

GUILFORD COLLEGE
COMPOST APPLICATION (1/15/13)

APPROVED
DIVISION OF WASTE MANAGEMENT
SOLID WASTE SECTION
DATE 6-6-2013 BY *[Signature]*
Doc ID 19092

Guilford College has operated two "in-vessel" small type 3 composting units known as Earth Tubs since early 2010. These units are operated under permit SWCD-41-02. The college also operates an approved curing location approximately 800 feet to the north of the two Earth Tubs.

It is the desire of the college to obtain a full composting permit allowing the continued use of the two Earth Tubs and the mixing of the cured compost in the curing area with leaves collected on site to create top-dressing for use during turf renovations on the campus grounds. This goal is part of the larger sustainability effort at Guilford College. The specific goal of this request is to divert significant volumes of food waste from the landfill and minimizes the use of petroleum based non-organic fertilizers.

During the past six months significant improvements have been made to the Earth Tub facility. Each unit has been placed on concrete slabs and both have been plumbed to a 100 gallon leachate collection vessel. The monitoring of all activity including temperature, pounds of food waste added, turning and sources of carbon has been stream-lined. All records are maintained on a computer data base.

To the very best of my knowledge, all site/design requirements under rule .1404 are met. A possible exception may be that the curing area limits public access only in that it is on private property controlled by a small parking lot with a gate approximately 250 feet due west.

Each Earth Tub batch receives up to 1000 pounds of pulped, post and pre-consumer food waste from the dinning services vendor located on campus. Leaves collected on campus are the primary source of carbon. Clean sawdust generated by the Theater Department Scene Shop is also utilized as well as occasional shredded bio-degradable paper products. Clean wood chips provided by a local tree service company (Davey Tree) is the only other source of carbon. Total food waste processed by both Earth Tubs amounts to approximately 12,000 pounds annually. Last year the total volume of cured compost generated was less than 50 cubic yards.

The Earth Tubs are managed by me along with some student work-study and occasional assistance from members of the grounds crew. My contact information is as follows:

David H. Petree Office: 336 316-2904 Cell: 336 451-6638
Guilford College
5800 West Friendly Avenue
Greensboro, NC, 27410

The operational plan for the Earth Tubs is as follows: Up to three times weekly during periods when the dinning service is operating, dinning staff bring to the kitchen dock pulped food waste in covered 30

This request is made in an effort to continue composting during the design and construction stages of the new system. The new system will become the primary compost system for the college and we will relegate the Earth Tubes to a secondary usage.

The composting operation at Guilford College is a collaboration between the college and its dining service provider, Meriwether-Godsey. Each will have an equal share in the responsibilities associated with the execution of the compost demo permit.

Contact info

Guilford College: Jim Dees (336) 316-2454 or deesjh@guilford.edu

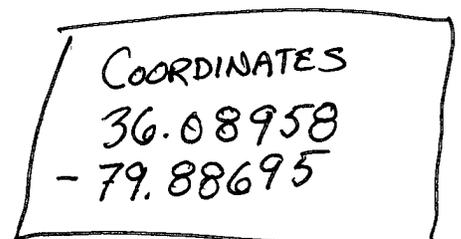
Meriwether-Godsey Dalton McBee (336) 404-9399 or dmcbee@merig.com

A handwritten signature in black ink that reads "J Dees". The signature is written in a cursive style with a large initial "J" and a long horizontal stroke at the end.

Jim Dees

Environmental Sustainability Manager

Guilford College

A handwritten note enclosed in a hand-drawn rectangular box. The text inside the box reads "COORDINATES" followed by the coordinates "36.08958" and "- 79.88695" on separate lines.

COORDINATES
36.08958
- 79.88695

Guilford College

Compost Application

Addendum – Emergency plan and spill containment

June 5, 2013

The college operates two in vessel “Earth Tubs” for the production of compost. Each vessel is double walled to provide both insulation and spill containment. Each unit sits upon a concrete slab making visual inspection for possible leaks easy. Leachate from each unit is plumbed via schedule 40 PVC into a partially submerged 100 gallon, 1/8 inch thick-walled steel vessel. The fluid level in the containment vessel is measured using a dip stick either weekly or after each time the Earth Tub is turned – whichever is more frequent.

In the event of a spill, both sawdust and oil absorbent are stored in quantity for agricultural chemical spill control not more than 125 feet from the Earth Tub area. In the event of a larger spill, or if the leachate containment vessel failed, the college owns three earth moving pieces of equipment (back-hoe/front-end loader/bobcat) that can be deployed to excavate the contaminated soil for proper disposal or re-entry into the Earth Tub vessels.

North Carolina Department of Environmental and Natural Resources

M.A. (Tony) Gallagher, Supervisor

Composting & Land Application Branch

Solid Waste Section

June 4, 2013

Dear Sir,

Attached for your consideration is an application for a full composting permit for Guilford College. The college has operated a composting facility under a Solid Waste Composting Demonstration permit (SWCD-41-02) since January, 2010. Since that time significant improvements have been made to the facility and to the manner and degree to which records are being maintained.

Thank you for your consideration of this request. Please do not hesitate to call upon me if you need additional information or assistance from me.

Regards,

David Petree

Director of Environmental Sustainability

Guilford College

Greensboro, NC 267410

Office: 336 316-2402

Cell: 336 451-6638

Request for Full Compost Permit

1. Site Owner: David H. Petree – 336 451-6638
Tyler Gilkerson – 704 534-0932

Land Owner: Guilford College

2. Location: 5800 W. Friendly Avenue.
Greensboro, NC 27410
From I-40 take the Guilford College Road exit North towards Guilford College. Stay straight through the Friendly Ave intersection past the college and take the second right entering the college on George Fox Road. Stay on George Fox until you reach a four way stop and take a left entering the Physical Plant. The Earth Tubs are located in the northeast corner of the back yard area.
3. Ingredients:
 - a. Pre and Post Consumer Food Waste - 300 – 600 lbs/week during peak operation
 - b. Shredded bio-degradable post consumer products
 - c. Leaf material collected on campus grounds during Fall
 - d. Sawdust from Theater scene shop
 - e. Wood chips
 - f. Collected leachate to control moisture as needed
4. Schedule:
 - a. Request a full permit to operate two in-vessel Earth Tubs. This replaces an existing SWCD-41-02 permit.
5. Methodology: In-Vessel System: Earth Tub
Compost method will be through the use of two Earth Tubs. All food waste will be pulped through the Waste Express Food Waste Reduction System (pulper) and then added to the Earth Tub along with the carbon bulking agents.
6. Aeration:
Aeration will be provided by routine mixing of the contained material via the system's auger.
7. Blending
Blending will be done by mixing "brown" materials such as leaves, shredded cardboard, wood chips and sawdust with our primary nitrogen, or "green" material consisting of pulped food waste, to meet that proper

25:1 carbon/nitrogen ratio. Contents of the Earth Tubs are routinely mixed with the use of the installed motorized auger.

