above the root flair should be removed once the tree is in place. The tree should be planted so that its root flair is just above existing grade.

(e) Especially in areas where construction activity has compacted the soil, the sides of the planting hole should be scarified or loosened with a pick ax or shovel.

(f) After the pit is dug, observe sub-surface drainage conditions. Most soils in the Carrboro area are poorly drained. Planting depth where poor drainage exists should be dependent upon the water needs of the tree species. If the species is more sensitive to poor drainage, the tree should be planted higher than existing grade, not to exceed ¼ root of the ball above grade. If a wire cage surrounds the root ball, it should be removed prior to planting. Back fill should then be sloped gradually from top of root ball to existing grade. Gravel placed at the bottom of the hole will not improve drainage.

(g) Backfill should include a proper mix of soil, peat moss and nutrients. All roots must be completely covered. Backfill should be thoroughly watered as it is placed around the roots.

(h) Staking the tree is not recommended unless necessary to stabilize the tree e.g., a loose root ball, unstable bare root transplant, or large evergreen w/higher wind resistance. Staking a tree unnecessarily can reduce the development of structural roots and proper trunk taper. If tree is to be

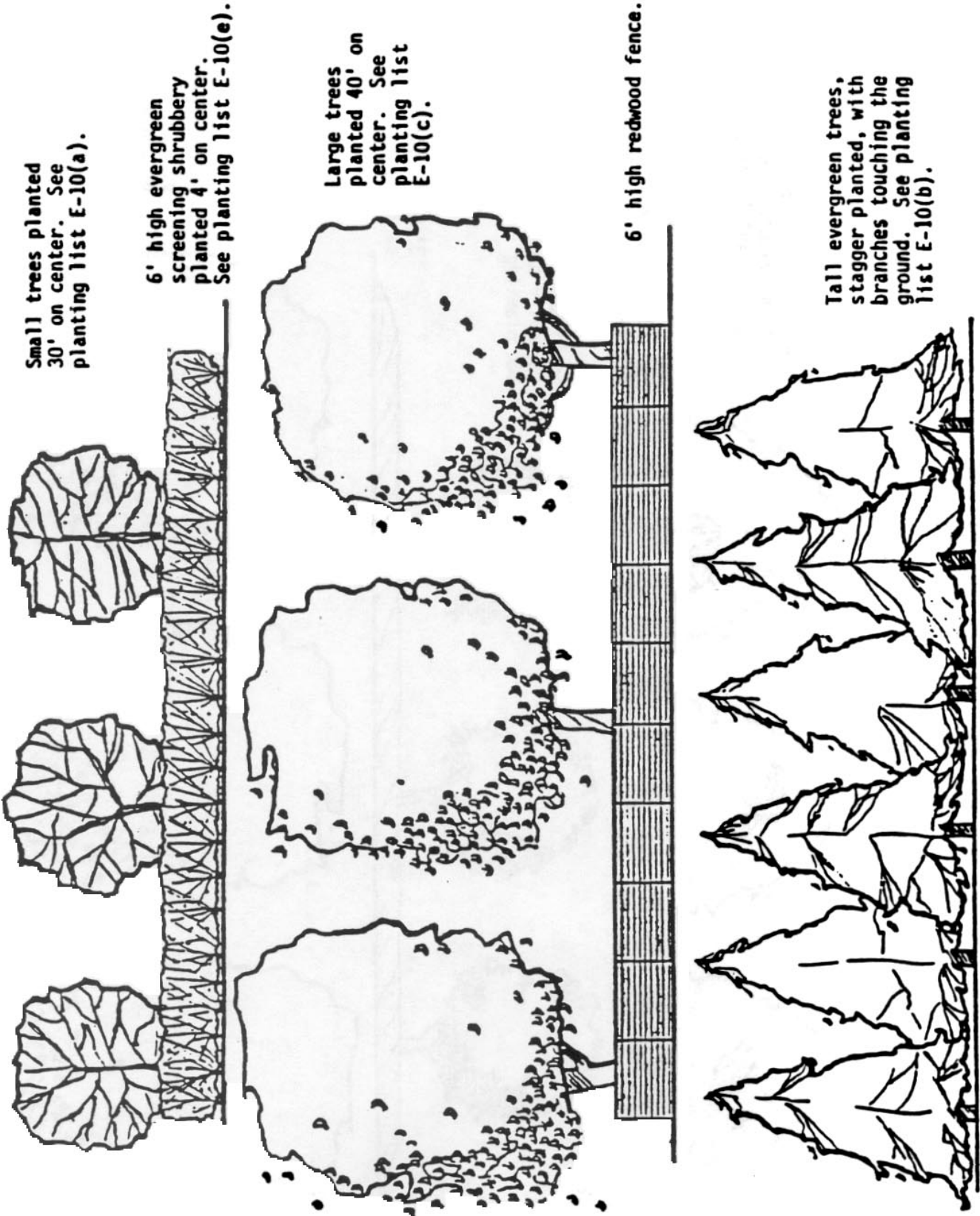
staked, it should be done so loosely and staking should be removed after the first year. Guying materials should not girdle or cut into the bark.

(i) Mulch should be spread at a depth of 2-3 inches maximum, ideally extending to the drip line. At a minimum, it should cover the entire excavation area in order to retain moisture and help to prevent weeds. Mulch should not be allowed to touch the trunk as this will cause moisture build up, increasing the chance of trunk decay. If necessary, on sloped locations, create a raised ring on the downhill side of the slope to catch rain runoff.

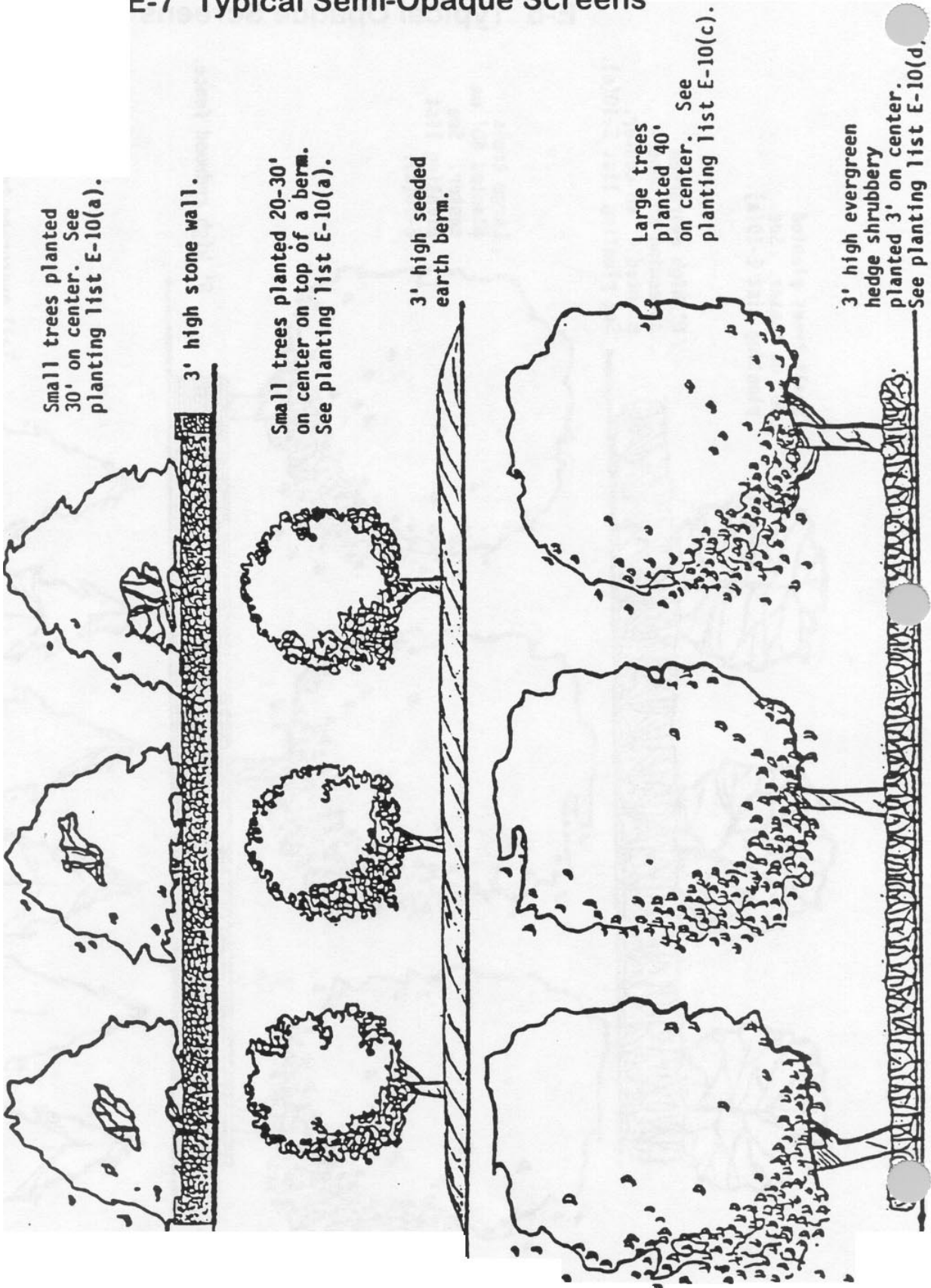
(j) Trunk wrapping is not required but may be considered for certain species with thin bark in certain locations. If wrap is to be used it should be light colored, biodegradable (paper) and be wrapped from the bottom up. This will help to prevent moisture build up along the trunk.

(k) Conscientious post-planting care, especially watering, pruning and fertilizing, is a must for street and parking lot trees. Minimal pruning should be performed during the first year, if at all. Watering and fertilization rates are dependent upon site conditions.

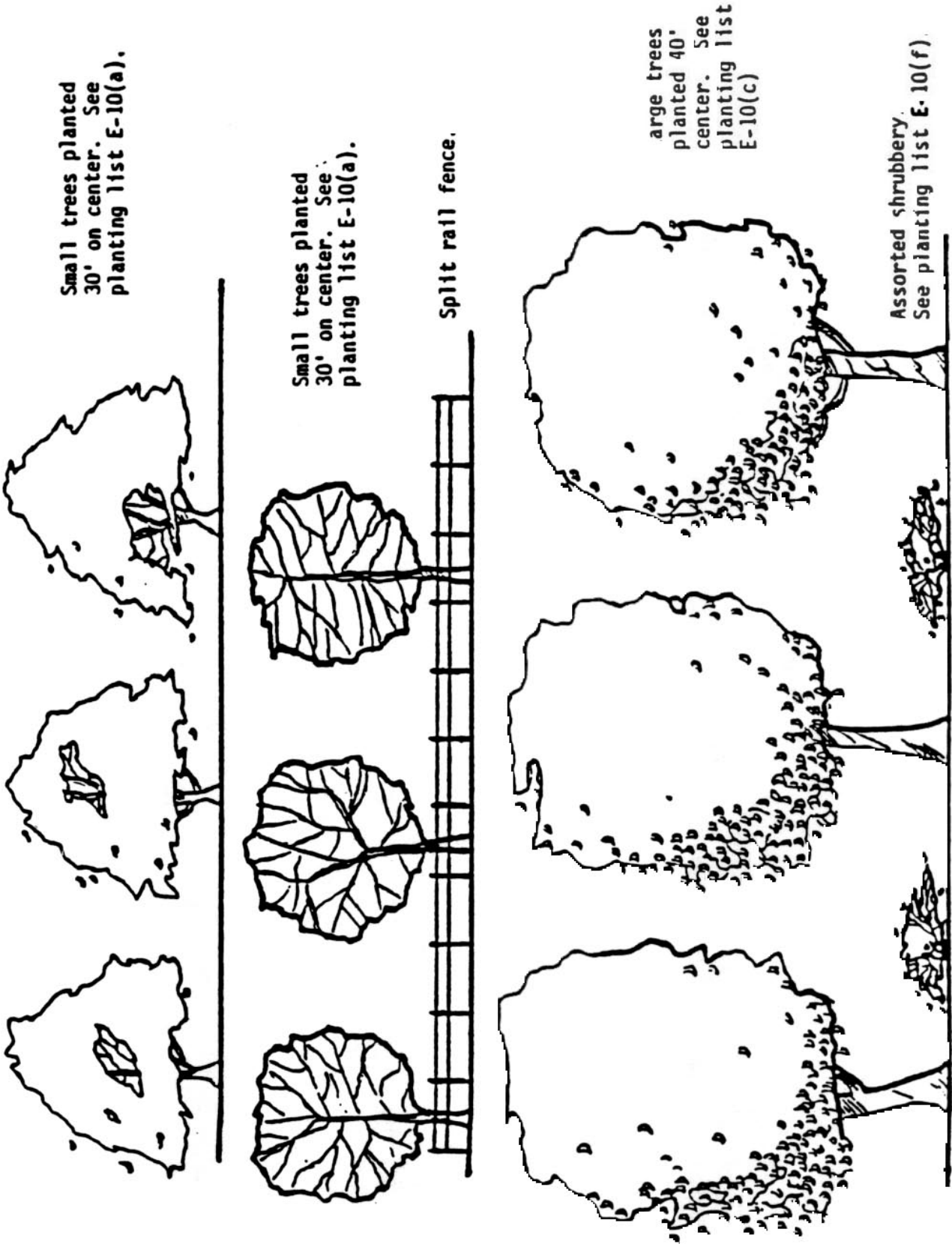
E-6 Typical Opaque Screens



E-7 Typical Semi-Opaque Screens



E-8 Typical Broken Screens



E-9 Guide for Planting Shrubs

Shrubs planted for screening purpose should be given a proper culture and be spaced based on expected size at maturity~~sufficient room in which to grow~~. Most soils in the Carrboro area are poorly drained. Planting depth where poor drainage exists should be dependent upon the water needs of the tree species. If the species is more sensitive to poor drainage, the tree should be planted higher than existing grade, not to exceed one quarter of the root ball above grade. If a wire cage surrounds the root ball, it should be removed prior to planting. Back fill should then be sloped gradually from the top of the root ball to the existing grade. Gravel placed at the bottom of the hole, underneath the shrub, will not improve drainage. Many of the guidelines for tree planting listed in Section E-5 also apply to shrubs. However, because specific requirements vary considerably between shrub types, this Appendix does not attempt to generalize the needs of all shrubs. ~~For detailed planting information on individual species, refer to: Landscape Plants of the Southeast by R. Gordon Halfacre and Anne R. Shawcroft. A copy of this book is available in the Carrboro Planning Department or by contacting Sparks Press, P.O. Box 26747, Raleigh, N.C. 27611.~~

E-10 Lists of Recommended Trees and Shrubs

The following table, indicates plants which will meet the screening, shading, and tree canopy replacement requirements of Article XIX of the Land Use Ordinance. Additional desirable aspects of plants are also provided. The lists are not intended to be comprehensive or absolute, but rather are intended as guidance for species that are appropriate.

Plants were selected for inclusion on these lists according to two principal criteria in addition to providing the indicated service: i.) general suitability for the Piedmont of North Carolina and support of Piedmont ecosystems and food webs; and ii.) for a particular site, species native to the Piedmont of North Carolina which are thriving on or near the site should be favored. When trees are planted to replace native tree specimens removed, native tree species should always be selected. Plantings of multiple species are also recommended to increase biodiversity and provide resilience. Further information on recommended native plants is available from the North Carolina Native Plant Society. The Land Use Administrator has the discretion to not approve of planting plans to comply with Article XIX that substantially deviate from the list provided

~~The following lists indicate plantings which will meet the screening and shading requirements of Article XIX of the Land Use Ordinance. The lists are by no means comprehensive and are intended merely to suggest the types of flora which would be appropriate for screening and shading purposes. Plants were selected for inclusion on these lists according to four principal criteria: i.) general suitability for the Piedmont section of North Carolina; ii.) hardiness/tolerance of city conditions; iii.) ease of maintenance; and iv.) availability from area nurseries. When selecting new plantings for a particular site, a developer should first consider the type of plants which are thriving on or near the site. Accordingly, species native to North Carolina should often be favored. However, if an introduced species has proven highly effective for screening or shading in Piedmont Towns, it too may be a proper selection.~~

~~The plantings marked with an (+) on the following lists are appropriate for planting within plantings strips as defined under Section 15-216, Subsection (j).~~

Sections E-11 through E-16 contain descriptions of the trees and shrubs listed here.

E-10 RECOMMENDED TREES AND SHRUBS

Common Name (<i>Latin name</i>)	Human Services							Ecological Services		
	Shading (1)		Screening (2)			Other		Rare/specimen (3)	Native (a)	Pollinator (b)
	Parking / VAA	Street	Partial	Evergreen	Broken	Planting Strip	Edible/Medicinal			
Large Trees (4)	-	-	-	-	-	-	-	-	-	-
American Beech (<i>Fagus grandifolia</i>)								*	*	-
American Elm (<i>Ulmus americana</i>)								*	*	-
American Hemlock (<i>Tsuga canadensis</i>)								*	*	-
American Persimmon (<i>Diospyrus virginianae</i>)			*		*		*	*	*	*
Atlantic White Cedar (<i>Chamaecyparis thyoides</i>)				*				*	*	-
Bald Cypress (<i>Taxodium distichum</i>)				*				*	*	-
Basswood (<i>Tilia americana</i>)	*								*	-
Black Gum (<i>Nyssa sylvatica</i>)			*						*	-
Black Oak (<i>Quercus velutina</i>)	*	*							*	-
Blackjack Oak (<i>Quercus marilanica</i>)									*	-
Chestnut Oak (<i>Quercus montana</i> ; <i>Q. prinus</i>)	*								*	-
Cucumber Tree (<i>Magnolia acuminata</i>)	*								*	-
Eastern Red Cedar (<i>Juniperus virginiana</i>)				*			*	*	*	-
Laurel Oak (<i>Quercus laurifolia</i>)				*					*	-
Loblolly Pine (<i>Pinus taeda</i>)				*					*	-
Longleaf Pine (<i>Pinus palustris</i>)								*	*	-
Mockernut hickory (<i>Carya tomentosa</i>)									*	*
Ohio Buckeye (<i>Aesculus glabra</i>)								*	*	-
Post Oak (<i>Quercus stellata</i>)									*	-
Red Oak (Eastern) (<i>Quercus rubra</i>)	*	*							*	-
River Birch (<i>Betula nigra</i>)	*	*				*			*	-
Scarlet Oak (<i>Quercus coccinea</i>)	*	*							*	-
Shortleaf Pine (<i>Pinus echinata</i>)				*					*	-
Southern Catalpa (<i>Catalpa bignonioides</i>)	*								*	-
Southern Magnolia (<i>Magnolia grandiflora</i>)				*				*	*	-
Shagbark Hickory (<i>Carya carolinae-septentrionalis</i>)								*	*	-
Southern Sugar Maple (<i>Acer saccharum</i> ; <i>A. barbatum</i>)	*								*	-
Swamp Chestnut Oak (<i>Quercus michauxii</i>)	*							*	*	-
Swamp White Oak (<i>Quercus bicolor</i>)	*				*				*	-

<u>Sycamore (<i>Platanus occidentalis</i>)</u>	<u>*</u>								<u>*</u>	<u>-</u>
<u>Tulip Poplar (<i>Liriodendron tulipifera</i>)</u>	<u>*</u>	<u>*</u>							<u>*</u>	<u>*</u>
<u>Virginia Pine (<i>Pinus virginiana</i>)</u>				<u>*</u>					<u>*</u>	<u>-</u>
<u>White Oak (<i>Quercus alba</i>)</u>	<u>*</u>								<u>*</u>	<u>-</u>
<u>Willow Oak (<i>Quercus phellos</i>)</u>	<u>*</u>	<u>*</u>							<u>*</u>	<u>-</u>
<u>Small Trees (5)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
<u>American Holly (<i>Ilex opaca</i>)</u>			<u>*</u>	<u>*</u>	<u>*</u>				<u>*</u>	<u>*</u>
<u>American Hop Hornbeam (<i>Ostrya virginiana</i>)</u>			<u>*</u>						<u>*</u>	<u>-</u>
<u>American Hornbeam/Ironwood (<i>Carpinus carolinia</i>)</u>			<u>*</u>			<u>*</u>			<u>*</u>	<u>-</u>
<u>American Smoketree (<i>Cotinus obovatus</i>)</u>			<u>*</u>		<u>*</u>					<u>-</u>
<u>Carolina Cherry Laurel (<i>Prunus caroliniana</i>)</u>			<u>*</u>	<u>*</u>		<u>*</u>			<u>*</u>	<u>-</u>
<u>Crabapple (southern) (<i>Malus spp.</i>)</u>			<u>*</u>				<u>*</u>		<u>*</u>	<u>-</u>
<u>Eastern Redbud (<i>Cercis canadensis</i>)</u>			<u>*</u>						<u>*</u>	<u>*</u>
<u>Flowering dogwood (<i>Cornus florida</i>)</u>			<u>*</u>						<u>*</u>	<u>-</u>
<u>Fringetree (<i>Chionanthus virginiana</i>)</u>			<u>*</u>		<u>*</u>				<u>*</u>	<u>*</u>
<u>Loblolly Bay (<i>Gordonia lasianthus</i>)</u>			<u>*</u>						<u>*</u>	
<u>Mock Orange <i>Philadelphius inodorus</i> (other native cultivars)</u>			<u>*</u>						<u>*</u>	<u>*</u>
<u>Paw Paw (<i>Asimina triloba</i>)</u>			<u>*</u>				<u>*</u>		<u>*</u>	<u>*</u>
<u>Red Bay (<i>Persea borbonia</i>)</u>			<u>*</u>						<u>*</u>	
<u>Sassafras (<i>Sassafras albidum</i>)</u>			<u>*</u>		<u>*</u>		<u>*</u>		<u>*</u>	<u>-</u>
<u>Serviceberry (<i>Amelanchier canadensis/arborea</i>)</u>			<u>*</u>			<u>*</u>	<u>*</u>		<u>*</u>	<u>-</u>
<u>Silverbell (<i>Halesia carolina</i>)</u>									<u>*</u>	<u>-</u>
<u>Sourwood (<i>Oxyndrum arboreum</i>)</u>			<u>*</u>			<u>*</u>			<u>*</u>	<u>-</u>
<u>Southern Wax Myrtle (<i>Myrica cerifera</i>)</u>			<u>*</u>	<u>*</u>					<u>*</u>	<u>-</u>
<u>Sumac (<i>Rhus aromatica (fragrant); copallina</i> (Shining); <i>R. glabra</i> (Smooth); <i>R. typhina</i> (Staghorn))</u>					<u>*</u>		<u>*</u>		<u>*</u>	<u>*</u>
<u>Umbrella Magnolia (<i>Magnolia tripetala</i>)</u>									<u>*</u>	<u>*</u>
<u>Washington Hawthorn (<i>Crataegus phaenophyrum</i>)</u>			<u>*</u>							<u>-</u>
<u>Witch Hazel (Common) (<i>Hamamelis virginiana</i>)</u>					<u>*</u>		<u>*</u>		<u>*</u>	<u>-</u>
<u>Witch Hazel (Vernal) (<i>Hamamelis vernalis</i>)</u>					<u>*</u>	<u>*</u>	<u>*</u>			<u>-</u>
<u>Yaupon Holly (<i>Ilex vomitoria</i>)</u>	<u>-</u>	<u>-</u>	<u>*</u>	<u>*</u>	<u>-</u>	<u>*</u>	<u>*</u>	<u>-</u>	<u>*</u>	<u>-</u>
<u>Shrubs (6)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
<u>Anise Bush (<i>Illicium anisatum</i>)</u>			<u>*</u>	<u>*</u>		<u>*</u>				<u>-</u>
<u>Azaleas (<i>Rhodendron calendulaceum, canescens,</i> <i>periclymenoides, prunifolium</i>)</u>					<u>*</u>				<u>*</u>	<u>*</u>
<u>Beautyberry (<i>Callicarpa americana</i>)</u>					<u>*</u>	<u>*</u>			<u>*</u>	<u>-</u>
<u>Blueberry (<i>Vaccinium spp.</i>)</u>					<u>*</u>		<u>*</u>		<u>*</u>	<u>-</u>
<u>Buttonbush (<i>Cephalanthus occidentalis</i>)</u>					<u>*</u>				<u>*</u>	<u>-</u>