8. Monitoring:

Temperature will be measured at least 3-4 times per week (Monday – Wednesday – Friday) once temperatures reach 131 degrees. At that time mixing the contents will be performed every two to three days until pathogen reduction requirements are met (72 hours at or above 131 F with an additional 11 days over 104 F with an average of 113 F for vector attraction reduction (VAR)). Moisture will be checked by hand method – by squeezing compost and checking moisture leaking out or the compost falling apart.

9. Leachate:

Earth Tubs are designed to produce very little leachate. Each Tub is plumped so that all leachate is piped into a partially submerged containment vessel. All leachate will be re-introduced into the Earth Tub during the early stages of filling.

10. On-Site Storage

Food waste is stored for no more than two days in covered 35 gallon Rubbermaid containers on the loading dock at Dining Services. The food waste will not be allowed to go anaerobic.

Product removed from the Earth Tub will be stored at the approved curing yard facility.

11. Product Testing

Testing will be performed by the NC Department of Agriculture (or other approved private facility) on the finished product for complete analysis of heavy metals, foreign matter, pathogens and total nitrogen. This testing will be done to show fertilizer as well as soluble salt levels. There will also be testing for fecal coliform. Man made inert will be proved to be less than 6% by comparing the weight of 5 gallons worth of compost, and the weight of contaminants found after screening 5 gallons worth of compost. Testing will be done every six months using representative samples and sanitary methodology.

12. Record Keeping

Records will be kept of all inputs and temperature readings as well as activities performed (mixing, adding leachate, etc...) on an Excel spreadsheet format. Records will show that each batch of compost discharged from the Earth Tub will have remained at or above 131 degrees for a minimum of 3 consecutive days followed by an additional 11 days for VAR. Records will also be kept for the: 1) quantity, type and source of waste received, 2) quantity and type of waste processed into compost,

3) quantity and type of compost produced by product classification, 4) quantity and type of compost removed for use or disposal.

13. Product use:

Product will be used as top-dressing during fall turf renovations on the college grounds or mixed into the soil at the production garden. If testing results reveal a failed batch, it will be re-introduced back into a Earth Tub, re-composted, tested again, and then landfilled if it does not meet testing standards.



Planning & Community
Development Department

January 24, 2013

David Petree
Director of Environmental Sustainability
Guilford College
800 West Friendly Avenue
Greensboro, NC 27410

**Zoning Compliance Letter for
5800 West Friendly Avenue
Greensboro, NC**

Dear Mr. Petree:

This office is responsible for the administration of the Zoning Ordinances for the City of Greensboro (the City), within which is located the property located at **5800 W. Friendly Avenue** (the Property). Per your request I am writing you to confirm the following:

1. The Property is currently zoned **Public and Institutional (PI) and CD-PI (Conditional District Public and Institutional)** under the current Zoning Ordinance. A map of the property and surrounding area with zoning labels is attached hereto as Exhibit A and incorporated herein by reference.
2. There are several conditions attached to the portion of the property zoned CD-PI. Exhibit B is the official zoning map with conditions that were approved
3. Attached as Exhibit C is the list of permitted uses for the **Public and Institutional (PI)** as shown in the City of Greensboro 2010 *Land Development Ordinance*.
4. Accessory uses are allowed in all zoning districts so long as they meet the standards of Sec. 30-8-11 (Attached as Exhibit D). As the proposed composting units you described to me are directly tied to the College's sustainability and educational programs, these units may be considered accessory to the main college campus and therefore are allowed.
5. The Zoning Office is not aware of any outstanding zoning violations, nor do our records reflect any zoning violations on the subject property.



Zoning Letter Request
3521 N. Elm Street

Please feel free to contact me with any questions or if you need additional information.

Sincerely,

A handwritten signature in black ink that reads "Michael T. Kirkman". The signature is written in a cursive style with a prominent "M" and "K".

Michael T. Kirkman, AICP, CZO
Zoning Administrator
336-373-4649
mike.kirkman@greensboro-nc.gov

Manmade Inert Analysis

Procedure:

From various areas of the outdoor windrow, a total of nine samples were collected and mixed. This representative sample was then dried and weighed. The sample was then passed through a one-quarter inch screen. The refuse that remained on the screen was inspected, and the manmade materials were extracted. The manmade materials were then weighed separately. Finally, the weight of the foreign matter was divided by the weight of the total compost sample and multiplied by 100.

Calculation:

Dry Compost Weight: 3.92 lbs

Foreign Matter Weight: 0.005 lbs

$$0.005/3.92 = 0.0012755$$

$$0.0012755 \times 100 = \mathbf{0.12755\% \text{ dry weight of inerts}}$$

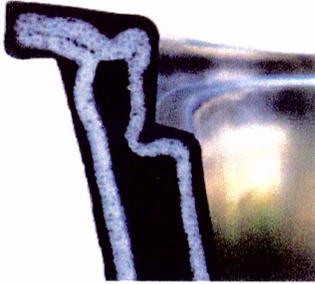


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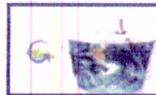
In-Vessel Systems

[Earth Tub](#)
[Earth Flow](#)
[Containerized Compost System](#)
[For more information Contact Us.](#)


Earth Tub

The Earth Tub is designed specifically for on-site composting of food-waste. The Earth Tub is a fully enclosed composting vessel featuring power mixing, compost aeration, and biofiltration of all process air. This self-contained unit is ideal for composting at schools, universities, restaurants, hospitals and supermarkets.

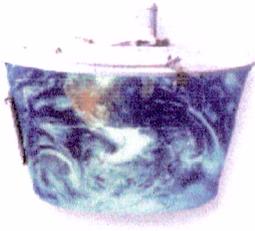
[Earth Tub: Step by Step](#)



- [Overview](#)
- [Specifications](#)
- [Media](#)
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Earth Tub

With more than 200 tubs sold worldwide, the Earth Tub is the most popular in-vessel, commercial composting system of its size. The Earth Tub is recommended for applications composting less than 300 pounds per day (total biodegradables). Each Earth Tub can individually compost between 75-100 pounds per day (total biodegradables). Two Earth Tubs can jointly compost between 150-200 pounds per day. Three Earth Tubs can jointly compost between 225-300 pounds per day.



The New Earth Tub

The New Earth Tub (Version 9.0) is now available! We've listened to our customers and incorporated great new features and benefits into the new Earth Tub design!

- Easier to mix! The tub and lid design has been modified for smoother turning of the lid.
- Better protection against rain! Cover has a new sloped design to help it shed rain water and prevent rain from entering the Earth Tub.
- No leachate requirements! Leachate can now be recycled back into compost. An optional leachate drain provides options for disposal of excess leachate.
- Easier to unload compost! The Earth Tub now has a new larger, discharge door that provides better access to the interior of the Tub.
- Easier to clean! No more perforated floor. The smooth floor makes it easier to remove compost and clean the Earth Tub.
- Recycled content! The Earth Tub vessel is now made with 50% post-consumer recycled content plastic!
- Cool new look! Enhanced structural design imparts a sleek, rugged aesthetic. Neutral colors look great in a variety of environments.

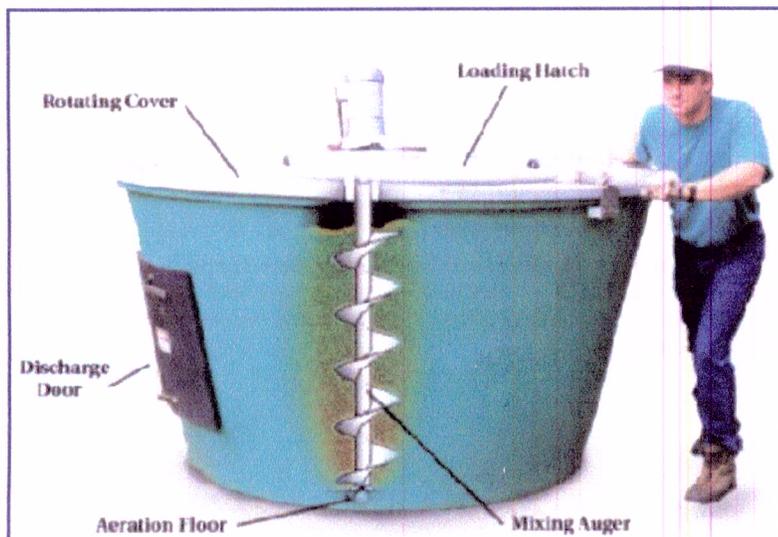
* Tub base is made of 50% post-consumer and 50% post-industrial recycled content plastic. Cover is made of 50% post-consumer recycled content plastic.

The Earth Tub Process



Loading the Earth Tub

Organic materials such as food scraps, manure or yard waste are loaded through the large hatchway in the cover. These wet organic materials are then covered with dry materials such as wood chips, shavings, leaves or small weeds to prevent odors and insure that porosity and moisture levels are ideal for composting.



Mixing

Turn on the auger motor and rotate the cover to shred and mix the new organic material into the active compost. Two revolutions of the rotating cover are required to mix the outside and center of the Earth Tub. The auger will shred and mix a ton or more of compost in 10-15 minutes. During active composting, the Earth Tub should be mixed at least two times per week.

Aerobics and odor control

Maintaining aerobic conditions and controlling temperatures are essential for fast, effective composting and odor control. The aeration system draws air through the compost and forces the exhaust air through our biofiltration air purification system to remove odors. The overall cleanliness of the in-vessel design allows the Earth Tub to be placed in commercial settings close to where waste is generated.

Waste reduction

Heat generated in the Earth Tub rapidly breaks down the food scraps. The volume reduction is typically 50% or higher. After 2-3 weeks of active composting, open the discharge door and remove the compost product. The compost can be cured for 20-40 days for further stabilization if you are blending it into a soil mix.

Key features

- Easy to operate
- Rapid process reduces compost volume quickly
- Heavy-duty plastic construction
- Minimal need for bulking agent
- Short time required for mixing/loading
- Temperature controlled system
- Insulated for cold weather operation
- Thorough compost mixing
- Bio-filter odor control system

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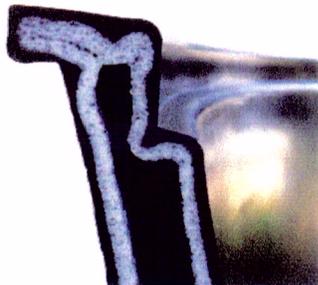


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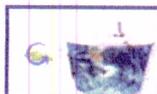
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[Earth Tub: Step by Step](#)


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- [Specifications](#)
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Specifications

Tub Vessel Height	48"
Overall Height	68"
Overall Diameter	90"
Foam Insulation	R-12
Shipping Weight	846 lbs
Volume	3 cubic yards
Mixing Auger	12" Diameter Stainless Steel
Auger Motor	3 Ph 2 hp 230/460V
Aeration Blower	80 CFM 100 watt
Power Usage	~1080 kWh per year

Liquid Drain Optional leachate drain (plus water condensate drains on biofilter)
Processing Capacity 75-100 pounds per day*

Downloads



[Earth Tub FAQ Sheet](#)

(59.0 KB)



[Earth Tub Installation Requirements](#)

(70.7 KB)



[Earth Tub Quick Operating Guide](#)

(8.9 KB)



[Earth Tub Site List](#)

* Pounds per day of total biodegradables for each Earth Tub.