<u>Carolina Allspice (Sweetshrub) (<i>Calycanthus floridus</i>)</u>					*				*	-
<u>Carolina Rose (<i>Rosa carolina</i>)</u>					*				*	-
<u>Clethra (<i>Clethra alnifolia</i>)</u>					*				*	-
<u>Devil's Walking Stick (<i>Aralia spinosa</i>)</u>					*				*	*
<u>Flowering dogwood (<i>Cornus florida</i>)</u>										-
<u>Drooping Leucothoe (<i>Leucothoe fontanesiana</i>)</u>					*				*	-
<u>Fortune Tea Olive (<i>Osmanthus fortunei</i>)</u>			*	*						-
<u>Glossy Abelia (<i>Abelia grandiflora</i>)</u>			*	*						-
<u>Hearts-a-burstin (<i>Eunonymus americanus</i>)</u>					*				*	-
<u>Highbush Blueberry (<i>Vaccinium corymbosum</i>)</u>					*				*	-
<u>Inkberry (<i>Ilex glabra</i>)</u>			*	*					*	-
<u>Japanese Yew (<i>Taxus cuspidata</i>)</u>			*	*						-
<u>Magnolia "Little Gem" (<i>Magnolia grandiflora</i>)</u>		*		*					*	-
<u>Mountain Laurel (<i>Kalmia latifolia</i>)</u>				*					*	-
<u>Oakleaf Hydrangea (<i>Hydrangea quercifolia</i>)</u>					*					*
<u>Poet's Laurel (<i>Danae racemosa</i>)</u>			*	*						-
<u>Possumhaw (<i>Ilex decidua</i>)</u>									*	-
<u>Savannah Holly (<i>Ilex x attenuata</i>)</u>	*	*		*		*			*	-
<u>Silky dogwood (<i>Cornus amomus</i>)</u>									*	-
<u>Spicebush (<i>Lindera benzoin</i>)</u>					*	*			*	-
<u>Viburnum (<i>acerifolium, dentatum, nudum, rafinesquianum, prunifolium, rufidulum</i>)</u>			*		*				*	-
<u>Virginia sweetspire (<i>Itea virginica</i>)</u>									*	-
<u>Winterberry Holly (<i>Ilex verticillata</i>)</u>			*	*					*	-
<u>Vines</u>	-	-	-	-	-	-	-	-	-	-
<u>Carolina Jessamine (<i>Gelsemium sempervirens</i>)</u>			*	*						-
<u>Confederate Jasmine (<i>Trachelospermum jasminoides</i>)</u>			*	*						-
<u>Trumpet Honeysuckle (<i>Lonicera sempervirens</i>)</u>	-	-	*	*	-	-	-	-	-	-

Footnotes: (1) See 15-316 & 15-318. (2) See 15-307. (3) See 15-317. (4,5) Trees that are credited with 707 sf (4) and 314 sf (5) towards canopy requirements per Appendix E (E-3). (6) Shrubs may be credited towards canopy requirements, see 15-319. (a) as defined by NC Cooperative Extension Service and Natural Resources Conservation Service; native plants are preferred for all plantings. (b): as identified by Pollinator Partnership, for southeastern region.

~~(A) — E-11 SMALL TREES FOR PARTIAL SCREENING (AMENDED 6/22/04)~~

- | | |
|--|---|
| (1) — American Holly | (10) — Mock Orange |
| (2) — American Hop Hornbeam | (11) — Paw Paw |
| (3) — American Hornbeam[±] | (12) — Serviceberry[±] |
| (4) — American Smoketree | (13) — Sourwood[±] |
| (5) — Carolina Cherry Laurel | (14) — Viburnum (except V. opulus) |
| (6) — Crabapple (southern) | (15) — Washington Hawthorn |
| (7) — Eastern Redbud | (16) — Yaupon |
| (8) — Flowering dogwood | |
| (9) — Fringetree | |

~~(B) — E-12 LARGE TREES FOR EVERGREEN SCREENING (AMENDED 6/22/04)~~

- | | |
|--|------------------------------------|
| (1) — Atlantic White Cedar | (5) — Shortleaf Pine |
| (2) — Eastern Red Cedar | (6) — Southern Magnolia |
| (3) — Laurel Oak (listed on E-13) | (7) — Virginia Pine |
| (4) — Loblolly Pine | (8) — Longleaf Pine |

~~(C) — E-13 LARGE TREES FOR SHADING — The trees on the following list marked with an (*) are appropriate selections to satisfy Section 15-315, Required Trees Along Dedicated Streets (AMENDED 6/22/04)~~

- | | |
|---------------------------------------|--|
| (1) — Basswood | (9) — Southern Catalpa |
| (2) — Chestnut Oak | (10) — Southern Sugar Maple |
| (3) — Cucumber Tree | (11) — Swamp Chestnut Oak |
| (4) — Ginkgo (male only) * | (12) — Swamp White Oak |
| (5) — Laurel Oak * | (13) — Sycamore |
| (6) — Post Oak | (14) — Tulip Poplar * |
| (7) — Red Oak (Eastern) * | (15) — White Oak |
| (8) — Scarlet Oak * | (16) — Willow Oak * |

~~(D) — E-14 SMALL SHRUBS FOR EVERGREEN SCREENING (AMENDED 05/25/99, 6/22/04)~~

- | | |
|--|---|
| (1) — Convexa Japanese Holly | (7) — Otto Lukeyn Laurel[±] |
| (2) — Dwarf Horned Holly | (8) — Poet's Laurel |
| (3) — Glossy Abelia | (9) — Warty Blueberry |
| (4) — Ilex verticillata (Winterberry Holly) | (10) — **Carolina Jessamine |
| (5) — Indian Hawthorn[±] | (11) — **Trumpet Honeysuckle |
| (6) — Japanese Yew | (12) — |

~~**Vines — which if grown on a trellis would make a nice evergreen screen.~~

~~(E) — E-15 LARGE SHRUBS FOR EVERGREEN SCREENING (AMENDED 6/22/04)~~

- | | |
|---|---|
| (1) — Anise Bush[±] | (6) — Loblolly Bay |
| (2) — Carolina Cherry Laurel[±] | (7) — Loropetalum[±] |
| (3) — Cleyera[±] | (8) — Red Bay |
| (4) — English Laurel | (9) — Schipka Laurel |
| (5) — Fortune Tea Olive | (10) — Southern Wax Myrtle |
| | (11) — Yaupon Holly (standard)[±] |

(F) — E-16 ASSORTED PLANTINGS FOR BROKEN SCREENS (AMENDED 5/25/99, 6/22/04)

- | | |
|--|--|
| (1) — Beautyberry [±] | (11) — Judd Viburnum |
| (2) — Blueberry | (12) — Oakleaf Hydrangea |
| (3) — Button Bush | (13) — Rhododendron |
| (4) — Carolina Allspice (Sweetshrub) | (14) — Smoketree |
| (5) — Carolina Rose | (15) — Star Magnolia (tree) |
| (6) — Clethra | (16) — Sumac |
| (7) — Devil's Walking Stick | (17) — Viburnum (except V. opulus) |
| (8) — Drooping Leucothoe | (18) — Witch Hazel (Common) |
| (9) — Fringetree | (19) — Witch Hazel (Vernal) [±] |
| (10) — Japanese Flowering Apricot (tree) | |

— The following plant species shall be prohibited when complying with the shading and landscaping provisions of this chapter. **(AMENDED 6/22/04).**

Species (Latin)	Common Name
Akebia quinata	Chocolate vine
Acer ginnala	Amur Maple
Acer platanoides	Norway Maple
Ailanthus altissima	Tree of Heaven
Albizia julibrissin	Mimosa
Ampelopsis brevipedunculata	Porecelainberry
Baccharia halimifolia	Baccharus spp
All Berberis species including	
Berberis julianae	Wintergreen Barberry
Berberis thunbergii	Japanese Barberry
Broussonetia papyrifera	Paper Mulberry
Celastrus orbiculatus	Bittersweet
All Cotoneaster species including	
Cotoneaster microphyllus	Littleleaf Cotoneaster
Cotoneaster horizontalis	Rockspray Cotoneaster
Crataegus monogyna	Singleseed Hawthorn
Crataegus laevigata	English Hawthorn
All Cytisus scoparius	Scotch Broom
Eleagnus angustifolia	Russian Olive
Eleagnus umbellata	Autumn Olive
Euonymus alatus	Winged Euonymus, Burning Bush
Euonymus japonicus	Japanese Euonymus
Firmiana simplex	Chinese Parasol Tree

Species (Latin)	Common Name
Hedera helix	English Ivy
All Ligustrum species including	
Ligustrum japonicum	Japanese Privet
Ligustrum lucidum	Waxleaf Privet
Ligustrum obtusifolium	Border Privet
Ligustrum vulgare	European Privet
Ligustrum sinense	Chinese Privet
Ligustrum x vicari	Golden Vicary Privet
Lonicera japonica	Japanese Honeysuckle
Lonicera maaackii	Bush Honeysuckle
Lonicera nitida	Boxleaf Honeysuckle
Lonicera tatarica	Tatarian Honeysuckle
Miscanthus sinensis	Eulalia, Maiden Grass
Mahonia repens	Oregon Grape
Morus alba	White Mulberry
Paulownia tomentosa	Princess Tree
Phyllostachys aurea	Golden Bamboo
Populus alba	White Poplar
Spirea Japonica	Japanese Meadowsweet
Taxus cuspidata	Japanese Yew
Viburnum opulus	European Cranberrybush Viburnum
Vinca major	Large Periwinkle
Vinca minor	Common Periwinkle
Wisteria sinensis	Chinese Wisteria
Wisteria japonica	Japanese Wisteria

E-11 Small Trees for Partial Screening (Amended 6/22/04)

The following trees are recommended for use in all types of screens. Though smaller than the trees listed in planting lists E-12 and E-13, each of these trees will reach a height of at least 20 feet. Selections marked with an (*) are also recommended as shade trees and may be credited for meeting the ~~35~~20% shading requirement for paved parking lots.

AMERICAN HOLLY (*Ilex opaca*) Height: 15-30'; Spread: 10-20'.

This familiar native tree possesses a pyramidal evergreen crown with abundant red berries in the winter. It grows best in full sun and prefers moist yet well drained soils. If the lower limbs are allowed to grow naturally, they will branch to the ground. Hollies should be protected from high winds. The American Holly is a relatively slow grower.

AMERICAN HOP HORNBEAM (*Ostrya virginiana*) Height: 40 to 50 feet; Spread: 20 to 30 feet

Hophornbeam is a small short-lived understory tree in moist, well-drained forests. It has a slow to medium growth rate on a great variety of soils. It develops a finely branched round crown and is an attractive landscape tree that provides wildlife with a limited amount of seed. Fruit

***AMERICAN HORNBEAM (*Carpinus carolinia*) Height: 20-30'; Spread: 15-20'.**

This native tree has a natural yet refined appearance. It is slow growing, but at maturity it serves as an excellent small shade tree. Its fluted, “muscular” trunk is an interesting feature. In the wild, the American Hornbeam is common in moist rich soil, yet, when used in landscape design, it is soil tolerant and does not require an unusual amount of water. It has no pests and no special maintenance problems.

AMERICAN SMOKETREE (*Cotinus obovatus*) Height: 15 feet; Spread: 15 feet

Smoketree is a small tree found on upland sites. This tree is planted as an ornamental for the attractive fruit that are presented on a feathery, hairy stalk, which gives a smoke-like appearance.

BLACK HAW (*Viburnum prunifolium*; *V. dentatum*) Height: 12 to 15 feet; Spread: 8 to 12 feet

Black Haw is a small tree with twisted trunk and arching branches with an overall round crown appearance. Does best on partially sunny sites on moist, well-drained soils.

CAROLINA CHERRY-LAUREL (*Prunus caroliniana*) Height: 20-30'; Spread: 15-20'.

This tree is prized for its dense evergreen foliage. It may be trimmed as a hedge, but also serves as an excellent screen in its natural form. The Cherry-Laurel grows rapidly and has no pests. However, it may not be as cold hardy as other trees on this list.

CRABAPPLE, SOUTHERN (*Malus*) Height: 15'-30'; Spread 10-20'

Slow to moderate growers, with springtime flowers in colors ranging from pink to red to white. Birds are fond of fruit. Care should be taken when choosing a specific variety to make certain that it is disease resistant. Some disease resistant varieties include ‘Adams’, ‘Callaway’, and ‘Sentinel’.

EASTERN REDBUD (*Cercis canadensis*) Height: 20-30'; Spread: 12-25'.

This native tree is covered by beautiful pink flowers in the Spring and develops a dense round crown when allowed to grow in direct sunlight. The Redbud has some pests, and its fruit pods may present a litter problems, but it recommends itself by being drought resistant and tolerant of polluted city air.

***FLOWERING DOGWOOD (*Cornus florida*) height: 15-30'; Spread: 15-20'.**

The Dogwood is a native woodland tree which is very popular for landscape planting. It is considered to be a fairly hardy tree, but, when planted in direct sun, it must be frequently watered. A healthy Dogwood will develop attractive horizontal branches and bushy crown. Dogwoods look best when planted in groups or when used as an accent in borders. These trees should be guarded against borers and other pests.

FRINGE TREE (*Chionanthus virginiana*) Height: 12 to 20 feet; Spread: 12 to 20 feet

Fringe-tree is a short trunk tree with a narrow, oblong crown found on moist soils. It is a popular ornamental because of the white fringe-like drooping white flower clusters in May and June that mature into inch-long blue-black fruit in September and October.

MOCK ORANGE (*Philadelphus inodorus* or other native cultivars) Height: 3 to 6 feet; Spread: 3 to 9 feet

Mock Orange is a deciduous short shrub, suitable on a range of soil conditions along streams and bluffs, cliffs, and rocky banks, with full sun to partial shade. Best used as part of a shrub border or an edge to natural areas. Fragrant white flowers in spring on spreading branches that twist around each other and arch to the ground.

PAW PAW (*Asimina triloba*) Height: 15 to 40 feet; Spread: 15 to 30 feet

Pawpaw is an understory species found on moist, well-drained sites that has a tropical appearance in the landscape. Purplish-brown, broad bell shape flowers appear with or slightly before the leaves. Fall ripening fruit resemble a short, fat banana, that is very fleshy, tastes like a banana, and eaten by squirrel, fox, raccoon and small animals.

SERVICEBERRY (*Amelanchier canadensis*) Height: 10'-20'; Spread 8-15'

An upright shaped tree with a moderate growth rate. Serviceberry will thrive in sun or partial shade. White springtime flowers. Tolerant of most soil types, Serviceberry looks good planted along the edge of woods.

SOURWOOD (*Oxyndrum arboreum*) Height: 20-30'; Spread: 10-15'.

Sourwoods are handsome native trees which are most effective in landscape design when planted in groups. They are easy to transplant and as each tree matures it assumes a slender form with upright branches. Sourwood prefers relatively dry acid soils. Its only special maintenance problems may be infestations of webworms.

WASHINGTON HAWTHORN (*Crataegus phaenophyrum*) Height: 25-30'; Spread: 25-30'.

Hawthorns generally require spraying to prevent disease and insect infestation. However, they are an excellent choice for screening because of their extremely dense and thorny branches. They have proven to be excellent as a headlight screen on highway medians and, when planted close together, they form an

impenetrable living fence. They prefer sun and are tolerant to most types of soil. The Washington Hawthorn is generally considered to be the best of the Hawthorns.

YAUPON (*Ilex vomitoria*) Height: 15 to 20 feet; Spread: 10 to 20 feet

Yaupon is an upright evergreen shrub that forms thickets with numerous stems and branches. It grows well in full to partial shade and adapted to wet and dry sites. Small white flowers in spring yield to small shiny red berry clusters on the stems in the fall. Deer browse the foliage and fruit are eaten by birds and small mammals.

E-12 Large Trees for Evergreen Screening (Amended 6/22/04)

The following trees are ideal for screening large scale areas such as shopping centers and industrial sites. They are also effective in combination with other, smaller screening plants. All three are moderate to fast growers. They are not considered to be shade trees.

ATLANTIC WHITE CEDAR (*Chamaecyparis thyoides*) Height: 40 to 50; Spread 10 to 20 feet

Atlantic White Cedar is a tall, slender columnar tree; that loses lower branches with age. It grows best in wet sites with full sun. Bluish green needles appear flattened and arranged in irregular sprays with pointed tips. Bluish purple cones are quarter-inch long.

EASTERN RED CEDAR (*Juniperus virginiana*) - Height 60'; Spread 15-20'

This is a native evergreen tree that is very hardy in the area. Mature specimens have interesting bark. Has waxy fruit that birds enjoy. Slow growth.

LAUREL OAK (*Quercus laurifolia*) Height: 40-60'; Spread: 30'+.

The Laurel Oak grows more slowly than the other Oaks listed above, but it has the advantage of being nearly evergreen in Piedmont sections of North Carolina. It has proven to be a good street tree and does quite well under city conditions. It presents no special maintenance problems.

LOBLOLLY PINE (*Pinus taeda*) - Height 50 to 90; Spread 30 to 40 feet

Loblolly pine grows well on moderately acid soils with poor surface drainage and full sun. It is initially pyramidal until the crown becomes rounded with horizontal branches following the loss of lower branches. Excellent fast growing species for rapid vegetative screening.

LONGLEAF PINE (*Pinus palustris*) - Height 80 to 100; Spread 30 to 40 feet

~~Longleaf pine is found on well drained sandy soils and on swamp edges and requires full sun. In the Piedmont, it rarely attains mature height due to susceptibility to ice storm damage, wind, lightning, high winds, and drought. It is also a nesting tree for red-cockaded woodpecker. It is slow to establish and grows in "grass-like" stage for first 5 years.~~

SHORTLEAF PINE (*Pinus echinata*) Height 80 to 100; Spread 30 feet

Shortleaf pine is a medium-sized, native, evergreen conifer with relatively short needles and thin, flaky, black bark that becomes reddish brown with age. Shortleaf pine is suitable to sunny sites and a variety of soils. It is a medium to large tree with an initial small, open, pyramidal crown that becomes a small narrow crown with age.

SOUTHERN MAGNOLIA (*Magnolia grandiflora*) Height: 40-60'; Spread: 25'+.

Magnolias are striking trees which serve well as screens when their branches are allowed to grow to the ground. Generally, the tree does well in city conditions, but it should be planted in quite rich acidic soils

and it requires a lot of moisture. Furthermore, Magnolias require ample space for growth. If planted in full sunlight, they will grow rapidly. Because it drops large waxy leaves, seed pods, and flowers, the Magnolia may present a litter problem.

VIRGINIA PINE (*Pinus virginiana*) - Height 60'; Spread 25-35'.

A native of the area, Virginia Pine is a short needled tree that is very tolerant of clay soils. More resistant to winter weather conditions than Loblolly Pine.

E-13 Large Trees for Shading (Amended 6/22/04)

The following trees may be used for screening, but they are recommended especially for shading streets and parking lots. Unless otherwise noted, they will grow rapidly. Each species will attain a mature spread of at least thirty feet. The trees on the following list marked with an “*” are appropriate selections to satisfy Section 15-315, Required Trees Along Dedicated Streets.

***BLACK OAK (*Quercus velutina*) Height: 50 to 60 feet; Spread: 40 to 50 feet**

A large, deciduous oak of the red oak group with a globular, spreading crown. This tree is primarily native to upland hills, slopes and ridges. It is similar in appearance to red oak with which it may on occasion hybridize. Bark is almost black on mature trunks with deep furrows. Inner bark is yellow to orange. Trunk matures to 3' in diameter. Leathery, shiny, dark green leaves (to 10" long) have 7-9 deeply incised lobes (each with 1-3 bristle tipped teeth). Leaves turn yellow to yellow-brown to dull red in fall. Easily grown in average, acidic, dry to medium moisture, well-drained soils in full sun.

CHESTNUT OAK (*Quercus montana*; *Q. prinus*) Height: 60 to 70 feet; Spread: 50 to 70 feet

Chestnut oak is a medium-sized, native, deciduous, tree that is suited to dry, infertile, rocky upland sites, yet grows best on rich well-drained soils along streams. At maturity, it is a medium-sized long-lived tree with an irregular dense crown. The sweet acorns are an important food for many wildlife species including deer, turkeys, squirrels, chipmunks, and mice, while small birds, mammals, and bees use chestnut oak cavities for nesting.

CUCUMBER TREE (*Magnolia acuminata*; *M. Fraserii*) Height: 50 to 80 feet; Spread: 50 to 80 feet

Cucumber tree is the most widespread and hardiest of the eight native magnolia species. It grows fairly rapidly and well in rich, moist soils of slopes and valleys and matures in 80 to 120 years. This park-like tree is planted as an ornamental for its attractive leaves, flowers, and cucumber-shaped fruit, producing seeds that are eaten by birds and small mammals. Its shape is pyramidal when young, developing a straight trunk and a rounded crown.

***EASTERN RED OAK (*Quercus rubra*) Height: 50-70'; Spread: 40'+.**

This tree grows faster than any other Oak, two feet or more per year. It is prized as a street tree because its high branching habit gives it an ideal shape. The Red Oak grows in almost any average soil and presents no special maintenance problems.

***GINKGO OR MAIDENHAIR TREE (*Ginkgo biloba*) Height: 40-80'; Spread: 30'+.**

~~The Ginkgo is a tree which is recommended for several outstanding reasons. It is one of the oldest surviving species of trees. It is adaptable to any soil, climate, or degree of exposure to the sun. It does quite well in the city. It has no pests, no diseases, and no pruning requirements. In sum, it is a tree of exceptional vitality. The N.C. Department of Forest Resources calls the Ginkgo, probably the best all around street tree. Two reservations are worth stating, however. First, only male trees should be planted because female Ginkgos bear a messy, malodorous fruit. Second, the Ginkgo is a slow grower. When young, it has a rather gangly appearance. It takes 20 to 30 years to assume its mature, symmetrically spreading form.~~

***LAUREL OAK (*Quercus laurifolia*) Height: 40-60'; Spread: 30'+.**

The Laurel Oak grows more slowly than the other Oaks listed above, but it has the advantage of being nearly evergreen in Piedmont sections of North Carolina. It has proven to be a good street tree and does quite well under city conditions. It presents no special maintenance problems.

POST OAK (*Quercus stellata*) Height: 40 to 50 feet; Spread: 35 to 50 feet

Post oak is a small to medium-sized tree with a crown that has snarled and twisted branches and found on upland sites with full sun. This slow-growing drought resistant oak typically occupies rocky or sandy ridges and dry woodlands with a variety of soils. Acorns provide high-energy wildlife food during fall and winter for wild turkey, white-tailed deer, and squirrels, and provide habitat for birds and mammals. Post oak can be a beautiful shade tree for parks and to stabilize soil on dry, sloping, stony sites where few other trees will grow. It develops an attractive crown with strong horizontal branches.

***SCARLET OAK (*Quercus Coccinea*) Height: 60-80'; Spread: 40'+.**

This is a third Oak which grows rapidly and is easy to maintain. The Scarlet Oak is more difficult to transplant than the Red or the Willow, but it may be a worthwhile selection for its excellent foliage

SOUTHERN CATALPA (*Catalpa bignonioides*) Height: 25 to 40 feet; Spread: 20 to 30 feet

Catalpa is a medium-sized tree with spreading branches, an irregular crown, and generally crooked bole that is suited to moist, well-drained soils with full sun. The flowers and leaves make this an interesting landscape tree but the fruit can be messy.

SOUTHERN SUGAR MAPLE (*Acer saccharum*; *A. barbatum*) Height: 20 to 25 feet; Spread: 20 to 40 feet

Sugar maple grows on moist, well-drained soils and is very tolerant of shade. Seeds are eaten by birds and small animals. A popular ornamental for the fall color, Sugar Maple at maturity is a medium to tall tree with very dense elliptical crown.

SWAMP CHESTNUT OAK (*Quercus michauxii*) Height: 60 to 70 feet; Spread: 50 to 70 feet

Swamp chestnut oak grows in full sun on moist and wet loamy soils of bottomlands, along streams and borders of swamps, tolerates saturated or flooded soils for a few days to a few weeks. The acorns are sweet and serve as food to wildlife. The crown is round, compacted, and narrow.

SWAMP WHITE OAK (*Quercus bicolor*) Height: 50 to 60 feet; Spread: 50 to 60 feet

Swamp white oak is a medium sized tree with an irregular crown suitable to river bottomlands, depressions, swamp borders, and along edges of streams. It is rapid growing and long lived, attaining 300 to 350 years. Many kinds of wildlife eat the acorns, particularly ducks. Swamp white oak is intermediate in shade tolerance but not very drought tolerant.

SYCAMORE (*Platanus occidentalis*) Height: 70-100'; Spread: 60'+.

The Sycamore is probably the fastest growing shade tree on this list. Within ten years, it can grow to a height of between thirty and forty feet. It is easily transplanted, but it needs plenty of space. As one of

nature's most massive trees, Sycamores have been known to grow to a height of 170 feet with a trunk 10 feet across. The Sycamore is a native tree which typically grows in flood plains, but it thrives in a variety of situations. Its tolerance of severe conditions has long made it a favorite choice as a street tree. Sycamores are susceptible to fungi and leaf blight and their large leaves and seed balls may present a litter problem.

***TULIP POPLAR (*Liriodendron tulipifera*) - Height 60'-150'; Spread 30-40'**

Very common in eastern woodlands, this is a rapidly growing tree with colorful yellow leaves in Fall. Spring flowers, however, are not very noticeable. Difficult to transplant except when young. Excellent street tree.

WHITE OAK (*Quercus alba*) Height: 60 to 100 feet; Spread: 50 to 90 feet

White oak is found on fertile, moist, well-drained soils under partial sun. Acorns are eaten by game birds, deer, bear, and many small mammals. Pyramidal in youth, this species matures into a rugged, irregular crown that is wide spreading, with a stocky bole. While this species is potentially valuable for use in reforestation projects, it is not recommended near paved areas.

***WILLOW OAK (*Quercus phellos*) Height: 60-80'; Spread: 30'+.**

This is another rapidly growing Oak. It has proven to be quite successful as a street and parking lot tree in the Carrboro area. Its slender leaves give it a finer texture than that of other Oaks, but it still casts excellent shade. The Willow Oak is native to bottomland soils, and thus it needs plenty of moisture. It often spreads majestically as it matures so it should be given ample room to grow. No significant pests or diseases afflict the Willow Oak.

E-14 Small Shrubs for Evergreen Screening (Amended 6/22/04)

The following shrubs are recommended for informal (unclipped) hedges or screens. Each species grows to a height of less than six feet; therefore, these shrubs are appropriate for Semi-Opaque Screens.

CAROLINA JESSAMINE* (*Gelsemium sempervirens*) - Height up to 20'; Spread varies.

A moderate growing, mostly evergreen vine that grows very well on fences. Fragrant yellow flowers in springtime. Prefers sun or partial shade. All parts of this plant are poisonous.

CONFEDERATE JASMINE* (*Trachelospermum jasminoides*) - Height up to 20'; Spread varies.

Commonly called star jasmine, this is a twining, evergreen, woody vine. Axillary and terminal clusters of salverform, sweetly fragrant, starry, creamy white flowers appear in late spring with sporadic additional bloom in summer. Flowers are attractive to bees.

CONVEXA JAPANESE HOLLY (*Ilex crenata* 'convexa') Height: 4-6'; Spread: 3-5'.

~~The Convexa Japanese Holly is another good Boxwood substitute. This shrub is considered to be one of the most attractive, hardy and serviceable Hollies for landscape use. It is attractive in either a clipped or unclipped form. It grows faster than the Littleleaf Japanese Holly.~~

DWARF HORNED HOLLY (*Ilex cornuta* 'rotunda') Height: 3'; Spread: 3-4'.

~~This shrub is an excellent selection for a low hedge. It is soil tolerant and requires no pruning or other special care once established. With its spiny leaves, this plant appears to be and is in fact rugged. Like all Hollies, it grows best in full sun, but unlike others of its species, it produces bright red berries without both sexes being present.~~

GLOSSY ABELIA (*Abelia grandiflora*) Height: 4-6'; Spread: 3-5'.

Abelia is quite common in local nurseries and tends to be less expensive than other shrubs on this list. It bears pale pink flowers throughout the summer. Although it has proven quite popular for informal hedges, it has several drawbacks. Abelia should be pruned and thinned to maintain its best form. It may drop its leaves due to low temperatures, lack of pruning, or starvation.

INDIAN HAWTHORN (*Raphiolepis indica*) Height: 3-4'; Spread: 4-5'.

~~With its spreading, irregular branching, the India Hawthorn makes an excellent informal hedge. It is tolerant of a variety of soils and is fairly drought resistant. However, it may not be as cold tolerant and pest resistant as other shrubs on this list.~~

INKBERRY (*Ilex Glabra*) Height: 5-10'; Spread: 4-8'

Inkberry is an evergreen shrub with alternate leaves with a smooth or toothed margin. The bark is greenish brown and smooth. In early summer, small greenish white flowers mature. The shrub produces a black drupe that matures in the fall. It is a host plant for the Henry's Elfin butterfly. Fruits are eaten by birds and small mammals.

JAPANESE YEW (*Taxus cuspidata*) Height: 4-6'; Spread: 5-7'.

The versatile Yew is commonly available from local nurseries in a wide variety of sizes and shapes. The Japanese Yew serves as excellent screening material in either a clipped or unclipped form. It tolerates poor growing conditions and flourishes in almost any kind of soil. (Soggy soil may hamper its growth, however.) It is comparatively pest free and is hardy under trying winter conditions. The Yew's best feature is its rich shiny green needles which grow densely on all varieties.

OTTO LUKEYN LAUREL (*Prunus laurocerasus* var. 'Otto Lukeyn') - Height 4'; Spread 4-7'.

~~A cold hardy, broad leaved evergreen shrub. Prefers sun, but will grow in fairly shady conditions. Good green color even in winter. This is a shorter growing variety of the Schipka Laurel.~~

MOUNTAIN LAUREL (*Kalmia Latifolia*) Height: 6-10'; Spread: 5-8'

A shrub that is abundant in the mountains with leaves that are alternate with a smooth margin, raised mid-vein, and yellow underside. The bark is thin, smooth, and dark brown-red in color in young trees. The bark shreds and splits as the plant ages. In late spring to early summer, very showy clusters of white to rose flowers mature.

POET'S LAUREL (*Danae racemosa*) Height: 2 to 3 feet; Spread: 2 to 3 feet

Poet's Laurel prefers partial to full shade, moist, well-drained soil enriched with organic matter; but does tolerate clay soils. It has an open growth habit with slender branches that arch up and away from center of crown. It can spread by rhizomes. While foliage discolors in sun; it can be long-lasting for flower arrangements.

TRUMPET HONEYSUCKLE* (*Lonicera sempervirens*) - Height up to 50'; Spread varies.

A rapid growing, mostly evergreen vine with beautiful orange to red to yellow flowers occurring in late spring and throughout the summer. Best in full sun.

WARTY BARBERRY (*Berberis verruculosa*) Height: 3-4'; Spread: 3-4'.

~~Barberrys as a group have proven to be excellent as hedge plants. With their dense, spiny limbs, they are effective barriers in public places. The Warty Barberry is a shrub with a neat, compact habit. It is soil tolerant and has no special maintenance requirements. It grows slowly, but it will reach a height of 3 to 4 feet within five years.~~

WINTERBERRY HOLLY (*Ilex verticillata*) Height: 6 to 15 feet; Spread: 6 to 10 feet

With a slow to moderate growth rate, this species is suited to partial to full sun on moist soils, but can tolerate drought. Early summer brings small white flowers that mature into dense clusters of bright red berries.

WINTERGREEN BARBERRY (*Berberis julianae*) Height: 4-6'; Spread: 2-5'.

~~This is another Barberry which forms an impenetrable thorny hedge. In fact, it grows even more densely than the Warty Barberry. It is pest resistant and is very hardy. No pruning is required. Because it is fairly slow growing, it will take eight to ten years to reach a height of 5 to 6 feet.~~

Note: * Vines - which if grown on a trellis would make a nice evergreen screen.

E-15 Large Shrubs for Evergreen Screening (Amended 6/22/04)

The following shrubs are recommended for high hedges or screens. Each species grows to a height of more than 6 feet ~~and are generally; therefore, these shrubs are~~ appropriate for Opaque Screens.

ANISE BUSH (*Illicium anisatum*) - Height 8-12'; Spread 8-10'.

moderate growing, evergreen shrub with an open habit. Small flowers appear in mid-Summer. Prefers a fair amount of moisture, with partial to full sun. Subject to damage during very cold winters.

CAROLINA CHERRY-LAUREL (*Prunus caroliniana*) Height: 20-30'; Spread: 15-20'.

This tree is prized for its dense evergreen foliage. It may be trimmed as a hedge, but also serves as an excellent screen in its natural form. The Cherry-Laurel grows rapidly and has no pests. However, it may not be as cold hardy as other trees on this list.

CLEYERA (*Cleyera japonica*) - Height 8-10'; Spread 5-6'.

~~A slow-moderate growing evergreen shrub. Its new foliage is reddish in color, like the Photinia. However, unlike the Photinia, Cleyera is much more disease resistant and thus a better option. Prefers shade or partial shade, with moist, but well drained soil.~~

ENGLISH LAUREL (*Prunus laurocerasus*) - Height 10-12'; Spread 8-11'.

~~A large leaved, evergreen shrub with moderate growth. Prefers well drained soils. Grows best in sun or partial shade, but will survive in shade. Cold hardy. Makes an excellent evergreen screen.~~

FORTUNE TEA OLIVE (*Osmanthus fortunei*) Height: 9-12'; Spread: 5-7'.

This Osmanthus hybrid is a popular, though non-descript, shrub. With its vigorous growth, it will form an excellent screen or border. It is soil tolerant. The Fortune Tea Olive is most notable for its inconspicuous yet highly fragrant flowers.

LOBLOLLY BAY (*Gordonia lasianthus*) Height 30 to 60 feet; Spread 10 to 15 feet

Loblolly-bay is a small to medium-sized native, evergreen tree that grows on acid soils in flat woodlands or shallow depressions with little or no slope, slow runoff, and poor to very poor drainage. It has a narrow crown and straight trunk.

MAGNOLIA "LITTLE GEM" Height 15 to 30 feet; Spread 15 to 20 feet

'Little Gem' is a much smaller and slower growing Magnolia cultivar that typically grows as a compact upright multi-stemmed shrub or small tree. It features glossy green leaves (to 5" long) that are bronze-brown underneath. Fragrant white flowers (to 4" diameter) bloom in summer. It is effective as a screen, a small street tree or in containers.

RED BAY (*Persea borbonia*) Height: 15 to 40 feet; Spread 10 to 20 feet

Redbay is an attractive aromatic evergreen tree suitable for sites with partial to full sun and prefers drier soils. Birds and small mammals eat the fruit.

SAVANNAH HOLLY (Ilex X Attenuata ‘Savannah’) Height: 25 to 40’; Spread 8 to 12 feet

This holly grows quickly in full sun or partial shade on moist, acid soils. Plants in full sun can grow a dense canopy, those in partial shade are more open. Trees attract cedar waxwings, mockingbirds, robins and many other birds. This holly makes a fairly durable street tree. It is quite drought-tolerant once it becomes well-established. The crown grown with one central trunk is preferred, making it well-suited for urban areas having restricted vertical space. Savannah Holly has also performed well in sidewalk cutouts/small tree pits, in parking lots and median strip plantings and for screens.

SCHIPKA LAUREL (Prunus laurocerasus ‘schipkaensis’) - height 6-8’; spread 3-5’.

~~A cold hardy, broad leaved evergreen shrub. Prefers sun, but will grow in fairly shady conditions. Good winter color.~~

SOUTHERN WAX MYRTLE (Myrica cerifera) Height 40 feet; Spread 20 to 25 feet

Southern wax myrtle is an erect, shade tolerant, ornamental, evergreen, small tree or shrub. Its flat leaves are aromatic when crushed and may repel. Underground runners extend the growth laterally and root nodules are capable of atmospheric nitrogen fixation.

YAUPON HOLLY (Ilex vomitoria) Height: 5-15’; Spread: 6-12’.

This is another versatile Holly, slower growing than the Burford, but equally as adaptable to adverse conditions. It is a native shrub which has proven to be one of the most drought resistant of all Hollies. It may be clipped to maintain any desired height. The Yaupon Holly is very heavily fruited and will attract birds.

E-16 Assorted Plantings for Broken Screens (Amended 6/22/04)

The following is a sampling of shrubbery which would be appropriate in a Broken Screen. Because many of these plants are deciduous, they are not suitable for Opaque and Semi-Opaque Screens. (Note: Many of the evergreen shrubs described in planting lists E-14 and E-15 are also suitable for Broken Screens.)

AZALEAS (*Rhododendron calendulaceum* (Flame); *R. nudiflora* & *R. periclymenoides* (Pinxterbloom); *R. prunifolium* (Plumleaf)) Height 3 to 10 feet; Spread 4 to 8 feet.

These three azaleas are excellent naturalizing plants that do not require a lot of space. With great orange, pink, and red colors, these species attract hummingbirds and butterflies. Good for sites with full sun to part shade with medium moisture on well-drained soils with a southwest aspect.

BEAUTYBERRY (*Callicarpa americana*) - Height 6'.

Very colorful deciduous shrub with springtime flowers, followed by purple fruit which lasts into winter. Prefers full sun.

***BLUEBERRY (*Vaccinium ashei*) - Height 4-6'; Spread 3-5'.**

Also known as Rabbiteye blueberry, this is a heat tolerant, native shrub. White flowers in springtime followed by blue fruits that birds enjoy. Has a moderate growth rate. This shrub prefers well drained, acid soil.

~~*BORDER FORSYTHIA (*Forsythia intermedia*) Height: 8-10'; Spread: 7-10'.~~

~~Forsythias are well known shrubs which bloom bright yellow quite early in the Spring. There are two commonly available forms of this shrubs: the weeping *Forsythia suspensa* and the more upright *Forsythia intermedia*. The latter is preferred for screening purposes. With its graceful branches, the Border Forsythia presents a good deciduous foliage mass and should be given plenty of room to grow. It transplants easily and withstands poor growing conditions. It should be thinned occasionally to ensure vigorous growth.~~

BUTTON BUSH (*Cephalanthus occidentalis*) Height: 6 to 10 feet Spread: 6 to 10 feet

Buttonbush is a deciduous, warm-season, tall shrub or small tree that grows along swamps, marshes, bogs, ditches, and other riparian areas that are seasonally inundated for at least part of the year. Its base is often swollen, with green branches when young but turns brown at maturity. Tiny, white flowers occur in dense, spherical clusters at branch ends attract bees and butterflies with fruits arranged in a round cluster of brown, cone-shaped nutlets.

CAROLINA ALLSPICE OR SWEETSHRUB (*Calycanthus floridus*) - Height 6-9'; Spread 5-8'.

This is a deciduous shrub native to the Southeast. Fragrant, maroon flowers appear in late Spring. Takes sun or shade.

CAROLINA ROSE (*Rosa carolina*) Height 3 to 6 feet Spread: 5 to 10 feet

Best grown in average, medium-wet to wet, well-drained soil in full sun. Fragrant, showy flowers attract birds and butterflies, but this plant does have thorns.

CLETHRA (Clethra alnifolia) - Height 10'.

Another native of the Eastern United States, Clethra has fragrant white flowers in late Summer. Grows well in acid soils. Full sun, however in the Piedmont it would do best with some shade. Varieties are available with pink flowers.

COMMON WITCH HAZEL (Hamamelis virginiana) Height: 8-15'; Spread 7-14'.

This shrub is a larger version of Vernal Witch Hazel with many of the same qualities. It is another native woodland plant which has adapted well to landscaping uses. The Common Witch Hazel is recommended for shady areas, but when planted in the sun it grows to be a splendid well rounded specimen. It is especially useful in large areas.

DROOPING LEUCOTHOE (Leucothoe fontanesiana) Height: 3-4'; Spread: 4-6'.

Drooping Leucothoe is a moundlike shrub which is good for planting in front of and between other flora and beneath trees. It is hardy in city conditions and gives a natural effect when planted along borders. This native evergreen is graceful and attractive in all seasons. It is easy to transplant but requires a heavy mulch and should be provided with at least partial shade. Old branches should be pruned occasionally to stimulate new growth.

EUONYMUS AMERICANA (Hearts-a-Burstin; Strawberry Bush) Height: 3-5'; Spread: 4-6'

Strawberry Bush is a native deciduous shrub with leaves that are opposite with finely toothed margins. The bark is green, but does split and become darker as the tree ages. In early summer, small, 5-petaled, greenish purple flowers mature. The shrub produces 4-lobed capsules which when opened reveal an orange-red, warty seed.

FRINGETREE (Chioanthus virginicus) Height: 10-30'; Spread: 8-10'.

The Fringetree is known for its profusion of beautiful flowers. It is considered to be one of the most striking native American shrubs. It is relatively difficult to transplant, but once established it does well in cities as it endures heavy smoke and dust. The mature Fringetree's only drawback is that its leaves appear rather late in the Spring.

HIGHBUSH BLUEBERRY (Vaccinium Corymbosum) Height: 8-15'; Spread: 8-12'

Highbush Blueberry is a deciduous shrub with alternate leaves with a smooth or toothed margin and fuzzy underside. The bark is gray-brown to reddish brown and very shreddy. In early spring, small, white, bell-shaped flowers mature in clusters. The shrub produces a dark blue berry that matures in mid to late summer. It is a host plant for the Brown Elfin butterfly. Fruits are eaten by a variety of birds and mammals, including humans.

INKBERRY (Ilex Glabra) Height: 5-10'; Spread: 4-8'

Inkberry is an evergreen shrub with alternate leaves with a smooth or toothed margin. The bark is greenish brown and smooth. In early summer, small greenish white flowers mature. The shrub produces a black drupe that matures in the fall. It is a host plant for the Henry's Elfin butterfly. Fruits are eaten by birds and small mammals.

JAPANESE BARBERRY (*Berberis thunbergii*) Height: 3-5'; Spread: 3-5'.

~~This extremely common deciduous shrub is considered to be one of the toughest members of the Barberry family. It survives drought, poor soils, exposures, and the worst city conditions. With its many thorns, the Japanese Barberry is often used as an impenetrable barrier, but it is attractive enough to stand alone as a specimen plant. It requires no special maintenance and, when planted singularly, needs no pruning.~~

JAPANESE FLOWERING APRICOT (*Prunus mume*) - Height 15' (tree).

~~Deciduous tree with small, but profuse flowers that have a spicy fragrance. Blooms in February or March. Varieties are available with pink, red, or white flowers. Prefers full sun or partial shade.~~

OAKLEAF HYDRANGEA (*Hydrangea quercifolia*) - Height 4-6'; Spread 3-5'.

Deciduous shrub with large, white flower clusters during the Summer. Colorful crimson foliage in Fall. Makes an excellent specimen plant.

SMOKETREE (*Cotinus coggygria*) - Height 10-15'; Spread 8-14'.

Large shrub or small deciduous tree with attractive round leaves. Colorful lavender panicles appear in Summer. Prefers well drained soil, but otherwise does well in poor soils. Full sun is best for this shrub.

SPICEBUSH (*Lindera benzoin*) - Height 6-10'; Spread 4-8'.

Spicebush is a deciduous shrub with alternate leaves with a smooth margin that produce a spicy odor when crushed. The bark is brown to gray-brown and speckled with light colored lenticels. In early spring, small, yellow flowers mature in axillary clusters. The shrub produces a bright red drupe with a peppery taste and scent. The fruit matures in the fall. It is a host plant for the Spicebush Swallowtail butterfly. Fruits are eaten by songbirds, especially during fall migration.

STAR MAGNOLIA (*Magnolia stellata*) Height: 10-12'; Spread: 8-10'.

This handsome specimen shrub is considered to be the hardiest of all the Magnolias. It forms a broad, rounded mass. It becomes tree-like with age but continues to branch to the ground. Early in the spring, it produces numerous fragrant white flowers. The Star Magnolia should not be planted adjacent to shallow rooting trees. It should be allowed plenty of sun.

SUMAC (*Rhus copallina* (Shining); *R. glabra* (Smooth) *R. typhina* (Staghorn)) Height 7 to 40 feet; Spread 9 to 20 feet

These species are perennial, deciduous, sun-loving, thicket-forming shrubs or small trees with branches that tend to be fairly sparse and stout. Sumac does well on dry to medium moisture sites. The tart fruits are eaten by birds and are very tart in taste. These species provide good fall color.