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802.368.7313

SAMPLE DATA LOG

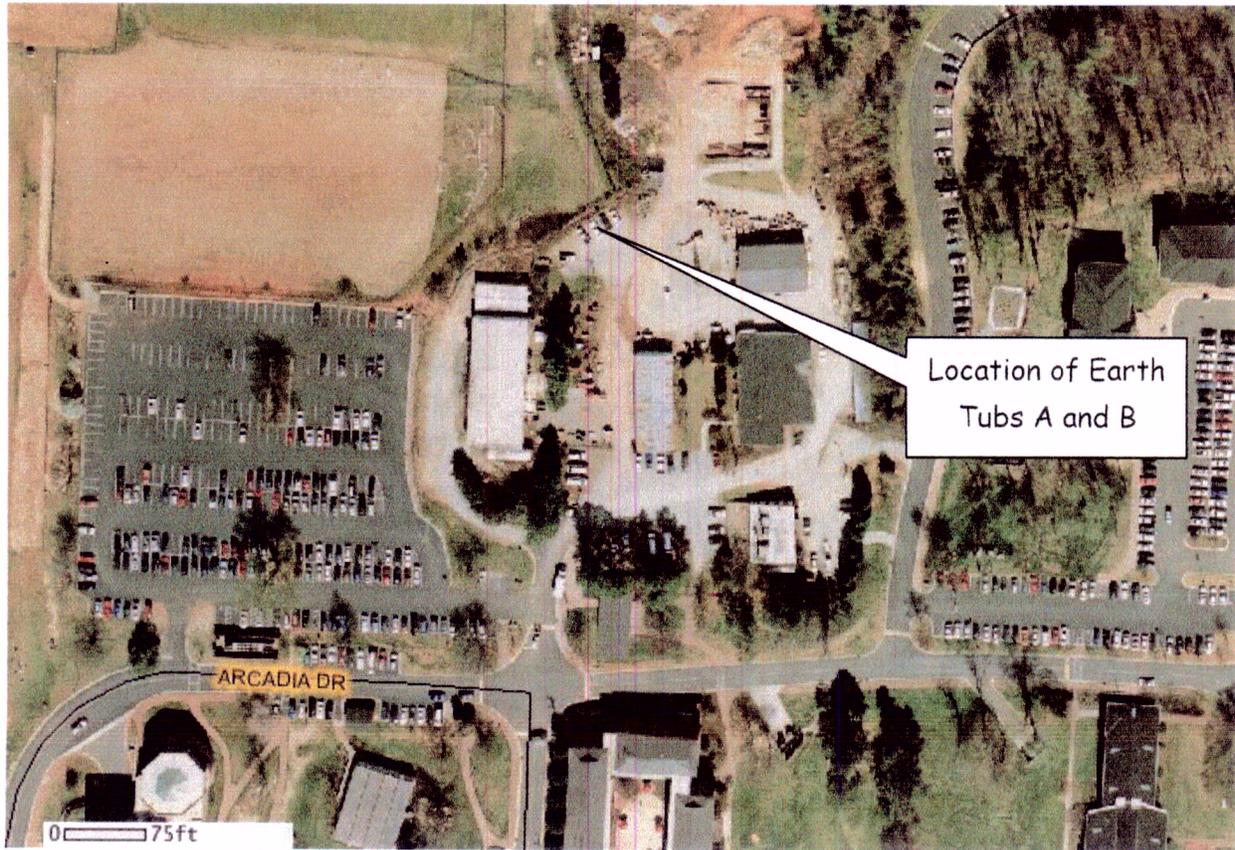
Batch #6

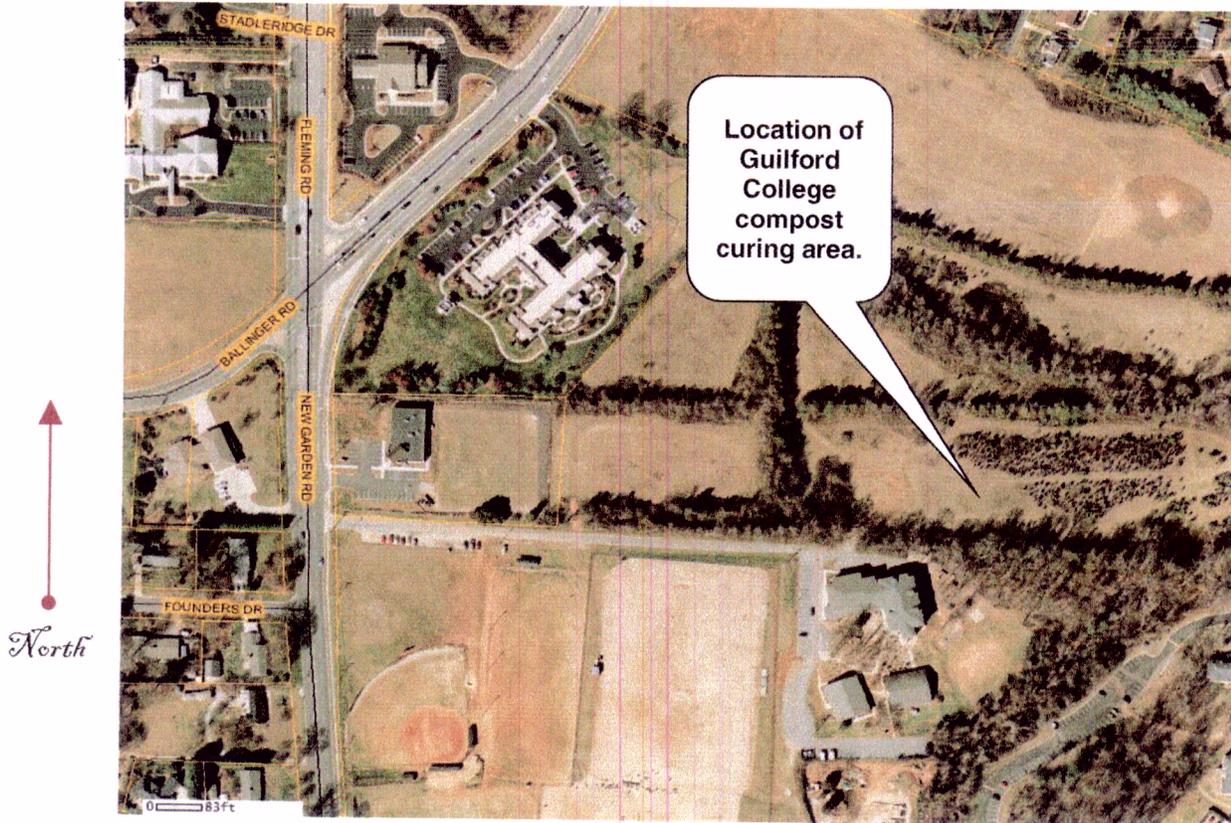
Important Information	
Location:	Earth Tub B
Days Over 131°F:	>35
Sterilized:	Yes
Total Pounds of Food Waste:	1030
Actinomycetes Present:	Yes

Data Logger

Date:	Over 131?	Temperature:	Activity:	FW Pounds Added:	Action Taken:
10/20/2012	No	0		120	
10/22/2012	No	0		100	
10/25/2012	No	0		120	
10/26/2012	No	0	nonpulped meadow fed leftovers added	80	
10/26/2012	No	0		100	
10/29/2012	No	0	Added in two layers	180	
10/30/2012	No	0		70	
11/5/2012	No	130	two layers added	160	
11/9/2012	No	130		100	
11/12/2012	No	130	coffee grounds 30lbs	30	
11/13/2012	Yes	140	stirred	0	
11/14/2012	Yes	142	Added food pulp in two layers with leave	340	
11/19/2012	Yes	158	Stirred, full	120	Added food pulp
11/26/2012	Yes	158	Actinomycetes present	0	Stirred
11/30/2012	Yes	152		0	Stirred
12/4/2012	Yes	158			
12/5/2012	Yes	158			
12/6/2012	Yes	158			
12/10/2012	yes	144			
12/11/2012	Yes	144	emptied - transferred to curring yard		emptied

Aerial Photograph





Note: The three buildings just south of the current curing area New Garden Friends School. The property is owned by the college and leased by NGFS. The northern most building is at closest 212 feet from the curing location.

Guilford County, NC

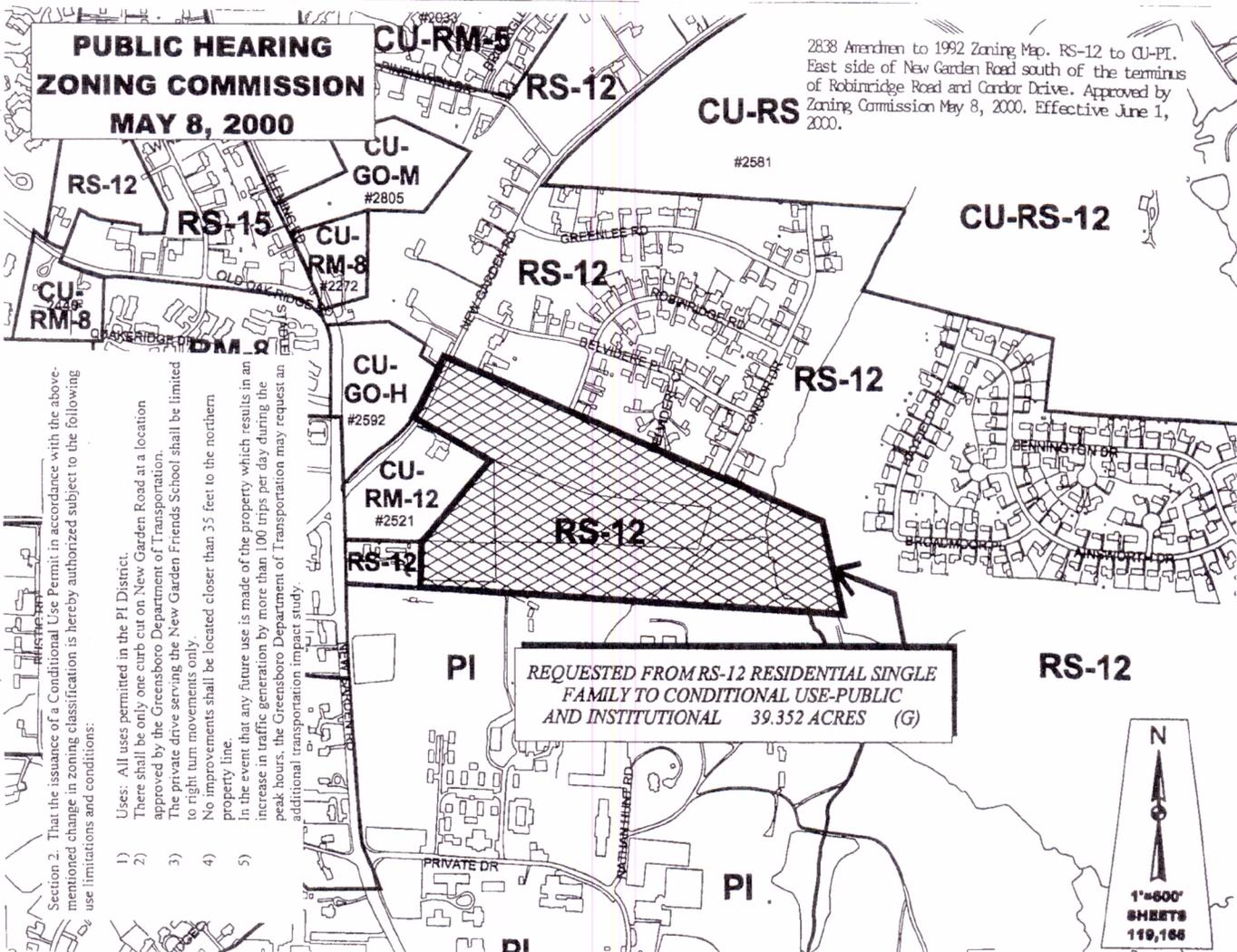


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Map Scale
1 inch = 245 feet

**PUBLIC HEARING
ZONING COMMISSION
MAY 8, 2000**

2838 Amendment to 1992 Zoning Map. RS-12 to CU-PI.
East side of New Garden Road south of the terminus
of Robinridge Road and Concor Drive. Approved by
Zoning Commission May 8, 2000. Effective June 1,
2000.



Section 2. That the issuance of a Conditional Use Permit in accordance with the above-mentioned change in zoning classification is hereby authorized subject to the following use limitations and conditions:

- 1) Uses: All uses permitted in the PI District.
- 2) There shall be only one curb cut on New Garden Road at a location approved by the Greensboro Department of Transportation.
- 3) The private drive serving the New Garden Friends School shall be limited to right turn movements only.
- 4) No improvements shall be located closer than 35 feet to the northern property line.
- 5) In the event that any future use is made of the property which results in an increase in traffic generation by more than 100 trips per day during the peak hours, the Greensboro Department of Transportation may request an additional transportation impact study.

N
1"=600'
SHEETS
119,166

PI District

Purpose and Intent:

The PI, Public and Institutional District is intended to accommodate mid- and large-sized public, quasi-public, and institutional uses which have a substantial land use impact or traffic generation potential. It is not intended for smaller public and institutional uses customarily found with-in residential areas.

PERMITTED USES

AGRICULTURAL USES

- Forestry and Crops

RESIDENTIAL USES

GROUP LIVING

All Group Living except as listed below:

- Rooming Houses

PUBLIC AND CIVIC USES

CULTURAL AND COMMUNITY

• Libraries, Museums, and Art Galleries
All neighborhood-scale cultural and community uses except as listed below:

- Auditoriums, Coliseums, and Stadiums
(See Subject To Use Standards)

EDUCATIONAL FACILITIES

- Elementary / Secondary Schools, neighborhood-scale
- Colleges and Universities

All educational uses except as listed below:

- Truck Driving Schools

GOVERNMENT FACILITIES

All government uses except as listed below:

- Correctional Institutions (See Special Use Permit)

MEDICAL FACILITIES

- All Medical Uses
- Medical, Dental, and Related Offices
- Specialty Hospitals
- Hospitals

RELIGIOUS ASSEMBLY

- Neighborhood-scale

UTILITIES

- Utility Lines and Related Appurtenances

OFFICE, RETAIL, AND COMMERCIAL USES

OFFICE

- Business Incubators
- Retreat Centers

All office uses except as listed below:

- Residential Office Conversion

INDUSTRIAL AND MANUFACTURING USES

- Medical and Dental Laboratories

ACCESSORY USES AND STRUCTURES

- Recycling Collection Points

TEMPORARY USES AND STRUCTURES

- Arts and Crafts Shows
- Carnivals and Fairs
- Christmas Tree Sales
- Concerts, Stage Shows
- Conventions, Trade Shows
- Outdoor Religious Events

PERMITTED SUBJECT TO USE STANDARDS

RESIDENTIAL USES

HOUSEHOLD LIVING

- Upper-Story Residential

GROUP LIVING

- Assisted Living Facilities
- Fraternities and Sororities
- Life Care Communities
- Private Dormitories

PUBLIC AND CIVIC USES

CEMETERIES

- All Cemeteries

CULTURAL AND COMMUNITY

• Auditoriums, Coliseums, and Stadiums
All community-scale cultural and community uses except as listed below:

- Libraries, Museums, and Art Galleries
(See Permitted Use)