****** SWAMP WHITE OAK (*Quercus bicolor*) Height: 50 to 60 feet; Spread: 50 to 60 feet**

Swamp white oak is a medium sized tree with an irregular crown suitable to river bottomlands, depressions, swamp borders, and along edges of streams. It is rapid growing and long lived, reaching 300 to 350 years. Many kinds of wildlife eat the acorns, particularly ducks. Swamp white oak is intermediate in shade tolerance but not very drought tolerant.

VERNAL WITCH HAZEL (*Hamamelis vernalis*) Height: 4-6'; Spread: 2- 3'.

This rapidly growing native shrub is excellent for bordering and naturalizing. It assumes a dense, upright form, thriving in even the most polluted air. Other than plenty of watering, the Vernal Witch Hazel requires no special maintenance.

******Viburnum (*Viburnum prunifolium*; *V. dentatum*) Height: 12 to 15 feet; Spread: 8 to 12 feet**

Black Haw is a small tree with twisted trunk and arching branches with an overall round crown appearance. Does best on partially sunny sites on moist, well-drained soils.

E-17 List of Invasive Plant Species (AMENDED 6/22/04; 6/22/10)

Invasive plant species identified by the North Carolina Native Plant Society are prohibited from planting for all plantings to comply with Article XIX.

~~—The following plant species shall be prohibited when complying with the shading and screening provisions of this chapter and shall not be shown on any plans submitted in support of a Land Use Permit application. Further information on invasive pest plants that applicants may wish to avoid may be found on the website for the North Carolina Native Plant Society.—~~

Plant Type: A=Aquatic, H=Herbaceous, W=Woody Plant

Species (Latin)	Common Name	Type
Ailanthus altissima	Tree of Heaven	W
Albizia julibrissin	Mimosa	W
Alliaria petiolata	Garlic Mustard	W
Celastris orbiculatus	Asian Bittersweet	W
Eleagnus angustifolia	Russian Olive	W
Eleagnus umbellata	Autumn Olive	W
Hedera helix	English Ivy	W
Hydrilla verticillata	Hydrilla	A
Lespedeza bicolor	Bicolor Lespedeza	W
Lespedeza cuneata	Sericea Lespedeza	H
Ligustrum sinense	Chinese privet	W
Lonicera fragrantissima	Bush Honeysuckle	W
Lonicera japonica	Japanese Honeysuckle	W
Microstegium vimineum	Japanese Stilt grass	H
Murdannia keisak	Asian Spiderwort	H
Myriophyllum aquaticum	Parrotfeather	A
Paulownia tomentosa	Princesstree	W
Phragmites australis	Common Reed	H
Polygonum cuspidatum	Japanese Knotweed	H
Pueraria montana	Kudzu	H
Rosa multiflora	Multiflora Rose	W
Salvinia molesta	Aquarium water moss	A
Wisteria sinensis	Chinese wisteria	W



TOWN OF CARRBORO

Planning Board

301 West Main Street, Carrboro, North Carolina 27510

R E C O M M E N D A T I O N

THURSDAY, DECEMBER 7, 2017

LAND USE ORDINANCE TEXT AMENDMENT RELATING TO TREE PROTECTION, SHADING AND CANOPY REQUIREMENTS

Motion was made by Whittemore and seconded by Rosser that the Planning Board recommends that the Board of Aldermen approve the draft ordinance.

The Planning Board would welcome an expansion of the options for infill lots to include other methods of greening, such as: vines and other trailing plants, green roofs, or vertical plantings. We also recommend that a clear definition of "infill lot" be included or referenced.

VOTE:

AYES: (8) Adamson, Clinton, Foushee, Gaylord-Miles, Poulton, Rosser, Tiemann, Whittemore

NOES: (0)

ABSTENTIONS: (0)

ABSENT/EXCUSED: (1) Rivera

Associated Findings

By a unanimous show of hands, the Planning Board membership also indicated that no members have any financial interests that would pose a conflict of interest to the adoption of this amendment.

Motion was made by Tiemann and seconded by Poulton that the Planning Board of the Town of Carrboro finds the proposed text amendment, is consistent with adopted plans and policies, such as the following provisions in *Carrboro Vision 2020* and reference to downtown identity in *Downtown Carrboro New Vision*:

2.23 The town encourages the planting of native plant species, as well as non-native species that are not invasive. Removal of invasive species is encouraged.

2.43 Carrboro should plan and encourage the growth of tree canopies over roads to mitigate the heat and smog effect caused by superheated pavement. Carrboro should strongly encourage the electric utilities to put their lines underground to allow for full canopy coverage.

3.21 The town should develop a plan to govern the continuing development of downtown. Toward this end, the town should adopt the following goals:

- To double commercial square footage in the downtown from that existing in the year 2000. Attachment G- 2
- To accommodate additional square footage by building up, not out.
- To increase the density of commercial property in the downtown area.
- To improve the downtown infrastructure (e.g. parking facilities, sidewalks, lighting, tree shading) to meet the needs of the community.
- To develop transit and traffic initiatives which enhance the viability of downtown.

Downtown Identity – The Town should develop and adhere consistently to a streetscape and landscape master plan that establishes a planting scheme, etc.

Furthermore, the Planning Board of the Town of Carrboro finds that the proposed text amendment is reasonable and in the public interest because of the benefits that trees, shrubs and other plants provide to the community such as, providing oxygen and improving air quality, reducing heat island effect, maintaining the hydrologic cycle, providing pollen and nectar for pollinators and contributing to the vitality and character of the Town making it a more aesthetic and emotionally satisfying place in which to live, work and spend leisure time.

VOTE:

AYES: (8) Adamson, Clinton, Foushee, Gaylord-Miles, Poulton, Rosser, Tiemann, Whittemore

NOES: (0)

ABSTENTIONS: (0)

ABSENT/EXCUSED: (1) Rivera

Ralph F. Whittemore 1/19/18
(Chair) (Date)

ORANGE COUNTY PLANNING & INSPECTIONS DEPARTMENT

Craig N. Benedict, AICP, Director

Administration
(919) 245-2575
(919) 644-3002 (FAX)
www.orangecountync.gov



131 W. Margaret Lane
P O Box 8181
Hillsborough,
North Carolina, 27278



TRANSMITTAL DELIVERED VIA EMAIL

January 3, 2018

Christina Moon, AICP
Planning Administrator
Town of Carrboro
301 W. Main St.
Carrboro, NC 27510

SUBJECT: Joint Planning Review of Proposed Ordinance Amendments

Dear Tina:

Thank you for the opportunity to review the following Land Use Ordinance amendments received by us December 19, 2017 and proposed for town public hearing on January 23, 2018:

- *An Ordinance Amending Town of Carrboro Land Use Ordinance Provisions Relating to Tree Protection, Shading and Canopy Requirements.*
- *An Ordinance to Amend the Town of Carrboro's Land Use Ordinance to Comply with New Statutory Requirements for Zoning Consistency Statements.*

We have reviewed the amendments and find no inconsistency with the adopted *Joint Planning Area Land Use Plan*.

If you have any questions or need additional information, please let me know.

Sincerely,

A handwritten signature in cursive script that reads "Perdita Holtz".

Perdita Holtz, AICP
Planning Systems Coordinator



Legislation Details (With Text)

File #: 17-388 **Version:** 1 **Name:**
Type: Agendas **Status:** Agenda Ready
File created: 1/12/2018 **In control:** Board of Aldermen
On agenda: 1/23/2018 **Final action:**
Title: Request to Authorize Manager to Enter into a Contract with Axia Creative for a Wayfinding Program.
PURPOSE: The purpose of this item is for the Board to consider entering into a contract for wayfinding graphic design and professional services.

Indexes:

Code sections:

Attachments: [Attachment 1 - Existing Sign Inventory](#)
[Attachment 2 - Axia RFQ Response](#)
[Attachment 3 - Detailed Scope of Work](#)

Date	Ver.	Action By	Action	Result
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TITLE:

Request to Authorize Manager to Enter into a Contract with Axia Creative for a Wayfinding Program.

PURPOSE: The purpose of this item is for the Board to consider entering into a contract for wayfinding graphic design and professional services.

DEPARTMENT: Economic and Community Development

CONTACT INFORMATION: Annette Lafferty, ECD Director alafferty@townofcarrboro.org
<<mailto:alafferty@townofcarrboro.org>> (919) 918-7319

INFORMATION: The Board directed staff to move forward with the implementation of the Parking Study recommendation to develop a wayfinding system that directs visitors to the downtown and available parking. VHB Consultants have begun the process of creating an inventory of existing signage (Attachment 1).

Staff developed an RFQ to hire a qualified consulting firm to assist with graphic design and professional services for the development of a comprehensive wayfinding system. The RFQ outlined the following scope of work;

- **Design:** In a workshop format, meet with town advisory board members up discuss and explore 1- Overall Design, 2- Destinations, 3- Messaging and 4- Cost options. Prepare detailed designs for select sign types such as: A -Main Thoroughfare Wayfinding, B -Downtown Pedestrian Oriented Signage C- Parking lot signage D - Visitor Information Kiosk. Present three design concepts for workshop discussion, refine designs for group review. Present designs to Board of Aldermen for final approval and develop final designs into a wayfinding guidebook complete with detailed working drawings and installation specifications and maps to be used in final bidding documents.

- **Mapping:** Design work includes analyzing existing traffic patterns and means of accessing downtown, parking lots, and expected future land use patterns/projects. Any additional map corridors that should include signage. Work with advisory group to identify and locate civic and cultural destinations, points of interest and parking opportunities.
- **Messaging:** Review key destinations and develop a destination list including recommended terminology for primary and secondary destinations. Develop a hierarchy of information, determine what sign types and wayfinding elements will be needed. Develop the preliminary wayfinding logic.
- **NCDOT Approval:** Format final designs into a complete document with detailed working drawings and installation specifications and maps based on guidelines from NCDOT. Meet with Town of Carrboro staff and NCDOT staff to review project scope and develop a line of communication with selected NCDOT engineers. Assist Town staff with NCDOT encroachment agreements and standard NCDOT forms.
- **Bid Process:** Assist in advertisement for bids and distribution of project documents. Respond to project related technical inquiries. Prepare and distribute Addenda, if required. Conduct pre-bid conference and bid opening. Tabulate bids, review and evaluate bids and bidder qualification submittals. Work with town staff as needed to negotiate bids and award contract.

A selection committee reviewed the seven (7) responses from vendors for the Town's RFQ. The committee included town staff and a representative of the Arts Committee, TDA and ESC. The committee is recommending AXIA Creative, (Attachment 2) please note the examples of previous projects. AXIA was selected based on the following criteria 1) brand awareness, 2) process including public input, 3) timeframes for implementation, and 4) quality of work, uniqueness, and stylistic approach.

Staff has worked with the consultant to negotiate a more detailed scope of work including dates for meetings with the Joint Advisory Boards and a public workshop (Attachment 3) and price for services of \$52,600.

FISCAL & STAFF IMPACT: The TDA has agreed to reimburse the Town for the cost of developing the wayfinding program up to \$53,000. A budget ordinance was passed during the 1/16/18 Board of Aldermen meeting. Staff time and resources will be absorbed within department budgets.

RECOMMENDATION: Staff recommends the Board consider directing the Town Manager to enter into a contract with Axia, Creative in the amount of \$52,600.

Carrboro Downtown Vehicular Wayfinding – Existing Sign Inventory
Sign Number corresponds to Sign ID Map



Carrboro Downtown Vehicular Wayfinding – Existing Sign Inventory
Sign Number corresponds to Sign ID Map



10



11



12



13



14



15



16



17



18

Carrboro Downtown Vehicular Wayfinding – Existing Sign Inventory
Sign Number corresponds to Sign ID Map



Carrboro Downtown Vehicular Wayfinding – Existing Sign Inventory
Sign Number corresponds to Sign ID Map



28



29



30



31



32



33



34



35



36

Carrboro Downtown Vehicular Wayfinding – Existing Sign Inventory
Sign Number corresponds to Sign ID Map



37



38



39



40



41



42



43



44



45

Carrboro Downtown Vehicular Wayfinding – Existing Sign Inventory
Sign Number corresponds to Sign ID Map



46



47



48



49



50



51



52

- Signs 1-52 are located within or near Downtown Carrboro

- Signs 101-114 are located beyond Downtown Carrboro

Carrboro Downtown Vehicular Wayfinding – Existing Sign Inventory
Sign Number corresponds to Sign ID Map



101



102



103



104



105



106



107

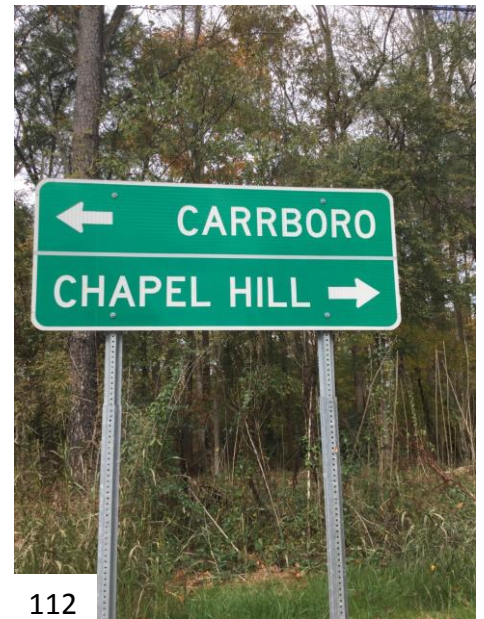


108



109

Carrboro Downtown Vehicular Wayfinding – Existing Sign Inventory
Sign Number corresponds to Sign ID Map





It's

Qualifications Submittal for Graphic
Design and Professional Services for the
Town of Carrboro Wayfinding Program



A X I A

Annette Lafferty, Town of Carrboro
301 W. Main Street.
Carrboro, NC 27510

December 1, 2017

Dear Annette,

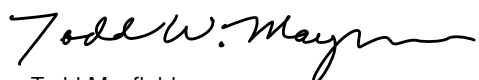
We are pleased to submit our qualifications submittal for graphic design and professional services for the Town of Carrboro wayfinding program. As an award winning company totally vested in the art and science of place branding and wayfinding, we are confident of our ability to provide solutions that will meet or exceed your expectations.

Axia is a US based firm specializing in both branding and wayfinding for cities, towns and regions throughout the US, Canada and the Caribbean. We maintain strong working relationships with several tourism marketing experts including Roger Brooks International, Total Destination Marketing and Great Destination Strategies. For over a decade, we have provided branding support and full wayfinding solutions for their clients.

We have itemized our scope, and summarized our understanding of the task at hand. You will see several examples of city wayfinding programs. Additionally, we have included online links to project materials and other resources for your consideration. This electronic document includes live links to online resources.

We thank you for this opportunity and hope that we will be able to work with you and your team.

Sincerely,

A handwritten signature in black ink that reads "Todd W. Mayfield".

Todd Mayfield,
Principal and Group Creative Director
Axia Creative, Inc.

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Overview

We have read and understand the requirements of this RFQ and the Town of Carrboro's's wayfinding objectives. We have reviewed the wayfinding inventory map, the Downtown Parking Plan and the Brand Guidelines. This qualifications submittal demonstrates our experience and specialized understanding of community wayfinding programs and how best to support the "Feel Free" brand.

About Axia

Axia Creative is an award-winning visual communications company specializing in wayfinding, branding and graphic design services for destinations and tourism organizations.

The company was established in Georgia in 2003. In 2004, Axia moved its main office to Wellington, Florida. In 2014, our Calgary office was opened to better serve our growing Canadian market.

Axia is organized into project teams led by managing professionals who oversee junior staff and freelance talent. Each team is assembled for specific regional assignments. As our client demographic has broadened over the last 8 years, we reorganized our corporate structure to a predominantly virtual office to help us respond more efficiently to international projects. We engage with regional talent who are in close proximity to project sites which mitigates travel costs and allows us to have a more frequent on-site presence.

As mentioned in our cover letter, we have several long-standing relationships with tourism and destination development companies. We partner with these specialized consultants and others on projects that require specific skill sets such as brand strategy, wayfinding programs, product development, market analysis, interpretive writing, website development, urban planning, interior design and architectural services.

Axia demonstrates a unique set of skills that are combined to provide highly successful branded wayfinding solutions. We are fully qualified to execute all of your scope requirements with a high level of creativity and methodical approach.

Our understanding of strategic branding combined with our extensive experience in destination wayfinding sets us apart from many creative firms. Axia is an industry leader in the development of wayfinding programs that effectively support brands and enhance the place experiences. We have an intuitive ability to collect the necessary information about a community, understand its culture and become intimately connected with its makeup in order to create a wayfinding system that is uniquely tailored to their specific character and needs.

The following are several important benefits for the Town of Carrboro in working with Axia:

Overview, continued

- ***Place-making and community branded wayfinding are our core disciplines*** . We understand how visitors think and what they expect in a destination experience.
- ***Axia is well-versed in the M.U.T.C.D. which is the guiding manual for the USDOT***. Axia has worked with many state DOT agencies throughout the US and understands the importance of DOT signage compliance requirements. We will reach out to NCDOT early in the process to ensure your program is fully compliant.
- ***The Axia team is one of the most diverse and capable design groups in the US***. Our design acumen and appetite for innovation enables us to approach and execute any design challenge presented to us. In support of our unique branded wayfinding programs, we provide a comprehensive graphic design experience. Our versatility in several creative mediums gives us a holistic approach to design.
- ***We are experienced in gaining public consensus***. We tailor public workshops, stakeholder interviews and presentations to be informative and inclusively collaborative. We find that before a design is fully developed, it is important to facilitate controlled public interaction. We present the goals of the wayfinding initiative, the benefits of it and very importantly, the principals of effective design and regulatory constraints. Once these are communicated, we invite input and ideas.
- ***We are at the cutting edge of technology and fabrication techniques***. We update our computer hardware every few years to maximise the latest design software updates. We continue to learn about improved fabrication techniques and materials. Our goal is to specify techniques and materials that are durable, require minimal maintenance and, where possible, incorporate green products and principals.
- ***We have developed community programs of all sizes***. We have developed programs for small towns with a population of 7,000 residents to large cities with a population of 127,000. Our work has included quaint downtown centers to large counties and regions.
- ***Our company is financially secure and sound***. Since 2003, Axia has been busy with work. Our good reputation and standing in the design community has rewarded us with a steady project load. Our work-hard attitude and love for our craft has secured our position as a solvent business with a long future. You can count on us to be there for you for the life of the project and well beyond.

Team Profiles

Todd Mayfield – Principal and Group Creative Director

Having over 33 years of experience in visual communications including wayfinding, brand development, advertising and print graphics, Todd has earned numerous awards for design excellence and profound respect among his constituents. He is also an accomplished fine artist, illustrator and published author.



Todd's long career in commercial design started as a young boy running errands in his father's advertising agency in Honolulu. Todd quickly rose from an apprentice graphic designer to creative director for large creative firms from Hawaii to Washington DC.

His work has been featured in national publications and books such as Print Magazine, Signs of the Times and American Corporate Identity. He was featured in an online interview by the European-based Placebrand Observer and now serves on their expert panel. In early 2016, Todd published his book: "Branded Wayfinding for Destinations" which is currently being sold through Lulu.com and Amazon.

Prior to opening Axia Creative, Todd was the Creative Director for Nth Degree in Georgia where he provided design direction for large events and trade shows. While there, he designed audience acquisition campaigns and event graphics for high-profile companies such as Qualcomm, Intel, Kyocera, Hot Jobs, Mohawk and Pfizer.

Previously, he served as the Design Director for the Douglas Group in Washington, DC where he headed branding, wayfinding and interpretive projects for clients such as the US Capitol (DC), the US National Arboretum (DC), the City of Rockville (MD), the Ronald Reagan Building (DC), Marriott Hotels and Ritz-Carlton.

In Chicago, Todd was a senior designer for Ambrosi & Associates. His projects included in-store and point-of-sale graphics for Sears, Jacobsons, Walgreens and Herbingers. He also provided brand development and wayfinding for retail malls owned by General Growth Properties.

In Hawaii, Mr. Mayfield worked for a large international architectural and interior design firm called Media Five, Ltd. He was the lead designer for their graphic design team that specialized in creative services for the hospitality industry. His projects included branding and wayfinding for large hotels, resorts and communities such as the historic Royal Hawaiian Hotel in Waikiki, the Kapalua Beach Hotel on Maui and the Kapolei residential development on Oahu.

Team Profiles, continued

Marilyn Mayfield – Principal and CFO

Marilyn is a co-founder of Aixa, She manages and provides financial direction for all Aixa business activity. As collaborating partner, she participates in Aixa's business development strategies and advises on marketing outreach efforts.

She has a strong background in accounting and personnel management for companies such as Sony Music in New York where she served eight years as Accounting Manager. There, she interfaced with vendors, talent and upper management.

In Atlanta, she was an accountant for Coca-Cola's Legal Division in the Atlanta Office Complex. She graduated from Columbia University of New York with honors.



Stephen Sinclair - Principal & Group Program Director

Stephen has a 30-year history of implementing successful design programs in both the U.S. and Canada. He studied formally at the Alberta College of Art + Design and began his professional career in Calgary, Alberta as a graphic artist in 1980 to working his way forward to design director for a national firm in the 90s. Having gained 2 decades of industry experience Stephen founded his own communications design firm in 1999.



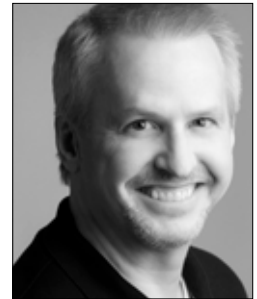
Since that time he has enjoyed a reputation for creating stand-out ideas that deliver tangible results. Stephen works in partnership with clients to identify their business challenges and develops design strategies that advance the creative direction of their brands. His ability to innovate and deliver outstanding results is why he is a valued principal of Aixa Creative. Stephen is an active member of The Society for Experiential Graphic Design (sedg.org)

Stephen has been instrumental in defining and building brand personalities for a wide variety of organizations, recent completed work include; a national identity program for CBC/ Radio Canada's broadcast bureaus across Canada, a branded wayfinding program for the City of Leduc, Alberta, a wayfinding master plan for the Parksville Downtown Business Association, British Columbia, a branded identity program for First Calgary Financial's 16 branches, and a corporate brand identity and wayfinding program for TCU Place, Saskatoon's Arts and Convention Centre.

Team Profiles, continued

Michael Haug – Senior Project Designer

Mike is an experiential graphic designer with a strong portfolio of branded environments, “experience” design, signage and wayfinding projects. Over the last 25 years, he has worked on almost every type of environmental graphics project from municipal wayfinding plans and site signage to donor recognition, display and event graphics to sign systems for office buildings, hospitals and clinics.