DAY CARE

- Day Care Centers

EDUCATIONAL FACILITIES

- Elementary / Secondary Schools, community-scale

RELIGIOUS ASSEMBLY

- Community-scale

SOCIAL SERVICE FACILITIES

- All Social Service Facilities
- Group Care Facilities
- Shelters, Temporary and Emergency

UTILITIES

- Minor Utilities
- TV / HDTV / AM / FM Broadcast Facilities
- Wireless Telecommunication Facilities

PI District

RECREATION USES

INDOOR RECREATION

- Clubs and Lodges

OUTDOOR RECREATION

- Golf Course, Driving Ranges, Country Club
- Riding Stables *(See Special Use)*
- Shooting Ranges *(See Special Use)*
- Sporting and Recreational Camps *(See Special Use)*
- Swim and Tennis Clubs

PARKS AND OPEN AREAS

- All parks and open areas

OFFICE, RETAIL, AND COMMERCIAL USES

OVERNIGHT ACCOMMODATIONS

- Single Room Occupancy Residences (Conversion)
- Single Room Occupancy Residences (New)

COMMERCIAL PARKING

- All Commercial Parking *(See Special Use)*
- Park and Ride Facilities

ACCESSORY USES AND STRUCTURES

- Accessory Uses and Structures (Customary)
- Caretaker Dwellings
- Junked Motor Vehicles
- Satellite Dishes / TV and Radio Antennae Towers
- Swimming Pools

TEMPORARY USES AND STRUCTURES

- Land Clearing & Inert Debris Landfills, Minor
- Portable Storage Units
- Temporary Construction Office, Construction Equipment Storage, Real Estate Sales and Rental Offices
- Temporary Wireless Telecommunication Facilities

PERMITTED WITH SPECIAL USE PERMIT

PUBLIC AND CIVIC USES

GOVERNMENT FACILITIES

- Correctional Institutions

PASSENGER TERMINALS

All passenger Terminals except as listed below:

- Bus and Rail Terminals

UTILITIES

- TV / HDTV / AM / FM Broadcast Facilities

RECREATION USES

OUTDOOR RECREATION

- Riding Stables
- Shooting Ranges, Archery, Skeet
- Sporting and Recreational Camps

OFFICE, RETAIL, AND COMMERCIAL USES

COMMERCIAL PARKING

- All Commercial Parking

PERSONAL AND PROFESSIONAL SERVICES

- Funeral Homes and Crematoriums

Public and Institutional Districts Dimensional Requirements [1]:

* This document is provided as a customer service and is not the official Development Ordinance of the City of Greensboro. For more information, contact the Greensboro Planning Department by phone at (336) 373-2144 or on the web at www.greensboro-nc.gov/ldo

PI District

Purpose and Intent:

The PI, Public and Institutional District is intended to accommodate mid- and large-sized public, quasi-public, and institutional uses which have a substantial land use impact or traffic generation potential. It is not intended for smaller public and institutional uses customarily found with-in residential areas.

Lot Dimensions (minimum)	
Minimum Lot Size (sq. ft.)	5 Acres
Minimum Lot Depth (ft.)	N/A
Minimum Lot Width (ft.)	150 [2]
Setbacks (minimum ft.)	
Minimum Street Setback (ft.)	15
Minimum Side and Rear Setback (ft.)	
Adjacent to RM-5, RM-8, and all R - Districts	35
Adjacent to All Other Districts	20
Build-To Line	
Distance from edge of street right-of-way (ft.)	N/A
Percentage of façade that must be located on or in front of the build-to-line	N/A
Bulk (maximum)	
Height (ft.) / Number of Stories	
Adjacent to Residential Districts	50 [3]
Adjacent to All Other Districts	No Limit

Footnotes:

- [1] Dimensional requirements in this table may be modified by overlay district requirements.
- [2] All lots must be in compliance with the City’s Driveway Manual.
- [3] Maximum height without additional setbacks. Building height may be increased provided that one foot of additional setback is provided for each foot of building height above 50 feet.

Signage Requirements:

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PI District

Freestanding Signage

Sign Type	Max. Number	Max. Area (sq. ft.)	Min. Area[1] (sq. ft.)	Setback (feet)	Height (feet)
Development [2] Entrance	1 pair per entrance	50	N/A	ROW[3]	6
Information	1 per building	50	N/A	ROW[3]	8
Banners[4]	1 per 500 feet of lot frontage	0-100' Frontage: 12 101-200' Frontage: 16 >200' Frontage: 20	12	ROW[3]	20

Footnotes:

- [1] "Min. Area" refers to the minimum sign area allowed for any lot, regardless of the area that would be allowed by strict compliance with the area computation formula. Signs may be smaller than the stated "minimum area".
- [2] Permitted only in (A) major subdivisions, (B) developments of over 15,000 square feet of gross floor area, (C) multi-family developments with more than 8 dwelling units in a single building, or (D) developments with more than 40,000 square feet in open-air uses.
- [3] Signs must be located outside public street right-of-way and outside any sight triangle area. However, development entrance signs may be erected in the public right-of-way provided that such signs have been permitted by an approved encroachment agreement in accordance with Sec. 30-14-7.3(D).
- [4] For banners as temporary signs see Sec. 30-14-10.

Attached Signage

Attached Sign Type	Max. Number	Max. Area (sq. ft.)	Min. Area [1] (sq. ft.)	Max. Height (feet)
Wall Sign	N/A	5% of wall area[2][3]	25	Top of Wall
Awning, Canopy, and Marquee Signs	N/A	25% of the canopy, awning, or marquee Face[4]	N/A	Top of Canopy[5]
Suspended Sign	1 per entrance	6	N/A	[5]
Banners[6]	1 per 500 feet street frontage	0-100 ft. = 12 sq. ft. 101-200 ft. = 16 sq. ft. >200 ft. = 20 sq. ft.	12	[5]

Footnotes:

- [1] "Min. Area" refers to the minimum sign area allowed for any lot, regardless of the area that would be allowed by strict compliance with the area computation formula.
- [2] Based on the first 30 feet of height of the wall on which the sign is located. Buildings over 30 feet in height may have additional sign area based on 5% of the wall area above 30 feet in height, provided the sign is located at or near the top of the building.
- [3] In multi-tenant buildings, the area computation must be based on the individual wall area of each separate occupant and not based on the entire façade of the building.
- [4] When an awning, canopy, or marquee is attached to a multi-tenant building or an indoor theater, the area computation for all attached signs affixed to the wall, awning, canopy, or marquee must be based on 10% of the wall area. All or any portion of this sign allocation may be affixed to the wall, awning, canopy, or marquee provided that no part of the sign projects above the top of said structures.
- [5] Minimum 9-foot clearance above pedestrian walkways; minimum 15 feet clearance above vehicular drives.
- [6] For banners as temporary signs see Sec. 30-14-10.



30-8-11.1 Accessory Uses and Structures (Customary)

A. Size and Proportion

1. The sum of all accessory uses may not exceed 30% of the principal use's gross sales, volume, floor area, land area, or any other appropriate measure of usage as determined by the Planning and Community Development Director.
2. An accessory structure must be clearly subordinate to the principal structure in all dimensional aspects.
3. In R districts, the maximum building coverage of all accessory structures may not exceed 50% of the building coverage of the principal structure on the lot or 600 square feet, whichever is greater.

B. Street Setbacks

1. Single-family Development

Accessory structures must be located behind the front building line of the principal structure, and are not allowed in a required street setback.

2. Multi-family Development

Clubhouses, rental or administrative offices, and mailbox kiosks or shelters may be located in front of the front building line of the principal structure, but are not be allowed in a required street setback. All other accessory structures must be located behind the front structure line of the principal structures.

3. Nonresidential Development

Accessory structures may be located in front of the principal structures but are not allowed in a required street setback.

C. Interior Setbacks

1. Setback from Alleys

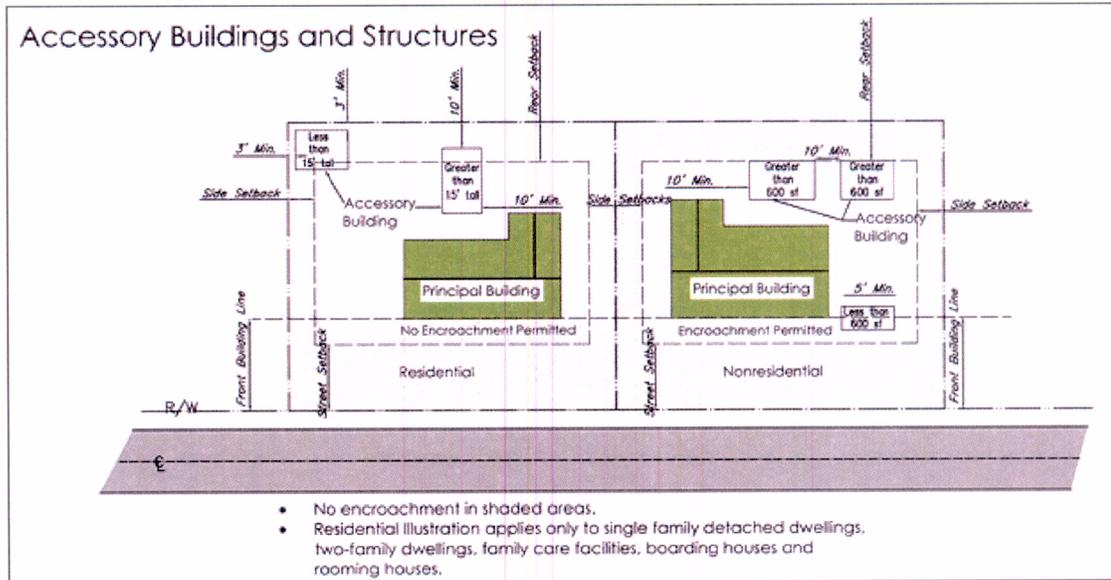
When accessory garages are located along an alley, the structure must be set back at least 10 feet from the alley right of way, and provide an area sufficient for at least one off-street parking space. This requirement may be reduced to 3 feet by the Planning and Community Development Director with the approval of a Type 1 Modification (see Sec. 30-4-11, Modifications) if the applicant can demonstrate that alternative provisions (such as a parking area to the side of the garage) will prevent traffic obstruction in the alley.

2. Residential Districts

Accessory structures must be set back at least 3 feet from side and rear lot lines. In the R- districts, this setback must be increased to 10 feet for accessory structures over 15 feet tall.

3. All Other Districts

Accessory structures must meet the required setbacks for the zoning district.



D. Easements

Accessory structures may not be located in an easement unless otherwise expressly stated.

E. Minimum Structure Separation

An accessory structure must be separated from any other structure on the site (principal or accessory), by the following dimensions:

1. Accessory structures smaller than 600 square feet of floor area must be separated by at least 5 feet from any other structure on the lot.
2. Larger accessory structures must be separated by at least 10 feet from any other structure on the site.

F. Height Requirements

Unless specifically modified elsewhere in this ordinance, accessory structures must meet the height limits of the zoning district.