He’s had the privilege of working on a number of important cultural projects including the Minneapolis Institute of Arts, the Guthrie Theater, Minneapolis Central Library, Musical Instrument Museum, Minnesota Zoo, TCF Bank Stadium and Orchestra Hall. His most recent experience is managing the wayfinding program for the City of Topeka Kansas and the City of Luverne Minnesota.

His ability to create solutions that both compliment the architecture and meet client needs is a testament to his collaborative style. Mike has a strong background in branding and graphic design and understands how to infuse a company’s brand into the environment to create a memorable experience.

Lara Sawczak – Graphic Designer and Production Manager

Lara provides graphic design support and coordinates production for Axia. She produces fabrication production templates and map artwork for information kiosks. She also produces and expedites signage standards manuals and assists other designers with documentation. She contributes concepts for wayfinding signage and interpretive graphics.



She has extensive schooling and two degrees in graphic design. She earned a Bachelor of Arts Degree in Graphic Design, while at Middlesex University, London, England. She attended Central Saint Martins School of Art, in London, England where she earned a Certificate of Graphic Design.

Experience

Since 2003, Axia, along with our strategic partners, have been providing a great product – Creativity. It is at the center of everything we do. Whether you call it “thinking out of the box”, “taking one step beyond” or simply “dancing on the edge of reality” it all adds up to one thing – Success. When we engage with a client, we aim for a long-term relationship. The following is a partial list of our municipal and destination clients:

Partial Destination Client List

- The Town of Canmore, AB
- The City of Leduc, AB
- The City of St. Albert, AB
- Vulcan County, AB
- Inside Passage, AK
- The City of Sitka, AK
- The Town of Foley, AL
- The City of Gulf Shores, AL
- The City of El Dorado, AR
- The City of Sedona, AZ
- Parksville Downtown, BC
- The City of Fullerton, CA
- The City of Oxnard, CA
- The City of Pittsburg, CA
- Russian River, CA
- Downtown Stockton, CA
- U.S. Capitol Campus, D.C.
- The City of Margate, FL
- The City of Wilton Manors, FL
- The City of Burlington, IA
- The City of Fairfield, IA
- The City of Topeka, KS
- Terrebonne Parish, LA
- Moosehead Lake, ME
- The City of Luverne, MN
- The City of Mankato, MN
- Downtown Great Falls, MT
- The Town of Kalispell, MT
- The Town of White River, MT
- Granville County, NC
- The City of Rapid City, ND
- Coos County, NH
- Hudson County, NJ
- The City of Barrie, ON
- The Town of Bracebridge, ON
- The Town of Kenora, ON
- Vermillion, ON
- Tillamook Coast, OR
- The City of Gatlinburg, TN
- The City of Bothell, WA
- The Town of Enumclaw, WA
- The City of Monroe, WA
- The City of Moses Lake, WA
- The City of Snoqualmie, WA
- The City of Tukwila, WA
- The City of Janesville, WI
- The Town of Green River, WY
- The City of Rock Springs, WY

Key destination wayfinding project examples are presented on the following pages. Additional project examples may be viewed online at axiacreative.com



District gateway for Leduc, Alberta

CITY OF GULF SHORES

Alabama

Branding, Wayfinding
and Print

Following a comprehensive branding initiative, a regional wayfinding program was designed for the City of Gulf Shores.

The wayfinding system included city and district gateways, vehicular and pedestrian guides, beach access identities, information kiosks, regulatory signage, street banners, street and intersection identity signs, facility identities and digital message displays.

Gulf Shores represents an on-going relationship of ours that has rendered several branding and wayfinding assignments beyond the original contract.

Scope:

Branding

Wayfinding

Site Assessment

Stakeholder Interviews

Public Workshop

Concept Generation

Design Development

Wayfinding Strategy (Plan)

Bid Documentation

Production Oversight

Reference on page 36



TOWN OF CANMORE

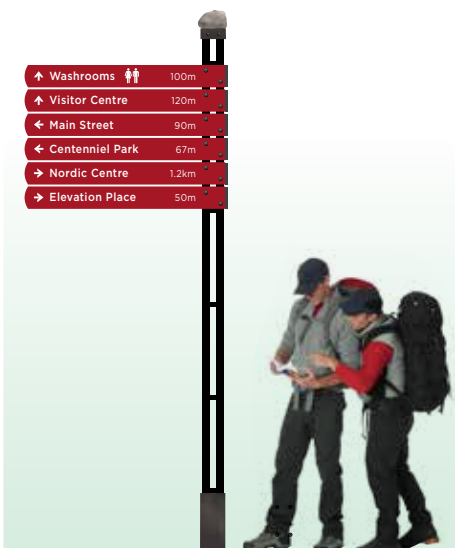
Alberta, Canada

Wayfinding and Print

Axia designed a wayfinding system to support a new brand for the Town of Canmore in Alberta. The project included primary, secondary and district gateways, vehicular and pedestrian guides, bike and hiker trailblazers, parking guide and identity signs, regulatory signs, pedestrian directory maps, bike fix-it stations, identity monuments for the Rocky Mountain Legacy Trail and temporary event signage.

Scope:

Site Assessment
Stakeholder Interviews
Public Workshop
Concept Generation
Design Development
Wayfinding Strategy (Plan)
Bid Documentation



RUSSIAN RIVER

California

Branding & Wayfinding

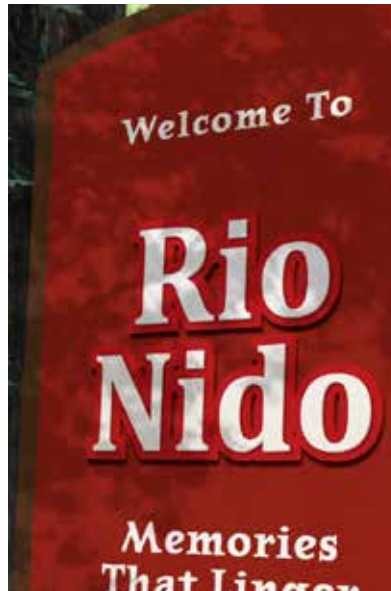
Axia and their strategic partner, Great Destination Strategies developed a regional brand and wayfinding system for the Russian River Resort Area which included the towns of Guerneville, Monte Rio and Rio Nido.

The wayfinding program included regional, town and hamlet gateways, vehicular and pedestrian guides, information kiosks, park and facility identities, street banners, riverside trailblazers for kayakers and regulatory signage.

Scope:

Site Assessment
Stakeholder Interviews
Public Workshop
Concept Generation
Design Development
Wayfinding Strategy (Plan)
Bid Documentation

Reference on page 36



CITY OF LEDUC

Alberta, Canada

Wayfinding and Interpretive

Leduc is located just south from the Edmonton International Airport in Alberta. Axia was commissioned to design a brand-supportive wayfinding system for city. The system included regional and district gateways, vehicular and pedestrian guides, destination pageantry, information kiosks with interpretive graphics, street identity signs and trailblazers for Leduc's Multiway multi-mode trail system.

Scope:

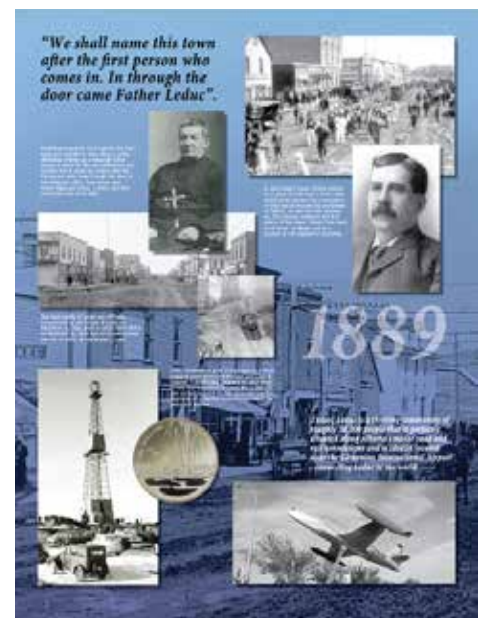
Wayfinding

Site Assessment
Stakeholder Interviews
Public Workshop
Concept Generation
Design Development
Wayfinding Strategy (Plan)
Bid Documentation

Map Development

Interpretive Graphics

Reference on page 36



TERREBONNE PARISH

Louisiana

Branding & Wayfinding

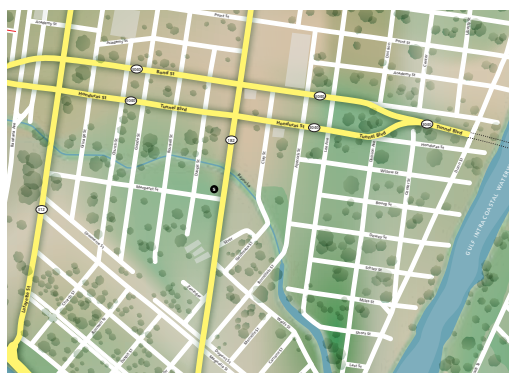
Axia worked with Great Destination Strategies, Total Destination Marketing and The Graham Group to brand Terrebonne Parish. The brand rendered a tagline, parish identity and various visual communications.

A regional wayfinding program was developed for Houma and smaller communities throughout Terrebonne Parish. The system included parish, community and district gateways, vehicular and pedestrian guides, information kiosk/maps, street banners, bayou bridge identity signs and regulatory signs.

Scope:

Site Assessment
Stakeholder Interviews
Public Workshop
Concept Generation
Design Development
Wayfinding Strategy (Plan)
Bid Documentation

Reference on page 36



MUSICAL INSTRUMENT MUSEUM

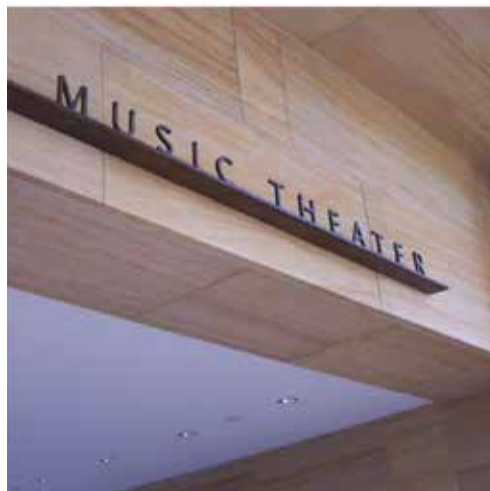
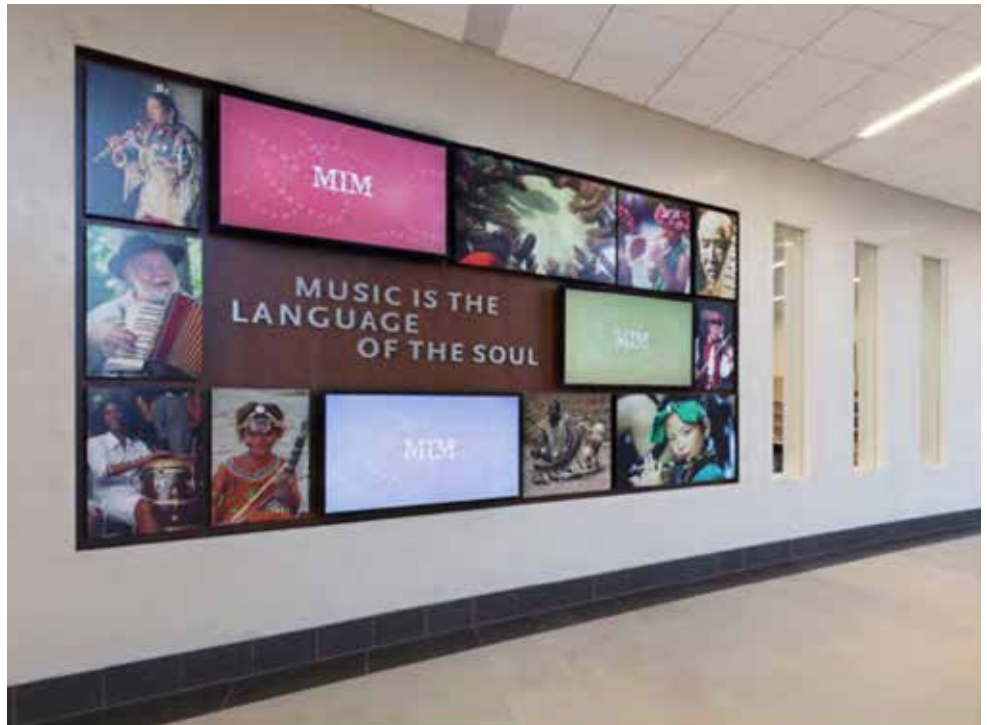
Phoenix, Arizona

Identity and Wayfinding

The Musical Instrument Museum is a project in Phoenix developed by Mike Haug. It included an incredible collection of instruments from around the world and throughout history. All exterior and interior building signage was designed to compliment the architecture, yet allow for flexibility as collections and destinations would invariably change.

A combination of digital and static images welcome visitors at the main entrance and set the tone for the experience. Digital signage also allows for special event information and updates. Working with RSP Architects, the materials such as aged bronze, dark wood and brushed aluminum, were chosen to integrate and compliment architectural elements.

Reference on page 36



TCF BANK STADIUM

Minneapolis, Minnesota

Identity, Wayfinding
and Interpretive

The goal for the new football stadium on the University of Minnesota campus was to enhance the game-day experience for loyal Gopher fans. The bold maroon and gold palette and large historical photos added color, energy and a sense of history to the largely monochromatic concourse.

Working with Populous and Architectural Alliance, We created the schematic design, managed the project through design development, fabrication and installation. The project encompassed everything from exterior building and site signage, stadium bowl and concourse signs, specialty graphics, donor recognition, recruiting displays, locker room graphics, room signs and directional signs.



CALGARY STAMPEDE INDIAN VILLAGE

Calgary, Alberta, Canada

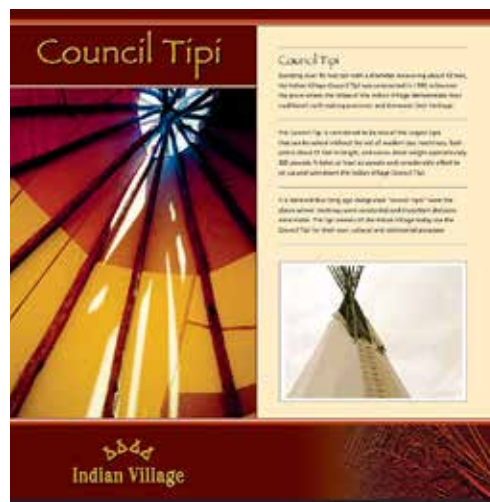
Brand Identity and Interpretive

The Indian Village has been a major part of the Calgary Stampede since the inception in 1912.

We were given the task to research and design a series of interpretive displays that both educate and respect First Nations traditions and culture.

Guiding visitors through the village, uniquely designed displays feature the tribes of Treaty 7, and describe traditional native activities you will experience at Indian Village.

The deliverables included Logo, brand development and guidelines. Research design and implementation of interpretive displays and exterior event identification, specifications and project oversight.



Project Approach

Our approach to developing and managing successful branded wayfinding projects has evolved over 30 years. Our process wire frame is based on the architectural model for project management, enhanced with professional practices developed by SEG D (Society for Experiential Graphic Design). With each project we complete, we learn new things that we can apply to the next project. Although we adhere to a proven methodology, we remain open to fresh ideas and new ways to solve old problems.

The following outline demonstrates our recommended approach for Carrboro's program, which may be modified upon contract negotiation:

Step 1: Project Area Analysis

- Review all available documentation about the Town of Carrboro, the "Feel Free" brand, applicable regulations, land use bylaws, and existing master plans.
- Conduct a addition study of online information about the community and explore the Carrboro area Google map.
- Create detailed version of the project timeline.
- Hold a pre-visit teleconference to confirm site visit objectives, stakeholder meetings and area reconnaissance.
- Discuss and identify key stakeholders and user groups to be interviewed during the first site visit.
- Site Visit 1 (estimated 4 days)
 - **Day 1**

Hold a project kick-off meeting with the Carrboro staff.

Members from the Carrboro staff will take Axia representatives on a guided tour of the project area.

Conduct 1st round of stakeholder interviews.
 - **Day 2**

The Axia Team will explore the project area on their own. This is the first of two field surveys during this initial visit to Carrboro. The survey objectives are to:

 - Confirm and understand destinations.
 - Confirm vehicular routes and decision points.
 - Confirm any bicycle and/or pedestrian routes and respective decision points.
 - Analyze traffic flow, traffic speed and planned roadway improvements.
 - Confirm data provided in the Downtown Parking Plan and photo/document onsite observations with regard to the 9 designated public parking facilities.
 - Review and photograph existing conditions and in-place wayfinding devices.
 - Identify and photograph proposed wayfinding opportunities.

Conduct 2nd round of stakeholder interviews if needed

Project Approach, continued

- Day 3

The Axia Team will continue to explore the project area, photograph existing conditions and prepare notes for discussion with the Carrboro staff on the last day of the visit.

- Day 4

Meet with the Carrboro staff to review stakeholder interviews, site survey and discuss initial assessment findings and preliminary ideas.

• Assessment Report

- Prepare a customized Google map for preliminary planning and team collaboration. Add arrival points, traffic routes, proposed destinations, decision points and mark existing wayfinding devices.
- Populate password-protected project web page with relative reference materials.
- Prepare stakeholder summary.
- Digest field notes and prepare written site assessment.
- Establish design criteria and how best to support the "It's Carrboro Feel Free" brand.
- Create a system hierarchy (family of sign types).
- Prepare program recommendation and design criteria.
- Assemble all information into an Assessment Report.
- Submit Assessment Report Draft to the Carrboro staff for review and comment.
- Revise Assessment Report, submit final draft for distribution and approval and upload to the Carrboro project web page.

Step 2: Concept Generation

- Generate three preliminary concepts based on the assessment findings from Step 1.
- Update the wayfinding plan on the Google map.
- Present initial concepts to the Carrboro staff for review and comment via teleconference.
- Prepare a Destination Criteria document which will serve as a qualifier for destinations to be included on pedestrian and vehicular guide signage.
- Create a PowerPoint presentation for public workshop.
- Site Visit 2 (estimated 2 days).

- Day 1

Meet with Carrboro staff to confirm public workshop program.

Leave open schedule for site exploration or stakeholder meetings.

Conduct public workshop (evening meeting). Objectives are to:

- Explain program objectives, assessment findings and design criteria.
- Present initial concepts via Powerpoint.
- Facilitate collaborative exchange, answer questions, respond to comments.

Project Approach, continued

- Day 2

Meet with Carrboro staff to review public workshop and discuss concept revisions.

- Consider input from workshop and apply appropriate ideas into concepts.
- Distribute concept revisions from the workshop to attendees via Survey Monkey.
- Submit two or three of the concepts to a fabricator to determine preliminary probable costs.
- Update the Google map with revised sign locations.
- Submit the concepts to NCDOT for compliance review.
- Prepare a Probable Cost Report and NCDOT comment summary. Submit to the Carrboro staff for review and comment and upload to the Carrboro project web page.
- Prepare a Concept Summary, Submit to the Carrboro staff for circulation and/or record and upload to Carrboro project web page.

Step 3: Design Development

- Develop single approved concept to include all system sign types.
- Update the Google map plan.
- Present design summary draft to the Carrboro staff for review, comment and/or approval via teleconference.
- Make design refinements and submit revised design summary to the Carrboro staff.
- Establish and document a phased implementation plan for fabrication and installation.
- Develop and articulate a destination hierarchy.
- Create a PowerPoint presentation for the Board of Aldermen.
- Site Visit 3 (estimated 2 days).

- Day 1

Meet with the Carrboro staff.

Present design summary Powerpoint to the Board of Aldermen for review, comment and/or adoption.

- Day 2

Confirm sign placements on site and record using GIS or GPS.

Photograph locations.

Meet with the Carrboro staff as needed.

- Make design refinements and submit design summary to Carrboro staff.
- Prepare full size mock-up artwork for either prototype construction or paper print-out and upload to the Carrboro project web page.
- Optional Site Visit 4 (estimated 1 to 2 days).

- Day 1

Meet with the Carrboro staff as needed.

Test mock-ups in the field.

Project Approach, continued

- Make final design refinements, submit final design summary to the Carrboro staff and upload to the Carrboro project web page.
- Make refinements to Google map plan and meet with the Carrboro staff (teleconference) to finalize plan and sign messaging.

Step 4: Documentation, Production Files & Bidding

a. Documentation

- Generate document components.
 - Design intent drawings (scaled drawings and specifications).
 - Message and phasing schedule.
 - Sign location plan.
 - Sign removal plan.
- Submit draft bid documents to the Carrboro staff for review.
- Revise bid documents and upload finals to the Carrboro project website.

b. Production Files

- Production-ready art (uploaded to project website).
 - Full size sign templates.
 - Arrows, symbols and misc. graphics.
 - Kiosk map.
 - Other (TBD).

c. Bidding

- Provide RFP samples and advise on content.
- Recommend RFP distribution channels.
- Respond to bidder's information requests during the bid process.
- Review short listed bid respondents and provide comparative bid spreadsheet.
- Provide award recommendation.

Step 5: Production Oversight - Optional

- Interact with the selected sign fabricator, respond to questions, consider product/process alternates and address challenges and change order requests.
- Review sign fabricator's shop drawings for design compliance.
- Review samples (materials and finishes) prior to full execution.
- Review production prototypes (if required).
- Issue periodic progress reports to the Carrboro staff.

Project Approach, continued

- Visit fabricator's facility to inspect in progress fabrication at the 80% completion point.
- Perform pre installation walk through on site with fabricator to spray-mark sign locations.
- Post installation punch list inspection (Axia will be on site to inspect the finished program for completeness and fulfillment of fabricator's contract).
- Provide post installation summary report to the Carrboro staff prior to final payment to the sign contractor.

Scope Deliverables

- Deliverable #1: Create online, interactive map
- Deliverable #2: Create password-protected project webpage
- Deliverable #3: Detailed project timeline
- Deliverable #4: Assessment report
- Deliverable #5: Initial wayfinding concepts
- Deliverable #6: Destination criteria for placement on signs
- Deliverable #7: Probable cost summary
- Deliverable #8: NCDOT review summary
- Deliverable #9: Public workshop concept presentation
- Deliverable #10: Revised concept survey monkey to all workshop attendees
- Deliverable #11: Final concept summary
- Deliverable #12: Design summary draft (all developed sign types and wayfinding devices)
- Deliverable #13: Board of Aldermen presentation
- Deliverable #14: Final design summary
- Deliverable #15: Bid Documents
- Deliverable #16: Post Installation Assessment Report



Gateway for Parksville Downtown

Estimated Timeline

The following is an estimated timeline for the Town of Carrboro's Wayfinding Program:

		DESIGN & DEVELOPMENT					DOCUMENT / BIDDING / FABRICATION / INSTALL					
TASK	DUR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
Step 1 Project Area Analysis	4-5 wks	●	●									
Step 2 Concept Generation	4-5 wks		●	●	●							
Step 3 Design Development	6-7 wks			●	●	●	●					
Step 4 Documentation	4-5 wks					●	●					
Step 5 Production Oversight	20-30 wks						●			●		●

- Task Duration
- Site visits
- Key Client approvals



Gateway for Sedona Arizona

Rates

The following is a schedule of hourly rates. We typically calculate estimated program fees in a lump sum format which is derived from successful past project experience. We resort to hourly rates only when smaller add-on assignments are requested which are always subject to negotiation. In any given project we usually put in more time than what our invoicing represents. Our goal is to deliver successful solutions regardless of budgeted time allotments as long as the agreed scope has not expanded beyond a reasonable extent.