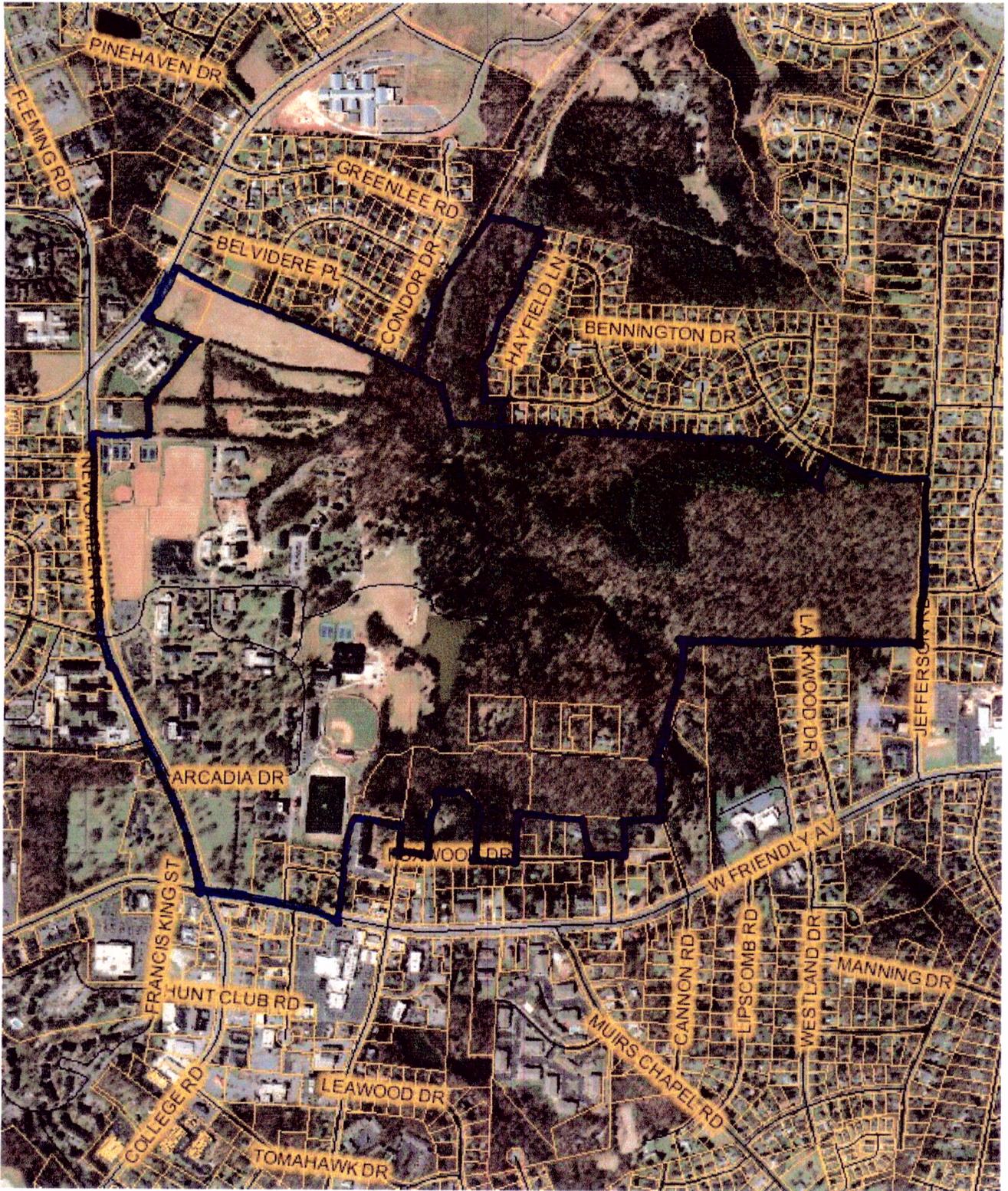
G. Other Requirements

1. Utilities

Accessory structures to single-family, twin homes, duplexes, and traditional houses must take utility service such as water, sewer, and electrical by branching service from the principal dwelling.

Vicinity Map





Guilford College Property Boundary

The following two topographic photos show 2' contour intervals at both the Earth Tub and curing yard locations:



**EARTH
TUBS**

ARCADIA DR

FOX-FIRE DR
FOX-FIRE CT





Guilford COLLEGE

5800 West Friendly Avenue ◊ Greensboro, NC 27410

January 11, 2012

Mr. Michael Scott

Section Chief, Solid Waste Section

DENR Division of Waste Management

On behalf of Guilford College I would like to submit to you this revised request for a 12 month extension to the college's SWCD-41-02 Permit which is set to expire on January 12, 2012. This permit applies to a two in-vessel composting system located at the facilities yard of Guilford College.

As per your request I am including the following specific information on how the system will be managed more effectively:

- 1) **Odor control:** Odor will be managed mainly by maintaining a proper Carbon/Nitrogen ratio in the composting materials. In addition, daily blending of the compost and proper maintenance of the built-in aeration system are expected to mitigate any offensive odors.
- 2) **Proper Leachate management:** According to the manufacturer, the Earth Tube is designed to produce very little leachate. Any leachate that is produced will remain in the vessel as the drain plug on the bottom of each tube has been sealed.
- 3) **Proper management of additional volumes of waste:** Guilford College currently produces approximately 140 pounds of compostable food waste per day. In order to maintain a proper C:N ratio, 280 pounds of carbon (leaves, straw, sawdust, shredded cardboard) will be added daily. Once the earth tubes have reach their capacity, any food waste produced by dining services will be placed in the solid waste dumpster adjacent to Founders Hall.
- 4) **Specific information on the assistance from DEAO (Brian Rosa) regarding the redesign of the system (with timelines):** Guilford College is in communication with Mr. Brian Rosa to design a bin style composting system large enough to handle the current volume of food waste. It is the intention of Guilford College to obtain a new demonstration permit for this new system.

The general timeline for this work is as follows:

Design Stage: Jan 10 – Jan 31

Construction: Feb 1 – Feb 24

Ready-for-use: March 1

Dear Mr. Gallagher,

1/15/13

Following is my first effort to complete the compost application for Guilford College. I don't doubt that you may require additional information. I wanted to get something in your hands to review to be sure I am at least working in the right direction.

Once you've had an opportunity to review, please feel free to contact me if clarification is needed regarding the enclosed contents or if additional information. I'm eager to help.

Thank you for all the help you've already given. It is appreciated.



David H. Petree

A handwritten signature in black ink, appearing to read 'DHP', written over a horizontal line.

Director of Environmental Sustainability

Guilford College

5800 West Friendly Avenue

Greensboro, NC 27410

Office – 336 316-2402

Cell – 336 451-6638



David H Petree <dpetree@guilford.edu>

email

Kirkman, Mike <Michael.Kirkman@greensboro-nc.gov>
To: David H Petree <dpetree@guilford.edu>

Mon, Jan 7, 2013 at 2:52 PM

Good afternoon Mr. Petree. I did receive your email with the additional details but have not yet had time to put together the letter you need as we're a little short staffed at the moment due to illnesses and medical issues. I'll look to get this to you this week though as the use is fine from the City's perspective since it's accessory to the College.

Thanks,

Mike Kirkman

From: David H Petree [mailto:dpetree@guilford.edu]
Sent: Monday, January 07, 2013 7:26 AM
To: Kirkman, Mike
Subject: email

Just following up to be sure you received my email. Please let me know if you need more.

David H.Petree

Sustainability & Grounds

Please note that email sent to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

Gallagher, Tony

From: David H Petree [dpetree@guilford.edu]
Sent: Tuesday, June 04, 2013 11:26 AM
To: Gallagher, Tony
Subject: Re: Guilford College Distribution letter.

I gave up on the County Register of Deeds and called the County Tax Department. They were most helpful. Their records for the main campus grounds show Deed Book 99, page number 72 which references the 349.16 acres of campus. I believe this is what you are requesting. No previous owner is shown.

Just for interest sake, I found in the register of deeds the oldest entry is Deed Book 8, page 19 filed on 11/30/1926.

I've asked our Library historian to see if she might have more information about the previous owner.

David

David H.Petree
Sustainability & Grounds

On Tue, Jun 4, 2013 at 7:58 AM, David H Petree <dpetree@guilford.edu> wrote:
Thanks Tony. I have attached a cover letter and corrected application request. I've winged the cover letter. If you need something different, let me know. Still working on the deed information. Should have something this week.

David H.Petree
Sustainability & Grounds

On Fri, May 31, 2013 at 2:46 PM, Gallagher, Tony <tony.gallagher@ncdenr.gov> wrote:

Hi David,

I have attached the corrected distribution letter for your facility to distribute finished compost.

Thanks

M.A. (Tony) Gallagher, Supervisor
Composting & Land Application Branch
Solid Waste Section
phone/fax (919)707-8280

E-mail address - tony.gallagher@ncdenr.gov

<http://portal.ncdenr.org/web/wm/sw/septage>

Please complete the DENR Customer Service Survey by May 31 to give us feedback on how we are doing and how we can improve: <https://www.surveymonkey.com/s/2013DENRCustomerService>

Please contact eac@ncdenr.gov if you have problems accessing the survey.

E-mail correspondence to and from this address may be subject to North Carolina public records law and may be disclosed to third parties.