Team member hourly and day rates

Team Member	Hourly Rate	Day Rate*
Todd Mayfield	\$120	\$960
Stephen Sinclair	\$110	\$880
Mike Haug	\$100	\$800
Lara Sawczak	\$80	\$640

*Day rates are based on 8 hours x the team member's hourly rate but may render up to 10 hours in a day.



Gateway for Burlington, Iowa

References

City of Margate, Florida

Project in bidding
Kim Vazquez
Margate Community Redevelopment Agency
Project Manager
954.935.5324
kvazquez@margatefl.com

*** Russian River, California**

Albert Lerma
Sonoma County Economic Development Board
707.565.6428
albert.lerma@sonoma-county.

City of Topeka, Kansas

Project in bidding
Brett Oetting
Visit Topeka (CVB)
President & CEO
785.234.1030
brett@visittopeka.com

*** City of Gulf Shores, Alabama**

Grant Brown
Recreation & Public Affairs Director
251.968.1848
gbrown@gulfshoresal.gov

*** City of Leduc, Alberta**

Bart Pouteau
Director, Communications & Information Support
780.980.8450
BPouteau@leduc.ca

Parksville Downtown, BC

Pamela Bottomley
APR, Executive Director
Parksville Downtown Business Association
250.248.8079
info@parksvillebc.ca

*** Terrebonne Parish**

Janel Ricca
Civic Center Director
985.850.4657
jricca@houmaciviccenter.com

*** Musical Instrument Museum**

Reginaldo Reyes
VP Brand Experience
Knock
612-333-6511
reginaldo.reyes@KNOCKinc.com

***References that are associated with project examples**

Additional Information

We are providing several additional resources for consideration. The following are links to an electronic version of our book on branded wayfinding, a sample project web page which will be used during your project, a sample assessment report, design intent drawings, message schedule, location plan, a Google map used for a recent project, and a short Axia promo video for fun.

This qualification submittal includes live links when clicked.

Our Branded Wayfinding for Destinations Book

https://issuu.com/toddmayfield/docs/branded_wayfinding_for_destinations_f632c9c081a30a

Sample Project Web page

<http://axiacreative.com/axia-cafe.html>

Password: tinleyparkil

Sample Assessment Report

https://issuu.com/toddmayfield/docs/canmore_planning_summary

Sample Design Intent Drawings

https://issuu.com/toddmayfield/docs/burlington_design_intent-draft2

Sample Message Schedule

https://issuu.com/toddmayfield/docs/burlington_message_schedule-draft2

Sample Location Plan

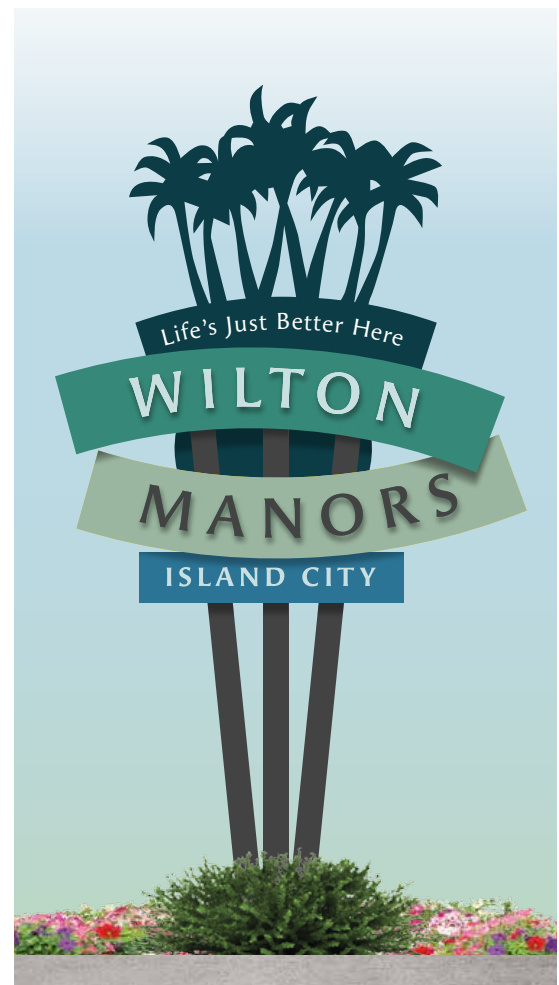
https://issuu.com/toddmayfield/docs/burlington_location_plan-draft2

Sample Google Map

<https://drive.google.com/open?id=1Mz0u8lgIJ23CxRMNi2CAAymFAUY&usp=sharing>

Axia Promo Video

<https://vimeo.com/242443558>



Gateway for Wilton Manors, Florida

Annette Lafferty, Town of Carrboro
301 W. Main Street.
Carrboro, NC 27510

RE: Revised Wayfinding Project Scope and Fee

December 26, 2017

Step 1: Project Area Analysis

- Review all available documentation about the Town of Carrboro, the “Feel Free” brand, applicable regulations, land use bylaws, and existing master plans.
- Conduct an additional study of online information about the community and explore the Carrboro area Google map.
- Create detailed version of the project timeline.
- Hold a pre-visit teleconference to confirm site visit objectives, stakeholder meetings and area reconnaissance.
- Discuss and identify key stakeholders and user groups to be interviewed during the first site visit.
- Site Visit 1 **(Jan 30 - Feb 2)**
 - **Day 1**

Hold a project kick-off meeting with the Carrboro staff.
Members from the Carrboro staff will take Axia representatives on a guided tour of the project area.
Conduct 1st round of stakeholder interviews.
 - **Day 2**

The Axia Team will explore the project area on their own. This is the first of two field surveys during this initial visit to Carrboro. The survey objectives are to:

 - Confirm and understand destinations.
 - Confirm vehicular routes and decision points.

- Confirm any bicycle and/or pedestrian routes and respective decision points.
- Analyze traffic flow, traffic speed and planned roadway improvements.
- Confirm data provided in the Downtown Parking Plan and photo/document onsite observations with regard to the 9 designated public parking facilities.
- Review data from VHB data collection of existing signage
- Review and photograph existing conditions and in-place wayfinding devices.
- Identify and photograph proposed wayfinding opportunities.

Conduct 2nd round of stakeholder interviews if needed

- **Day 3**

The Axia Team will continue to explore the project area, photograph existing conditions and prepare notes for discussion with the Carrboro staff on the last day of the visit.

- **Day 4**

Meet with Joint Advisory Boards (Feb 1, 2018 @ 7:30 p.m. Town Hall)

• **Assessment Report***

- Prepare a customized Google map for preliminary planning and team collaboration. Add arrival points, traffic routes, proposed destinations, decision points and mark existing wayfinding devices.
- Populate password-protected project web page with relative reference materials.
- Prepare stakeholder summary.
- Digest field notes and prepare written site assessment.
- Establish design criteria and how best to support the “It’s Carrboro Feel Free” brand.
- Create a system hierarchy (family of sign types).
- Prepare program recommendation and design criteria.
- Assemble all information into an Assessment Report.
- Submit Assessment Report Draft for review and comment **(Feb 16)**
- Revise Assessment Report, submit final draft for distribution and approval and upload to the Carrboro project web page. **(Feb 21)**

Step 2: Concept Generation

- Generate three preliminary concepts based on the assessment findings from Step 1.
- Update the wayfinding plan on the Google map.
- Present initial concepts to the Carrboro staff via teleconference. **(Mar 8)**
- Prepare a Destination Criteria document which will serve as a qualifier for destinations to be included on pedestrian and vehicular guide signage.
- Create a PowerPoint presentation for public workshop.
- Site Visit 2 **(Apr 5 - Apr 6)**
 - **Day 1**

Meet with Carrboro staff to confirm public workshop program.

Project Approach, continued

Leave open schedule for site exploration or stakeholder meetings.

Conduct public workshop (evening meeting). Objectives are to:

- Explain program objectives, assessment findings and design criteria.
- Present initial concepts via Powerpoint.
- Facilitate collaborative exchange, answer questions, respond to comments.

- Day 2

Meet with Carrboro staff to review public workshop and discuss concept revisions.

- Consider input from workshop and apply appropriate ideas into concepts. **(Apr 13)**
- Distribute concept revisions from the workshop to attendees via Survey Monkey. **(Apr 17)**
- Submit two or three of the concepts to a fabricator to determine preliminary probable costs.
- Update the Google map with revised sign locations.
- Submit the concepts to NCDOT for compliance review. **(Apr 30)**
- Prepare a Probable Cost Report and NCDOT comment summary. Submit to the Carrboro staff for review and comment and upload to the Carrboro project web page. **(May 3)**
- Prepare a Concept Summary, Submit to the Carrboro staff for circulation and/or record and upload to Carrboro project web page. **(May 11)**

Step 3: Design Development

- Develop single approved concept to include all system sign types.
- Update the Google map plan.
- Present design summary draft to the Carrboro staff for review, comment and/or approval via teleconference. **(May 25)**
- Make design refinements, submit revised design summary to the Carrboro staff. **(Jun 1)**
- Establish and document a phased implementation plan for fabrication & installation. **(Jun 7)**
- Develop and articulate a destination hierarchy.
- Create a PowerPoint presentation for the Board of Aldermen.
- Site Visit 3 **(Jun 12 or 19)** -

Day 1

Meet with the Carrboro staff.

Present design summary Powerpoint to the Board of Aldermen for review, comment and/or adoption.

- Day 2

Confirm sign placements on site and record using GIS or GPS.

Photograph locations.

Meet with the Carrboro staff as needed.

- Make design refinements and submit design summary to Carrboro staff. **(Jun 25)**

Project Approach, continued

- Prepare full size mock-up artwork for either prototype construction or paper print-out and upload to the Carrboro project web page. **(Jun 27)****
- Make final design refinements, submit final design summary to the Carrboro staff and upload to the Carrboro project web page. **(Aug 8)**
- Make refinements to Google map plan and meet with the Carrboro staff (teleconference) to finalize plan and sign messaging. **(Aug 8)**

Step 4: Documentation, Production Files & Bidding

a. Documentation

- Generate document components.
 - Design intent drawings (scaled drawings and specifications).
 - Message and phasing schedule.
 - Sign location plan.
 - Sign removal plan.
- Submit draft bid documents to the Carrboro staff for review. **(Aug 24)**
- Assist Town with all NCDOT approvals and finalize easement agreements as needed.
- Revise bid documents and upload finals to the Carrboro project website. **(Sep 7)**

b. Production Files

- Production-ready art (uploaded to project website). **(Sep 7)**
 - Full size sign templates.
 - Arrows, symbols and misc. graphics.
 - Kiosk map.
 - Other (TBD).

c. Bidding

- Provide RFP samples. **(Sep 11 or before)**
- **Review draft RFP and provide specific written specifications and related content*****
- Recommend RFP distribution channels***
- **Host a Join.me pre-bid teleconference*****
- Respond to bidder's information requests during the bid process***
- **Assemble and distribute responses to bidders*****
- Review short listed bid respondents and provide comparative bid spreadsheet***
- Provide award recommendation.***

Project Approach, continued

Proposed Fees

Step	Fee
1. Production Area Analysis (includes 1 site visit)	\$11,800
2. Concept Generation (includes 1 site visit)	\$12,800
3. Design Development (includes 1 visit)	\$16,500
4. Documentation	\$11,500
Sub Total:	\$52,600

Prior to our first visit, we will create a detailed project schedule with due dates and durations for all tasks using our online PM program.

* In order to reduce costs without sacrificing the quality and effectiveness of phase 1 assessment recommendations, we will format the final assessment report as an 8 1/2" x 11" document instead of the larger 17" x 11" version. We will eliminate general information that is not necessarily a direct benefit to the project and edit relevant information to be direct, right-to-the-point and in some cases as bullet point items instead of expanded narratives. The resulting information will maintain Axia's high standards that will serve as a strong foundation for the remaining phases.

** Many of our projects have not required our presence on site for the review of mock-ups and prototypes. Although we often gain helpful insight when reviewing mock-ups in the field, it is not usually of tremendous value. 70% of our clients prefer to conduct these studies without our presence. The primary value is to test font size and legibility for vehicular traffic.

***The due dates of these tasks cannot be determined until we know how quickly the Carrboro staff can execute their RFP draft for us to review or the response timing of other city officials outside of the Carrboro staff. We will make every effort to respond quickly in order to move this last step toward a successful and timely contract award.



Town of Carrboro

Town Hall
301 W. Main St.
Carrboro, NC 27510

Legislation Details (With Text)

File #: 17-392 **Version:** 1 **Name:**
Type: Agendas **Status:** Agenda Ready
File created: 1/16/2018 **In control:** Board of Aldermen
On agenda: 1/23/2018 **Final action:**
Title: Capital Improvement Plan Update and Financial Planning Model

PURPOSE: To present to the Board of Aldermen the updated Capital Improve Plan (CIP) for FY 2018-19 through FY 2022-23 and a Financial Planning Model.

Indexes:

Code sections:

Attachments: [ATTACHMENT A: CIP Resolution for Adoption](#)
[ATTACHMENT B: UPDATED CIP DOCUMENT FY 2018-19 THROUGH FY2022-23](#)

Date	Ver.	Action By	Action	Result
------	------	-----------	--------	--------

TITLE:

Capital Improvement Plan Update and Financial Planning Model

PURPOSE: To present to the Board of Aldermen the updated Capital Improve Plan (CIP) for FY 2018-19 through FY 2022-23 and a Financial Planning Model.

DEPARTMENT: Town Manager and Finance

CONTACT INFORMATION: David Andrews, 919-918-7315; Arche McAdoo, 919-918-7439

INFORMATION: The updated CIP for FY 2018-19 through FY 2022-23 (Attachment B) emphasizes the completion of current projects rather than initiation of new projects. The Town has 15 capital projects underway that total \$25.4 million. The largest project is the 203 S. Greensboro Street project at \$15.6 million. This is a joint development between the Town and Orange County to des, and other possible uses. The County is expected to contribute \$6.0 million and the Town anticipates debt financing of \$9.0 million.

The total amount of the updated CIP is \$32.3 million. In addition to current projects, included in this amount is \$6.8 million for street re-surfacing (\$1.5 million); vehicle and equipment replacement (\$2.5 million); and infrastructure projects such as sidewalks, bike ways, etc. (\$2.8 million).

In the past capital projects for storm water management have been included in the General Fund. With the formation of a Storm Water Utility Enterprise Fund, funding for storm water capital projects are expected to be paid from the Enterprise Fund. Less than a million dollars is expected to be needed for storm water capital projects over the next five years. Beyond the five year window, it's estimated that an additional \$4.3 million will be needed.

Finance staff have worked with First Tryon Advisors to develop a financial planning model to forecast the impact of proposed funding for capital projects on the General Fund. David Cheatwood and Charlie

Shoemaker will present the interactive planning model developed by First Tryon Advisors for the Town.

FISCAL & STAFF IMPACT: The CIP will required an additional \$6.8 million over the next five years. The CIP does not appropriate funding for capital projects. Rather, capital projects are funded by the Board of Aldermen through the adoption of a Capital Project Ordinance or in the annual General Fund budget.

RECOMMENDATION: That the Board of Aldermen approve the attached resolution to accept the CIP for FY 2018-19 through FY 2022-23 (Attachment A).

**RESOLUTION TO ADOPT THE UPDATED CAPITAL IMPROVEMENTS PLAN FOR FY 2018-19
THROUGH FY 2022-23**

WHEREAS, the Town of Carrboro recognizes that a Capital Improvements Program enables staff and the Board of Aldermen to plan for future capital needs and investments necessary to provide quality services to residents; and,

WHEREAS, the Capital Improvements Plan is a five year planning tool designed to address the Town's immediate and long-term capital needs with regards to: 1) maintaining the existing infrastructure in order to protect the Town's investments; 2) expanding the Town's tax base in a way that will benefit both future and current citizens; 3) complying with state and federal mandates; 4) incorporating energy and climate protection strategies; 5) providing Town services in the most efficient and safe manner; and, 6) managing and encouraging orderly implementation of Town adopted needs assessments, strategic and program master plans (e.g., Vision 2020, Downtown Visioning Plan, Downtown Traffic Circulation Study, Recreation and Parks Master Plan, etc.); and,

WHEREAS, the recommended FY 2018-19 through FY 2022-23 Updated Capital Improvements Plan has been presented to the Board of Aldermen; and,

WHEREAS, funds for capital projects may be appropriated through project ordinances adopted by the Board or in the annual operating budget;

THEREFORE BE IT RESOLVED that the Town of Carrboro Board of Aldermen has received the recommended Updated Capital Improvements Plan for FY 2018-19 through FY 2022-23 and adopts it with the following changes:

- 1.
- 2.
- 3.
- 4.

**TOWN OF CARRBORO, NORTH CAROLINA
CAPITAL IMPROVEMENTS PLAN
FY 2018-19 THROUGH FY 2022-23**

BOARD OF ALDERMEN

Lydia Lavelle, Mayor
Damon Seils, Mayor Pro-Tempore
Bethany Chaney
Barbara Foushee
Jacquelyn Gist
Randee Haven-O'Donnell
Sammy Slade

TOWN MANAGER

David L. Andrews, ICMA-CM

DEPARTMENT HEADS

Cathy Dorando, Town Clerk
Carol Dorsey, Human Resources
Joe Guckavan, Public Works Director
Walter Horton, Police Chief
Annette Lafferty, Economic & Community Development Director
Arche L. McAdoo, Finance Director
Patricia McGuire, Planning Director
Anita Jones-McNair, Recreation and Parks Director
Andy Vogel, Information Technology
Susanna Williams, Fire Chief

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Message from the Manager
Capital Improvements Plan
FY 2018-19 through FY 2022-23

January 23, 2018

Dear Mayor and Board of Aldermen:

The Capital Improvements Plan (CIP) for FY 2018-19 through FY 2022-23 concentrates primarily on the completion of current projects rather than the initiation of new projects. The Town has 15 capital projects underway totaling \$25.4 million. The largest project is the 203 S. Greensboro Street project at \$15.6 million, a joint endeavor between the Town and Orange County, to develop a facility to house the Orange County Southern Branch Library and administrative offices for the Town. The County is expected to contribute \$6.0 million and the Town anticipates debt financing of \$9.0 million.

Over the next five years, the Town will funds for the following projects;

Street Re-surfacing \$1.5 million;
Vehicles and Equipment \$2.5 million; and,
Infrastructure Projects (e.g., sidewalks, bike ways, etc.) \$2.8 million.

While the Facilities Assessment and Space Needs Study in 2016 identified a need for the renovation of several Town building, these projects have not been included in the CIP. These projects need to be more specifically defined to allow for better evaluation of funding options as well as impact analysis on the General Fund.

Overall Costs

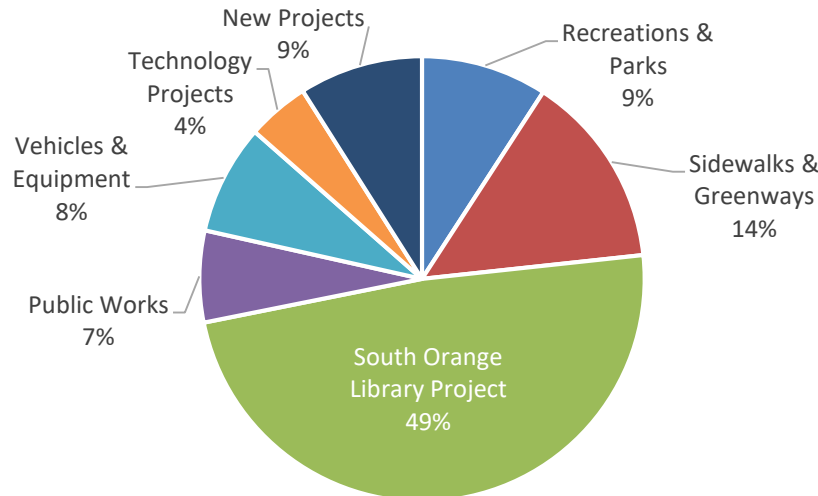
The total cost of the CIP for FY 2018-19 through FY 2022-23 is estimated at \$32.3 million, \$3.2 million less than last year. Current projects total \$25.4 million or 78.7% of the total.

The chart below shows the estimated cash needs by year.

	FUNDING	PROJECT REQUESTS					TOTAL	TOTAL
PROJECT COSTS	TO DATE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	REQUEST	COST
CURRENT PROJECTS	23,879,782	300,000	300,000	300,000	300,000	300,000	1,500,000	25,379,782
VEHICLES / EQUIPMENT	-	357,014	577,635	363,383	535,077	746,252	2,579,361	2,579,361
TECHNOLOGY PROJECTS	1,461,201	-	-	-	-	-	-	1,461,201
NEW PROJECTS	105,000	218,413	687,651	1,664,844	232,907	-	2,803,815	2,908,815
TOTAL PROJECT COSTS	25,445,983	875,427	1,565,286	2,328,227	1,067,984	1,046,252	6,883,176	32,329,159

On a functional basis, the new building at 203 S. Greensboro Street to house the South Orange Library and Town administrative office is by far the largest project to be undertaken.

Total Capital Improvement Plan by Functional Area



In the past we have used “Storm Water Management” to show retrofits required of the Town to address the Jordan Lake Rules and other regulatory requirements. As of July 1, 2017, the Town has established a Storm Water Utility Enterprise Fund to manage regulatory requirement, as well as flooding mitigation. The Utility Enterprise Fund is expected to provide a stable and consistent source of funding to address storm water and flooding issues.

Over the next five years capital projects for Stormwater total less than a million dollars with \$4.3 million estimated to be needed beyond FY 2022-23. Funding for stormwater capital projects are anticipated to be paid from the Enterprise Fund.

The cost for replacement of Vehicles and Equipment over the next five years total \$2.5 million, \$700,000 less than the \$3.2 million in last year’s CIP. Part of the reason for this decrease is related to the revised replacement criteria to include other operating factors in addition to the age and mileage of vehicles (see Appendix C). The discontinuation of certain models by manufacturers may result in an increase in cost for vehicle and equipment replacements, depending upon the selected replacements. Ford has discontinued its small pick-up truck, Ranger, and Fleet Maintenance has chosen to replace it with a Ford F-150. Chevrolet has discontinued its Caprice, used by police, and for FY 2017-18 police has decided to replace this with the all-wheel-drive Dodge Charger V-8.

The actual vehicles and equipment to be acquired in any given year will continue to be dependent upon the Town’s financial condition and debt tolerance.

Funding

Below are the proposed sources of funding for the \$32.3 million CIP for FY 2108-19 through FY 2022-23.

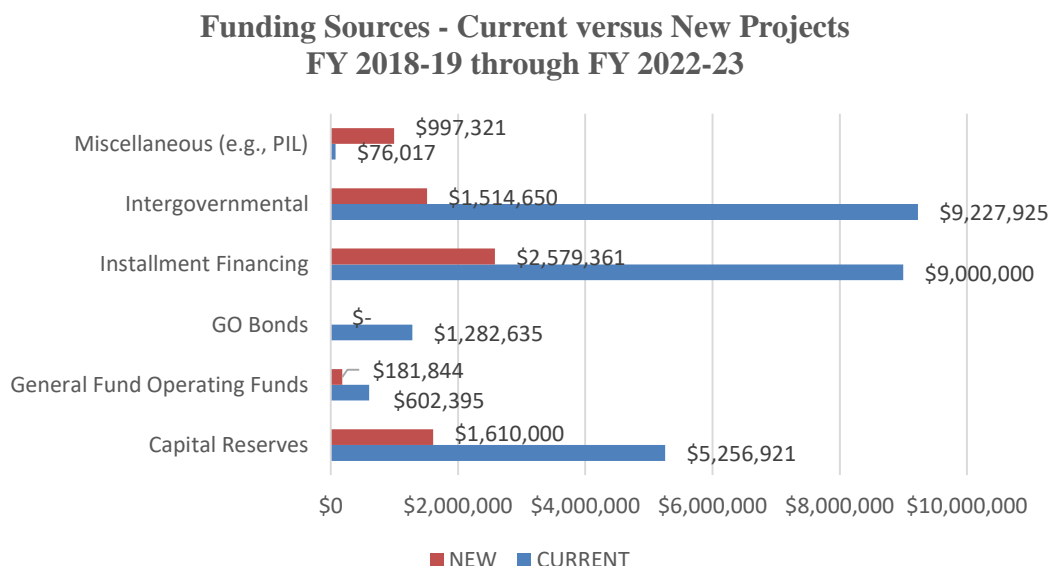
PROJECT REVENUES	TOTAL COST	% of TOTAL
Capital Reserves	\$ 6,866,921	21.2%
General Fund Operating Funds	\$ 784,239	2.4%
GO Bonds	\$ 1,282,635	4.0%
Installment Financing	\$ 11,579,361	35.8%
Intergovernmental	\$ 10,742,575	33.2%
Miscellaneous (e.g., PIL)	\$ 1,073,338	3.3%
TOTAL REVENUES	\$ 32,329,069	100.0%

Historically, the Town has limited the use of debt financing for specific capital projects. For example, general obligation bonds were issued for sidewalks and greenways, bank financing for fire station #2, and lease-purchases for vehicle and equipment replacements annually. Installment debt financing for the CIP through FY 2022-23 comprise 35.8% of all capital funds.

Most all of the projects supported by General Obligation bonds issued in 2013 have been completed. The remaining projects (e.g. Rogers Road sidewalk, greenways, etc.) currently comprise 4.0% of capital funding. Going forward, there are no plans for a general obligation referendum.

Intergovernmental revenues provide a significant share of project costs. The challenge for the Town will be to provide matching funds for such revenues. General Fund operating funds will comprise 2.4% of capital financing. The Town has been able to use general obligation bonds issued in 2013 for sidewalks and greenways, and fund balance from the general fund to match intergovernmental funds.

Below is comparison of funding sources for current projects and new projects.



Undertaking the proposed capital projects through FY 2022-23 will present many challenges and decision points. Along with proper and appropriate design of capital projects, the Town will need to balance funding capital projects with the continuation of current level services to residents. With a heavy reliance on residential property tax revenues, the Town will need to continue to explore additional revenue sources (e.g. increased property tax rate, transit tax, prepared meals tax, increase fees, impact fees, etc.).

The Town has established high levels of service delivery for the citizens. Implementation of the proposed capital projects through FY 2022-23 will provide the necessary infrastructure and create an environment for continuation of high performance levels in delivering services to residents.

Sincerely,

A handwritten signature in black ink that reads "David L. Andrews". The signature is written in a cursive, flowing style.

David L. Andrews, ICMA-CM
Town Manager

INTRODUCTION

The Capital Improvement Plan (CIP) is a planning tool that seeks to develop a plan for meeting the Town's immediate and long-term capital needs. It identifies needed capital investments for property, plant or equipment acquisitions and renovations to implement the Board of Aldermen's vision and strategic priorities for the Town. The Board's ultimate goal is to create and maintain Carrboro as a sustainable community that is a highly desirable place to live, with emphasis on quality of life policies such as walkability, environmental protection, recreation and local economic development.

No budget appropriations are made in the CIP. Capital projects are funded by the Board through adoption of a Capital Project Ordinance or in the annual general fund budget. Adjustments for project costs may be made each year during development of the annual operating budget. The CIP is prepared bi-annually and updated annually or as necessary.

Capital projects are required to address one of the Board's six strategic goals:

1. Maintaining the existing infrastructure in order to protect the Town's investments
2. Expanding the Town's tax base in a way that will benefit both current and future citizens
3. Complying with state and federal mandates
4. Incorporating energy and climate protection strategies
5. Providing Town services in the most efficient, safe and quality manner
6. Managing and encouraging orderly implementation of Town adopted needs assessments, strategic and program master plans (e.g., Vision 2020, Downtown Visioning Plan, Downtown Traffic Circulation Study, Recreation and Parks Master Plan, etc.)

Projects in the CIP fall into one of the following categories:

- Public Works/Infrastructure projects (e.g., purchase, construction or renovation of buildings, purchase of land, construction of parks and greenways, sidewalk construction, etc.) that cost \$100,000 or more and require several years for completion.
- Vehicles and Equipment replacements that cost \$30,000 or more per unit. As a general rule, vehicles with less than 100,000 miles will not be replaced unless it is determined to be a "lemon" and annual repairs in a two year period exceed the cost of a new vehicle. Beginning in 2016 all vehicles for purchase must reflect fuel efficiencies as identified in the Town's Strategic Energy and Climate Protection Plan.
- Information Technology (IT) projects which cost \$50,000 or more that are designed to increase or provide new technology capacity. IT projects related to software replacements, upgrades or maintenance costs are provided for in the annual operating budget.
- Storm Water Management projects to address mandated federal and state storm water compliance requirements, as well as flooding mitigation throughout the Town due to the frequency and severity of rain storms.

Project costs are updated periodically depending on the type of project. For example: street resurfacing costs are adjusted each year due to the fluctuation of petroleum costs; sidewalk costs are updated based on a cost per foot; new construction and renovations are calculated on a square foot basis. Funds appropriated in the annual operating budget for study or evaluation of facilities and infrastructure that are less than \$50,000 are not included as part of the CIP project cost.

The table below is a summary of capital projects, current and new requests with estimated cash needs per year.

Summary of Capital Improvements Plan FY 2018-19 through FY 2022-23

	FUNDING	PROJECT REQUESTS					TOTAL	TOTAL
PROJECT COSTS	TO DATE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	REQUEST	COST
CURRENT PROJECTS	23,879,782	300,000	300,000	300,000	300,000	300,000	1,500,000	25,379,782
VEHICLES / EQUIPMENT	-	357,014	577,635	363,383	535,077	746,252	2,579,361	2,579,361
TECHNOLOGY PROJECTS	1,461,201	-	-	-	-	-	-	1,461,201
NEW PROJECTS	105,000	218,413	687,651	1,664,844	232,907	-	2,803,815	2,908,815
TOTAL PROJECT COSTS	25,445,983	875,427	1,565,286	2,328,227	1,067,984	1,046,252	6,883,176	32,329,159
PROJECT REVENUES								
Capital Reserves	5,151,921	300,000	410,000	300,000	300,000	300,000	1,610,000	6,761,921
Capital Reserves - Matching Funds	105,000	-	-	-	-	-	-	105,000
General Fund Operating Funds	602,395	110,497	71,347	-	-	-	181,844	784,239
GO Bonds	1,282,635	-	-	-	-	-	-	1,282,635
Installment Financing	9,000,000	357,014	577,635	363,383	535,077	746,252	2,579,361	11,579,361
Intergovernmental	9,228,015	107,916	201,547	1,030,680	174,507	-	1,514,650	10,742,665
Miscellaneous (e.g., PIL)	76,017	-	304,757	634,164	58,400	-	997,321	1,073,338
TOTAL REVENUES	25,445,983	875,427	1,565,286	2,328,227	1,067,984	1,046,252	6,883,176	32,329,159

CURRENT PROJECTS

The Board of Aldermen has appropriated \$25 million for fifteen (15) capital projects that are currently underway. Below is a list of these projects. For a status report of each project, see Appendix A.

<u>Department</u>	<u>Project #</u>	<u>Project</u>	<u>Appropriation</u>
Public Works	55032	Rogers Road Sidewalk	\$1,371,658
Public Works	N/A	Street Re-surfacing	\$551,000
Planning	55003	Bolin Creek Greenway	\$1,253,130
Planning	55002	Morgan Creek Greenway	\$1,521,471
Planning	33007	Stormwater Management	\$80,000
Planning	55033	Jones Creek Greenway	\$420,000
Planning	TBD	South Greensboro Street Sidewalk	\$105,000
Public Works	66041	LED Streetlights	\$100,000
Public Works	66001	Town Commons	\$1,304,974
Recreation & Parks	66044	Martin Luther King, Jr. Park	\$1,657,654
Information Technology	54041	Planning Software	\$230,000
Information Technology	44701	Rogers Road Conduit	\$155,000
Information Technology	53007	Police Body Worn Cameras	\$148,831
Police/Fire	55006	Public Safety Radios	\$927,370
New Building	20133	203 S. Greensboro Street Project	\$15,699,895
TOTAL			\$25,525,983

Several projects are expected to be completed in FY 2018-19 and no additional funding above current appropriation is anticipated:

- Homestead-Chapel Hill High School Multi-Use Path
- Town Commons
- Planning Software
- Rogers Road Conduit
- Public Safety Radios

The Town continues to maintain its road infrastructure with a planned 15-year cycle street resurfacing program. The Town sets aside funds in Capital Project Reserve each year for street re-surfacing and issues a paving contract every two years. Currently there is \$551,000 appropriated for street re-surfacing.

Town staff continues to work on energy and climate protection to identify, evaluate and plan for implementation of energy efficiency strategies in Town facilities and infrastructure. The project to replace street lights with LED lights is on hold pending decisions by Duke Power and North Carolina Utility Commission.

The study of Town Hall infrastructure for more effective use of finished and unfinished space was postponed from its original anticipated start date in FY 2015-16. Consultant was hired in FY 2016-17 to undertake this study which was expanded to cover all Town facilities (i.e. Town Hall, Century Center, Public Works Facility, and Fire Stations). Recommendations from this study have not been included in the CIP as these projects need to be more specifically defined to allow for better evaluation of funding options as well as impact analysis on the General Fund.

NEW CAPITAL IMPROVEMENT PROJECT REQUESTS

Between FY 2018-19 and FY 2022-23 it is estimated that the Town will need an additional \$6.8 million street re-surfacing, vehicle and equipment replacement, and proposed new projects.

PROJECT COSTS	FUNDING TO DATE	FY 2019- 2023 REQUEST	TOTAL COST
CURRENT PROJECTS	\$ 23,879,692	\$ 1,500,000	\$ 25,379,692
VEHICLES / EQUIPMENT	\$ -	\$ 2,579,361	\$ 2,579,361
TEHCNOLOGY PROJECTS	\$ 1,461,201	\$ -	\$ 1,461,201
NEW PROJECTS	\$ 105,000	\$ 2,803,815	\$ 2,908,815
TOTAL PROJECT COSTS	\$ 25,445,893	\$ 6,883,176	\$ 32,329,069

The Town anticipates borrowing \$9.0 million and the County contributing \$6.0 million for development of 203 S. Greensboro Street to house the South Branch Library and administrative offices for the Town.

See Appendix B for a description of new CIP projects and financing needs through FY 22-23.

Storm Water Utilities

In the past we have used “Storm Water Management” to show retrofits required of the Town to address the Jordan Lake Rules and other regulatory requirements. As of July 1, 2017, the Town has established a Storm Water Utility Enterprise Fund to manage regulatory requirement, as well as flooding mitigation. The Utility Enterprise Fund is expected to provide a stable and consistent source of funding to address storm water and flooding issues. Funding for stormwater capital projects are anticipated to be paid from the Enterprise Fund.

Over the next five years capital projects for stormwater total less than a million dollars with \$4.3 million estimated to be needed beyond FY 2022-23. The Town has provided \$80,000 for preliminary planning with the following projects identified as a priority.

	COST ESTIMATE
Anderson Park	\$ 296,503
Carrboro High School	\$ 44,344
Carrboro Plaza	\$ 111,792
McDougle School Retrofit	\$ 82,974
Morgan Creek Retrofit	\$ 287,750
STORMWATER MANAGEMENT	\$ 823,363

Vehicles and Equipment

The cost for replacement of Vehicles and Equipment over the next five years total \$2.5 million compared to \$3.2 million in last year’s CIP. Part of the reason for this decrease is that we modified the replacement criteria to include other operating factors in addition to the age and mileage of vehicles (see Appendix C). Below is the projected schedule for vehicle and equipment replacements over the next five years.

	PROJECT REQUESTS					TOTAL REQUEST
	FY 19	FY 20	FY 21	FY 22	FY 23	
<u>VEHICLES / EQUIPMENT</u>	\$357,014	\$577,635	\$363,383	\$535,077	\$746,252	\$2,579,361

See Appendix D for detailed list of vehicles and equipment proposed for replacement. The actual vehicles and equipment to be acquired in any given year will continue to be dependent upon the Town’s financial condition and debt tolerance. Going forward the Town may need to re-evaluate its strategy of lease purchase of vehicles and equipment in light of additional financing needs.

Transportation Projects

The Town has received a number of federal and state highway transportation grants to help fund greenways, multi-use paths, sidewalks and other roadway infrastructure. These grants require a local match. For informational purposes, below is a list of Transportation Projects where funding has been approved or earmarked for certain Town projects by the MPO or state DOT that will require a local match.

	<u>Fiscal Year</u>	<u>Program</u>	<u>Federal/State Amount</u>	<u>Local Match Amount</u>	<u>Total Cost</u>
S. Greensboro Street Sidewalk					
Design	FY 2017	STPDA	\$ 84,000	\$ 21,000	\$ 105,000
Construction	FY 2017	TBD	\$ 437,240	\$ 87,448	\$ 524,688
Construction	FY 2019	CMAQ	\$ 440,000	\$ 110,000	\$ 550,000
Total Project Cost			\$ 961,240	\$ 218,448	\$ 1,179,688
Jones Ferry Road Sidewalk	FY 2021	STPBG	\$ 448,869	\$ 112,217	\$ 561,086
Estes Drive Sidewalks & Bike Lanes	FY 2021	STPBG	\$ 1,063,803	\$ 212,761	\$ 1,276,564
Barnes Street Sidewalk	FY 2022	STPBG	\$ 232,907	\$ 58,227	\$ 291,134
TOTAL			\$ 2,706,819	\$ 601,653	\$ 3,308,472

As the design for these projects are completed and Municipal Agreements are executed, the CIP will be revised to reflect any changes in cost.

Additionally, the Town has submitted the following projects as part of the SPOT prioritization 5.0 process for funding in the FY 2018-19 STIP. If programmed, funding would be available during the first four years and require a 20% local match.

- NC 54 Sidepath – Sidepath on the north side of NC 54 from James Street to Anderson Park
- Seawell School Road Bike-Ped Infrastructure – bike lanes and sidewalks along one side of Seawell School Road from Estes Drive to Homestead Road
- NC Old 86 Bike Lanes – bike lanes on both sides of NC Old 86 from Farm House Road to Calvander, intersection of Homestead Road, Dairyland Road and NC Old 86

FINANCIAL STATUS OF THE TOWN

Overall, the Town's financial health is good with General Fund unassigned fund balance of 53.7% of annual expenditures at June 30, 2017. Total fund balance for all funds in 2017 was \$21.6 million or 78.9% of total General Fund expenditures. Property taxes, local sales taxes, and other taxes comprise 83% of the Town's revenue sources. The remainder comes from intergovernmental revenue, fees and permits, and various other revenue sources. Revenues over the past seven years have grown roughly 2.9% compound annual growth rate. Assets and deferred outflows of resources exceeded liabilities and deferred inflows of resources (net position) by \$37.0 million. The Town maintained its AAA bond rating with Standard and Poor's; and Aa1 by Moody's.

Total expenditures were \$20.1 million which was \$2.3 million less than the final budget of \$22.4 million. Salaries, wages, health insurance, and other employee benefits represent more than half (57%) of Town expenses. Transportation expenses have increased at a compound actual growth rate of 6.9%.

The Board of Aldermen has adopted a Fund Balance policy to maintain a General Fund

unassigned fund balance within a range of 22.5% to 35% of budgeted appropriations. When the General Fund unassigned fund balance exceeds 35%, the Town Manager may set aside an amount in assigned fund balance for transfer to Capital Reserves Fund for specific future capital projects. Should the unassigned fund balance in the General Fund fall below 20%, the Town Manager must develop and implement a plan to re-build the balance to 22.5% within one year.

IMPACT ON OPERATING BUDGET

The CIP planning process also seeks to assess the potential impact of the proposed capital projects on the Town's overall financial condition and annual operating budget. Of particular concern is debt financing and the Town's ability to meet future debt obligations. The long range financial plan (presented under separate cover) for the next 5-7 years considers the impact of additional debt in projecting the Town's base financial plan.

Appendix A

Status of Current CIP Projects

PROJECT TITLE: Town Commons Improvements	DEPARTMENT: Public Works
AUTHORIZED BUDGET: \$1,284,974	CONTACT: Anita Jones-McNair

START DATE: June 2015	EXPECTED COMPLETION DATE: March 2018
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DESCRIPTION

This project will provide a complete overhaul of Town Commons. Improvements include structurally supported sod, irrigation, new restroom, pervious pavement and new landscaping. The wooden vertical structures will receive a cleaning and a fresh coat of stain.

STATUS

Grading/construction began November 2017. The major goal of the project is to complete major work over the winter so that Farmers' Market can resume in early spring.

PROJECT TITLE: Homestead-CHHS Multi-use Path	DEPARTMENT: Public Works/ Planning
AUTHORIZED BUDGET: \$1,253,129	CONTACT: Anita Jones-McNair

START DATE: FY 2012	EXPECTED COMPLETION DATE: December 2018
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DESCRIPTION

Construction of a paved 10-foot wide trail connecting the Claremont neighborhood, under Homestead Road, to Chapel Hill High School.

STATUS

Construction is underway, including surveying, sedimentation and erosion control installation, clearing, grading, gravel installation and compaction, and bridge design.

PROJECT TITLE: LED Streetlights	DEPARTMENT: Public Works
AUTHORIZED BUDGET: \$100,000	CONTACT: Cathy Dorando

START DATE: Unknown	EXPECTED COMPLETION DATE: Unknown
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DESCRIPTION

Installation of LED streetlights on light poles leased from Duke Energy. This project has yet to start.

STATUS

Awaiting Duke Energy to change funding and rental rules for LED lights.

PROJECT TITLE: Martin Luther King Jr Park	DEPARTMENT: Recreation and Parks
AUTHORIZED BUDGET: \$1,657,654	CONTACT: Wendell Rodgers

START DATE: FY 15-16	EXPECTED COMPLETION DATE: December 2018
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DESCRIPTION

The design will be attentive to environmental features, address best practices in water resources and provide accessible facilities to users of all abilities. The facility will be designed with, at a minimum, the consideration of the following elements: parking, expansion of the existing community garden and storage area, picnic areas and shelters, restrooms, an amphitheater, natural playground, adult fitness equipment, youth cycling area, 10' wide ADA accessible trail, pollination gardens, bee hives, and a wetland.

STATUS

Design is expected to be complete by January 2018. Staff is working on hiring a consultant to specifically prepare construction drawings, documents, and cost estimates for construction bid in early 2018.

PROJECT TITLE: Police Body Worn Cameras	DEPARTMENT: IT
AUTHORIZED BUDGET: \$148,831	CONTACT: Andy Vogel

START DATE: FY 2015	EXPECTED COMPLETION DATE: June 2018
----------------------------	--

DESCRIPTION

Purchase and implement new Police Officer body worn camera system with additional SAN storage for video retention.

STATUS

The Town of Carrboro has been awarded a grant in the amount of \$46,731 by the U. S. Department of Justice, Bureau of Justice Assistance and the grant funds are to be used to cover up to 50% of the Town's total cost to acquire 32 body worn cameras. The Town's matching funds will be \$46,731. The total estimated cost to acquire 32 body worn cameras is \$65,600 (plus \$16,898 for SAN storage) for a total of \$82,498.

PROJECT TITLE: Rogers Road Conduit	DEPARTMENT: IT
AUTHORIZED BUDGET: \$155,000	CONTACT: Andy Vogel

START DATE: October 2014	EXPECTED COMPLETION DATE: October 2018
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DESCRIPTION

Installation of conduit along Rogers Road for fiber optic infrastructure by directional boring. Will be done in conjunction with Rogers Road NCDOT improvements.

STATUS

Conduit path along Rogers Road has been fully engineered and designed. NC DOT encroachment permit for placing conduit in NCDOT ROW has been approved by the NCDOT. Installation of conduit will be synchronized with NCDOT road improvements work.

PROJECT TITLE: Permitting Software	DEPARTMENT: IT
AUTHORIZED BUDGET: \$230,000	CONTACT: Andy Vogel

START DATE: June 2015	EXPECTED COMPLETION DATE: April 2019
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DESCRIPTION

Purchase and implement new Permitting & Land Management (PLM) Software for Planning, Zoning and Inspections Department.

STATUS

Software implementation, customization and configuration (including a large GIS integration component) is ongoing and is scheduled to be completed by 11/2018. A soft launch is intended to take place near the end of year 2018 with the application going into full production use by early to mid-2019.

PROJECT TITLE: Jones Creek Greenway	DEPARTMENT: Planning
AUTHORIZED BUDGET: \$420,000	CONTACT: Tina Moon

START DATE: July 11, 2016	EXPECTED COMPLETION DATE: DECEMBER 2019
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DESCRIPTION

Construct a greenway that will complete an off-road network between Morris Grove Elementary, Lake Hogan Farms neighborhood, and Twin Creeks Park.

STATUS

RFQ proposals for design have been received and are being reviewed. A supplemental agreement with NCDOT has been executed to reflect an additional \$80,000 of CMAQ funding.

PROJECT TITLE: Rogers Road Sidewalk	DEPARTMENT: Planning
AUTHORIZED BUDGET: \$1,371,658	CONTACT: Trish McGuire

START DATE: FY 2012	EXPECTED COMPLETION DATE: December 2019
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DESCRIPTION

Installation of a 5 ft. wide concrete sidewalk, curb and gutter along west side of Rogers Road from Homestead Rd. to Meadow Run Ct.

STATUS

All easements have been acquired and construction engineering and construction bids have been publicized. Construction engineering proposals have been received. Construction bid opening date of 12/12/17. Only two bids were received. A total of three bids are necessary for a formal bid. Re-bid will be done in January.

PROJECT TITLE: Morgan Creek Greenway Phases 1 and 2	DEPARTMENT: Planning
AUTHORIZED BUDGET: \$1,521,471	CONTACT: Tina Moon

START DATE: FY 2012	EXPECTED COMPLETION DATE: FY 2019
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DESCRIPTION

Design and construct a greenway along Morgan Creek from Smith Level Road to University Lake, with connections, via a bridge, to BPW Club Rd. and, via an underpass, to Frank Porter Graham Elementary.

STATUS

Currently Phase 1, Alternate Phase 1, and Phase 2 are in the preliminary engineering phase. It expected that Phase 1 will be under construction in the spring of 2018.

PROJECT TITLE: Public Safety Radio Upgrade	DEPARTMENT: Police & Fire
AUTHORIZED BUDGET: \$927,370	CONTACT: Walter Horton/Susanna Williams

START DATE: FY 2015-16	EXPECTED COMPLETION DATE: June 2018
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DESCRIPTION

Update all public safety radios for compliance with Orange County radio system. Orange County will no longer support the existing radios.

STATUS

Radios have been purchased. Once all radios are received, they will be programmed, tested and installed. Personnel will receive training on use of the new radios.

PROJECT TITLE: Orange County Library	DEPARTMENT: Planning
AUTHORIZED BUDGET: \$15,699,895	CONTACT: Patricia McGuire

START DATE: FY 2017-18	EXPECTED COMPLETION DATE: TBD
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DESCRIPTION

Construction of a multi-story shell building to house the Orange County Southern Branch Library and Town of Carrboro administrative offices with an associated parking structure.

STATUS

RFQ for architectural/engineering services has been published and proposals have been received. Committee will review these proposals and make a recommendation of a qualified firm to the Board of Aldermen.

Appendix B

New CIP Project Requests

DEPARTMENT: Information Technology
PROJECT TITLE: Town Phone System Replacement

	FUNDING					FIVE YEAR	TOTAL
	TO DATE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	PROJECT COSTS
Expenses							
Equipment/Furnishings		\$ 95,000					\$ 95,000
TOTAL	\$ -	\$ 95,000	\$ -	\$ -	\$ -	\$ -	\$ 95,000
Appropriations							
Capital Project Fund		\$ 95,000					\$ 95,000
TOTAL	\$ -	\$ 95,000	\$ -	\$ -	\$ -	\$ -	\$ 95,000
Operating Budget Impact							
Operating			\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 20,000.00
Estimated Total	\$ -	\$ -	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 20,000.00

Description and Benefits

Replace existing phone system (includes voicemail system) that serves all Town facilities and departments. Current phone system has been at end-of-life for over five years. Replacement parts are becoming hard to obtain. Current system cannot be upgraded or added to in any way. No new replacement parts are being made for the current system.

Energy Sustainable Measures

N/A

Funding Source Notes (if grants, ID source and matching requirements)

Capital Fund

DEPARTMENT: Information Technology
PROJECT TITLE: Conduit Installation on S. Greensboro St.

	FUNDING					FIVE YEAR	TOTAL
	TO DATE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	PROJECT COSTS
Expenses							
Equipment/Furnishings			\$ 110,000				\$ 110,000
TOTAL	\$ -	\$ -	\$ 110,000	\$ -	\$ -	\$ -	\$ 110,000
Appropriations							
Capital Project Fund			\$ 110,000				\$ 110,000
TOTAL	\$ -	\$ -	\$ 110,000	\$ -	\$ -	\$ -	\$ 110,000

Description and Benefits

Install conduit along South Greensboro St. during NCDOT and the Town of Carrboro South Greensboro Sidewalk Project. The proposed conduit installation will link Town owned conduit located on Smith Level Rd to the Century Center and connect the planned Carrboro-Orange County Library to the Town of Carrboro conduit infrastructure system.

Energy Sustainable Measures

N/A

Funding Source Notes (if grants, ID source and matching requirements)

Capital Fund

DEPARTMENT: Planning
PROJECT TITLE: Greensboro-Lloyd Bikeway

	FUNDING						FIVE YEAR	TOTAL
	TO DATE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	TOTAL	PROJECT COSTS
Expenses								
Planning/Design		\$ 28,604					\$ 28,604	\$ 28,604
Construction			\$ 176,841				\$ 176,841	\$ 176,841
Land/ROW		\$ 9,809					\$ 9,809	\$ 9,809
TOTAL	\$ -	\$ 38,413	\$ 176,841	\$ -	\$ -	\$ -	\$ 215,254	\$ 215,254
Appropriations								
General Fund		\$ 15,497	\$ 71,347				\$ 86,844	\$ 86,844
Intergovernmental Funds		\$ 22,916	\$ 105,494				\$ 128,410	\$ 128,410
TOTAL	\$ -	\$ 38,413	\$ 176,841	\$ -	\$ -	\$ -	\$ 215,254	\$ 215,254

Description and Benefits

The project was approved for a federal Congestion Mitigation and Air Quality (CMAQ) allocation for FY2016 by the Durham-Chapel Hill-Carrboro MPO on 10/12/2011, and subsequently amended in 2016 with updated cost estimates and milestones for completion. It was anticipated that this allocation would pay for 80% of the project's detailed design and engineering costs, updated costs required a higher local match (40%). Completion would provide an alternative east-west route for bicycles and pedestrians, away from the heavily traveled East Main/Weaver roads heading toward North Greensboro Street and beyond.

Energy Sustainable Measures

CMAQ projects are selected through a competitive application process, to identify projects with a measurable positive impact to Greenhouse Gas emissions.

Funding Source Notes (if grants, ID source and matching requirements)

Local match would be required, anticipated at 20-40% of total cost.

DEPARTMENT: Planning
PROJECT TITLE: Barnes Street Sidewalk

	FUNDING						FIVE YEAR	TOTAL
	TO DATE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	TOTAL	PROJECT COSTS
Expenses								
Planning/Design			\$45,897				\$45,897	\$45,897
Construction					\$232,907		\$232,907	\$232,907
Land/ROW			\$13,196				\$13,196	\$13,196
TOTAL	\$ -	\$ -	\$ 59,093	\$ -	\$232,907	\$ -	\$292,000	\$292,000
Appropriations								
Intergovernmental Funds			\$ 59,093		\$174,507		\$ 233,600	\$233,600
Other					\$58,400		\$58,400	\$58,400
TOTAL	\$ -	\$ -	\$ 59,093	\$ -	\$232,907	\$ -	\$ 292,000	\$ 292,000

Description and Benefits

Design and construct a sidewalk along one side of Barnes Street, approximately 0.26 mile, from King Street to Jones Ferry Road (SR 1005).

Energy Sustainable Measures

Barnes Street links a number of apartment complexes, including Carolina Apartments, University Lake Apartments and Royal Park along NC 54, to Jones Ferry Road near Town Hall. The installation of a sidewalk would facilitate bike-pedestrian travel modes as well as provide a safety alternative to walking along NC 54 to reach downtown Carrboro, transit stops, grocery shopping, etc. The apartments tend to serve students and low-to medium income families.

Funding Source Notes (if grants, ID source and matching requirements)

STP-DA Funds, 20 local match required (noted as Other appropriations). The Town submitted the project as part of the SPOT process for P4.0, and it was programmed as part of the FY2018-2027 STIP (TIP # EB-5890). The tentative Let date is FY 2020.

DEPARTMENT: Planning
PROJECT TITLE: Estes Drive Bike-Ped Improvements

	FUNDING						FIVE YEAR	TOTAL
	TO DATE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	TOTAL	PROJECT COSTS
Expenses								
Construction				\$ 877,261			\$ 877,261	\$ 877,261
Land/ROW			\$ 47,386				\$ 47,386	\$ 47,386
TOTAL	\$ -	\$ -	\$ 47,386	\$ 877,261	\$ -	\$ -	\$ 924,647.00	\$ 924,647
Appropriations								
Intergovernmental Funds			\$ 36,960	\$ 674,880			\$ 711,840	\$ 711,840
Other			\$ 10,426	\$ 202,381			\$ 212,807	\$ 212,807
TOTAL	\$ -	\$ -	\$ 47,386	\$ 877,261	\$ -	\$ -	\$ 924,647.00	\$ 924,647

Description and Benefits

This is a collaborative project with the Town of Chapel Hill to design and install bike-ped, and transit, improvements along the entire Estes Drive corridor from North Greensboro Street to Martin Luther King Boulevard, with approximately 0.86 miles in the Town of Carrboro. Costs for the Carrboro portion, only, are shown in the spreadsheet. It is viewed as a long term improvement to Estes Drive that will provide safe bicycle and pedestrian access along the road. Estes Drive is a major connection between Chapel Hill and Carrboro and will only increase in use if the Carolina North project is developed.

Energy Sustainable Measures

This is a much needed facility that would establish a bike-ped network along the entire corridor and connect to downtown Carrboro, Carrboro Elementary, Wilson Park, etc. Some apartments along this corridor serve students and low-to medium income families. The facility adds bike lanes, sidewalks, and transit accommodations on both sides of the road from Greensboro Street to Town limits, as well as a multi-use path from Williams Street to Estes Drive at the entrance to Estes Park Apartments, which would provide an alternative bicycle-pedestrian connection.

Funding Source Notes (if grants, ID source and matching requirements)

STP-DA Funds, 20 local match required (noted as Other appropriations). The project has been programmed in the FY2018-2027 TIP as #EB-5886, with an anticipated Let date of FY 2021. \$106,296 of Transit funds have been earmarked for the Town of Carrboro to conduct a corridor study in FY2018 to help inform the subsequent preliminary design work.

DEPARTMENT: Planning
PROJECT TITLE: Jones Ferry Road Sidewalk

	FUNDING						FIVE YEAR	TOTAL
	TO DATE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	TOTAL	PROJECT COSTS
Expenses								
Planning/Design		\$ 85,000					\$ 85,000	\$ 85,000
Construction				\$ 436,000			\$ 436,000	\$ 436,000
Land/ROW			\$ 30,000				\$ 30,000	\$ 30,000
TOTAL	\$ -	\$ 85,000	\$ 30,000	\$ 436,000	\$ -	\$ -	\$ 551,000	\$ 551,000
Appropriations								
Intergovernmental Funds		\$ 85,000		\$ 355,800			\$ 440,800	\$ 440,800
Other			\$ 30,000	\$ 80,200			\$ 110,200	\$ 110,200
TOTAL	\$ -	\$ 85,000	\$ 30,000	\$ 436,000	\$ -	\$ -	\$ 551,000	\$ 551,000

Description and Benefits

Design and construct a sidewalk (approximately 0.5 mile in length) along the north side of Jones Ferry Road, from Davie Road to West Main Street (SR 1010).

Energy Sustainable Measures

This sidewalk project fills a missing segment let over from the NCDOT SPOT safety project for Jones Ferry NC 54. The completed project would

Funding Source Notes (if grants, ID source and matching requirements)

STP-DA Funds, 20 local match required (noted as Other appropriations). The project has been programmed in the FY2018-2027 TIP as #EB-5880.

DEPARTMENT: Planning
PROJECT TITLE: Old Fayetteville Road Sidewalk

	FUNDING					FIVE YEAR		TOTAL
	TO DATE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	TOTAL	PROJECT COSTS
Expenses								
Planning/Design			\$ 92,983					\$ 92,983
Construction				\$ 260,583				\$ 260,583
Land/ROW			\$ 111,348					\$ 111,348
TOTAL	\$ -	\$ -	\$ 204,331	\$ 260,583	\$ -	\$ -	\$ -	\$ 464,914
Appropriations								
Other			\$ 204,331	\$ 260,583				\$ 464,914
TOTAL	\$ -	\$ -	\$ 204,331	\$ 260,583	\$ -	\$ -	\$ -	\$ 464,914

Description and Benefits

Installation of missing sections of sidewalk along the south end of Old Fayetteville Road between NC 54 West and Jones Ferry Road (approximately 0.26 mile). The project was identified during the consideration of priorities for Orange County Transit Plan bus capital projects to provide safer and increased access for transit riders to bus stops and to/from the park and ride facility at Carrboro Plaza. The project is included in the Safe Routes to School Action Plan and the sidewalk policy.

Energy Sustainable Measures

The process for submitting a bus capital access project as part of the Orange and Durham transit plans involved considerable analysis showing the potential benefit for bike-ped users to have better access to transit (bus). This improvement provides greater pedestrian access to the CHT Park-and-Ride at Carrboro Plaza, completes the last missing segment of what would become a continuous sidewalk along Old Fayetteville Road (almost 3 miles). McDougle Elementary and Middle Schools are just over half a mile north of this sidewalk segment.

Funding Source Notes (if grants, ID source and matching requirements)

The Town submitted the project as part of the adoption of the updated Orange County and Durham County Transit Plans. Transit tax district funds are expected to fund entire project-design and construction.

DEPARTMENT: Planning
PROJECT TITLE: West Main Street Sidewalk

	FUNDING					FIVE YEAR		TOTAL
	TO DATE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	TOTAL	PROJECT COSTS
Expenses								
Planning/Design			\$ 13,000					\$ 13,000
Construction				\$ 91,000				\$ 91,000
Land/ROW			\$ 47,000					\$ 47,000
TOTAL	\$ -	\$ -	\$ 60,000	\$ 91,000	\$ -	\$ -	\$ -	\$ 151,000
Appropriations								
Other			\$ 60,000	\$ 91,000				\$ 151,000
TOTAL	\$ -	\$ -	\$ 60,000	\$ 91,000	\$ -	\$ -	\$ -	\$ 151,000

Description and Benefits

Installation of an important missing section of sidewalk along the south side of West Main Street between West Poplar and Fidelity. The project was identified during the consideration of priorities for Orange County Transit Plan bus capital projects to provide safer and increased access for transit riders to bus stops. Once completed there will be a continues sidewalk along this side of West Main Street from points east of Town Hall and the farmers market to the intersection with NC 54. The project is included in the Safe Routes to School Action Plan and the sidewalk policy.

Energy Sustainable Measures

The process for submitting a bus capital access project as part of the Orange and Durham transit plans involved considerable analysis showing the potential benefit for bike-ped users to have better access to transit (bus). This improvement provides greater pedestrian access to the CHT Park-and-Ride at Carrboro Plaza, completes the last missing segment of what would become a continuous sidewalk along Old Fayetteville Road (almost 3 miles).

Funding Source Notes (if grants, ID source and matching requirements)

The Town submitted the project as part of the adoption of the updated Orange County and Durham County Transit Plans. Transit tax district funds are expected to fund entire project-design and construction.

Appendix C

Vehicle Replacement Policy Evaluation

**TOWN OF CARRBORO
VEHICLE REPLACEMENT POLICY**

I. PURPOSE

To establish guidelines for the replacement of Town owned vehicles in order to ensure the vehicles are replaced in the most efficient and cost effective manner.

II. POLICY

Replacement criteria are essential to meet departmental requirements for replacement of obsolete or inoperable vehicles necessary to maintain a safe, efficient and reliable fleet. Replacement criteria will serve as method for evaluating each vehicle against several economic and operational considerations such as original cost, estimated replacement cost, cost of repair, downtime and maintenance, and suitability for intended use.

III. PROCEDURE

- A. All Departments utilizing Town owned vehicles are required to monitor the condition and mileage of the vehicle(s) under their control. With assistance from the Fleet Maintenance Division in Public Works, each department is required to maintain the upkeep and service on all assigned vehicles.
- B. In lieu of new or used vehicle purchases, the requesting Department must contact the Purchasing Officer to review utilization of vehicles from other Departments to determine if vehicle re-assignment would meet Departmental needs.
- C. During the budget process, all Departments requesting the purchase of vehicles will provide Finance with a mileage schedule of all assigned vehicles.
- D. The Board of Aldermen must appropriate budget funds for vehicles to be replaced. No vehicle replacement can be made prior to an approved budget request.
- E. When the replacement vehicle is placed into service, the replaced vehicle must be turned into Purchasing for surplus along with a completed property disposition form. Purchasing will coordinate with Public Works Department for storage of replaced vehicles until disposition. Purchasing will be responsible for securing declaration of surplus and the final disposal of all surplus vehicles.

IV. REPLACEMENT CRITERIA

Vehicles shall meet or exceed at least one of the following criteria to be eligible for replacement:

- A. Vehicle to be replaced was destroyed and/or cost to repair is 75% or greater than the current NADA wholesale value; or
- B. The accumulated repair costs has reached or exceeds 80% or the original purchase price; or
- C. Replacement parts or components are no longer available; or
- D. The vehicle age and/or mileage have rendered the vehicle in such condition that it cannot reliably, safely and/or economically serve its intended purpose or be used in a reasonable alternative capacity.

Suggested disposal criteria for miles and age of vehicles are listed below. Vehicles not specifically listed shall be evaluated against miles/age criteria for a similar type vehicle.

Vehicle Description	Age	Maximum Mileage
Police Patrol/Pursuit Sedans	8	125,000
Police Admin/Investigations Sedans	10	150,000
Vans (passenger/cargo)	10	150,000
	12	125,000

Light Trucks/Utility Vehicles	12	150,000
Heavy Vehicles/Trucks	12	200,000
Fire Apparatus/Aerial	20	250,000

V. EVALUATION CRITERIA

Vehicles are evaluated by four criteria: age, mileage, general overall condition, and maintenance cost. Each vehicle is scored as follows to determine which units are *eligible for replacement consideration*.

1. Year of Vehicle: One (1) point is assigned for each year of chronological age past life expectancy, based on "in-service date" of the vehicle.
2. Mileage: One (1) point is assigned for each 5,000 miles of operation over 125,000 miles.
3. General Overall Condition: This category takes into consideration the condition of the body, rust, interior condition, vehicular accident status, anticipated repairs, etc. A scale from one (1) to five (5) is used, with five (5) being extremely poor condition.
4. Maintenance Cost: Points are assigned on a scale of one (1) to five (5) based on the total cost factor. The maintenance cost figure includes all repair and maintenance costs minus any costs associated with accident repairs. A five (5) would be equal to 100% or more of the original purchase price, while a one (1) would be equal to 20% of the original purchase price.

POINT RANGES FOR REPLACEMENT CONSIDERATION

<u>Score</u>	<u>Condition</u>
Less than 8 points	I. Excellent
8 - 12 points	II. Good
13 - 17 points	III. Qualifies for replacement
Above 18 points	IV. Needs immediate replacement

VEHICLE EVALUATION FOR REPLACEMENT

Department: _____ Division: _____

Vehicle Make: _____ Year: _____ In Service Date: _____

Purchase Price: \$_____ Mileage: _____ Maintenance Cost: \$_____

General Overall Condition: _____

Reason for Replacement:

_____ Vehicle to be replaced was destroyed and/or cost to repair is 75% or greater than the current NADA wholesale value; or

_____ Accumulated repair costs has reached or exceeds 80% or the original purchase price; or

_____ Replacement parts or components are no longer available; or

_____ Vehicle age and/or mileage have rendered the vehicle in such condition that it cannot reliably, safely and/or economically serve its intended purpose or be used in a reasonable alternative capacity.

Points for Replacement Consideration:

<u>Factor</u>	<u>Point(s)</u>
Year of Vehicle	
Mileage	
General Overall Condition	
Maintenance Cost	
Total Points	

Comments: _____

Submitted by: _____
Department Head

Date: _____

Reviewed by: _____
Finance

Date: _____

Approved by: _____
Town Manager

Date: _____

Appendix D

Vehicle Replacement Schedule

2019 Vehicle CIP Vehicle Requests					
Division	Vehicle	Age	Make	Model	Replacement Price
Police	231		Chevrolet	Impala	\$51,318
Police	229		Chevrolet	Impala	\$51,318
Police	222		Chevrolet	Impala	\$51,318
Police	230		Chevrolet	Impala	\$51,318
Police	224		Chevrolet	Impala	\$51,318
Police	236		Chevrolet	Impala	\$51,318
IT	12		Dodge	Caravan	\$28,000
				Total	\$335,908

2020 Vehicle CIP Vehicle Requests					
Division	Vehicle	Age	Make	Model	Replacement Price
Police	252		Chevrolet	Impala	\$52,345
Police	223		Chevrolet	Impala	\$52,345
Police	238		Chevrolet	Impala	\$52,345
Planning	134		Ford	F-150	\$27,185
PW	503		Ford	F-450	\$70,350
PW	041		Ford	F-350 4x4	\$44,100
PW	030	X	Ford	F-250 4x2 HD	\$41,273
PW	031	X	Chevrolet	Dump Truck	\$110,000
PW	033	X	International	Dump Truck	\$110,000
				Total	\$559,943

2021 Vehicle CIP Vehicle Requests					
Division	Vehicle	Age	Make	Model	Replacement Price
Police	241		Chevrolet	Impala	\$53,392
Police	240		Chevrolet	Impala	\$53,392
Police	242	X	Chevrolet	Impala	\$53,392
RP	016		Ford	F-150	\$28,544
Planning	135		Chevrolet	Blazer	\$37,250
PW	712		Ford	Escape	\$46,826
PW	600	X	Ford	Ranger	\$28,544
RP	701	X	Ford	Van	\$38,755
				Total	\$340,096

2022 Vehicle CIP Vehicle Requests					
Division	Vehicle	Age	Make	Model	Replacement Price
Police	265		Chevrolet	Caprice	\$54,460
Police	266		Chevrolet	Caprice	\$54,460
Police	245		Chevrolet	Impala	\$54,460
Police	253	X	Chevrolet	Impala	\$54,460
Police	254	X	Chevrolet	Malibu	\$54,460
Police	255	X	Chevrolet	Impala	\$54,460
Planning	709	X	Ford	Ranger	\$28,800
PW	502	X	Freightliner	Dump Truck	\$121,000
				Total	\$476,560

2023 Vehicle CIP Vehicle Requests					
Division	Vehicle	Age	Make	Model	Replacement Price
Police	251		Chevrolet	Impala	\$55,549
Police	239		Chevrolet	Impala	\$55,549
Police	267		Chevrolet	Caprice	\$55,549
Police	268		Chevrolet	Caprice	\$55,549
Police	269		Chevrolet	Caprice	\$55,549
Police	258	X	Chevrolet	Impala	\$55,549
Police	259	X	Ford	Explorer	\$55,549
Police	256	X	Chevrolet	Impala	\$55,549
Police	257	X	Chevrolet	Impala	\$55,549
PW	607		Ford	F-250 4x2 HD	\$44,180
PW	705		Ford	Ranger	\$31,752
PW	504	X	Ford	Ranger	\$31,752
PW	710	X	Ford	F-150	\$31,752
				Total	\$639,377