

Report Topic: Green Burial

Background:

In September, 2014, Ellie Kinnaird, Former Mayor of Carrboro, addressed the Board of Aldermen requesting that the Town permit green burial. In response to this request, the Board of Aldermen requested that Town Staff research green burial and its feasibility for Carrboro Cemeteries. The Manager's Office staff and Public Works staff conducted research and presented a report to the Board in February, 2015. Agenda item materials can be found here:

<https://carrboro.legistar.com/LegislationDetail.aspx?ID=2166194&GUID=EB05B333-65BA-4D52-91F9-24CFA218F265&Options=&Search=>

The Board of Aldermen asked questions related to cemetery plot availability for Carrboro residents, the cost of cemetery maintenance, and the possibility of green burial. Town staff have been working on an analysis of the overall 'health' of the cemeteries and will come back to the Board with a report that addresses those questions. This report is focused solely on the permissibility of green burial in Town owned cemeteries. Basic background information on Carrboro cemeteries has been provided below for an updated contextual setting.

Current Cemetery Information

Westwood Cemetery is located on the corner of Fidelity St. and Davie Rd. It encompasses a total of 8.73 acres, of which 2.45 acres are currently plotted. Of the plotted area, 17% (387/2216) of the plots remain unsold. This Cemetery includes three blocks (A, B, and C). Block A is nearly sold out with 4 plots remaining, Block B has 16 plots remaining and Block C has 367 plots remaining. The rest of the Town-owned acreage on this site is a natural area containing large rocks. See Attachments A and B. Approximately 6 acres remain for future use.

Old Carrboro Cemetery is located off of the Libba Cotton Bike Path, behind 300 E. Main St., and is 2.14 acres in total. 54% of that cemetery is available, or 92/172 remaining plots. See attachments C & D.

Over the past twelve years, an average of 18 plots have been sold per year in both cemeteries.

Brief Overview of Green Burial

Green, or natural burial is a way of caring for the dead with minimal environmental impact that aids in the conservation of natural resources, reduction of carbon emissions, protection of worker health, and the restoration and/or preservation of habitat. Green burial necessitates the use of non-toxic and biodegradable materials, such as caskets, shrouds, and urns.ⁱ It is the burial of a body in a manner that does not inhibit decomposition and allows the body to recycle naturally. There are three factors that make a burial green 1) no embalming 2) no vault 3) biodegradable burial containers.

If the Town chooses to permit Green Burial, they could do so in one of three ways:

1. Offer 'hybrid' green burial which incorporates the essential aspects of green burial into a traditional cemetery, either as requested throughout the remaining cemetery plots, or in a designated green burial section.
2. Set aside a portion of land and offer the essential aspects of green burial and use practices that conserve energy, minimize waste, do not require the use of toxic chemicals, and prohibit a vault.
3. Form a Conservation Burial Ground, which is a type of green cemetery that is established in conjunction with a conservation organization and provides perpetual protection of the land according to the conservation easement or deed restriction in place; the highest standard of green burial certified by the Green Burial Councilⁱⁱⁱ

Issues to Consider

1) Demand

Green burial is still a small piece of the U.S. funeral industry, however, it is a growing trend. The National Funeral Directors Association's 2017 Consumer Awareness and Preferences Study reported that just over half of respondents (53.8 percent) said they would be interested in exploring green memorialization options to reduce the environmental impact of end-of-life rituals.ⁱⁱⁱ NFDA is the world's leading and largest funeral service association, serving 19,700 individual members who represent more than 10,000 funeral homes in the United States and 49 countries around the world. The number of Green Burial Council approved providers in North America has grown from 1 in 2006, to more than 300 today, operating in 41 states and 6 provinces of Canada. However, thus far, the Town has had only one request to permit a green burial. This individual owns two plots in the Old Carrboro Cemetery (see the red circle on attachment D).

Chapel Hill Memorial Gardens, founded in the mid-1950s and located on NC 86 is the only perpetual care cemetery in Orange County.^{iv} They put polypropylene domes on top of the bodies so that the backhoes can go over the plots without sinking. The bottoms are left open so that the bodies can decompose naturally. They have a hybrid cemetery and people can choose their burial method. The cemetery manager reported that green burial is only occasionally requested and they have not had any animal issues.

2) Environmental Impact

The Green Burial Council finds that green burial is more environmentally friendly than traditional burial. Steel, reinforced concrete, and embalming fluid are not utilized for green burials. A body is able to decompose naturally and all items around the body are meant to be biodegradable. Green cemeteries offer low impact burials and some also conserve and restore land. Fresh graves appear mounded but flatten with time. Flat stones or native trees are often used as grave markers -- and some natural cemeteries even offer plots marked with GPS. The graves are dug at a depth of about 3.5 feet deep, which is ideal for rapid aerobic decomposition; the depth also prevents attracting animals during the decomposition process. Wooden boards typically surround the grave opening to prevent soil collapse. Local greenery and wildflowers often cover excavated soil and may line the bottom of the grave. Once covering of the body with soil is complete, it may take several weeks for the soil to settle.

3) Design and Maintenance

Green burial cemetery design and maintenance is different from traditional burial cemeteries. If green burial were to be incorporated in Carrboro cemeteries, mounds and land sinking could pose a maintenance issue. One potential solution for this issue would be to designate certain sections of a cemetery for green burial so the two maintenance methods would not be in conflict. Two additional ways to address this issue are to use polyurethane domes to prevent sinking (as used in Chapel Hill Memorial Gardens) or to not use a heavy mower, but instead use a more delicate maintenance procedure.

4) Cost

Currently, both vaults and liners are required at each gravesite. This represents a significant expense for individuals in order to comply with the Town ordinance. A basic concrete liner is estimated to be \$400-1500, while a sealed vault can be \$600 to over \$10,000 with a median cost of around \$1400.^v

Legal Basis

Based on N.C.G.S. § 160A-341, municipalities are authorized to regulate the manner of burials in town cemeteries. This means that the Town may adopt rules and regulations concerning burials that occur within its municipal cemeteries. This authority does not extend, however, to the regulation of burials in private or church cemeteries.

The Town of Carrboro has codified its burial regulations in Chapter 13 of its town code. Section 13-3 provides that “no person may bury or cause to be buried the body of any deceased person within the town limits in any place other than a church cemetery or a cemetery operated by a governmental entity or a private cemetery licensed or specifically exempted from licensing. . .” Thus, the Town requires that all bodies buried within the town limits to be buried in a cemetery.

There is very little information available regarding regulation of “green burials” throughout the States. According to a 2007 article in the Elder Law Journal, no States absolutely require embalming of bodies before they are buried.^{vi} Further, there are virtually no regulations with respect to green burials or home burials. *Id.* at 395. The article also discusses the increasing popularity in green burials, but suggests that there is a very limited number of green burial sites throughout the country. *Id.* at 413.

Thus, it appears that the Town of Carrboro does have authority to regulate the manner of burials in town operated cemeteries. Because the town has passed an ordinance that does, in fact, regulate the manner of burials in its town cemeteries that restricts the use of green burials, it appears that an individual may not have a “green burial” in a town cemetery. Further, it appears that there is no state or federal uniform regulation directing the manner in which green burials must be carried out. Thus, it seems that municipalities, churches, or private entities may allow green burials in their cemeteries if they so choose.

Discussion

At this time the Board is being asked to consider two alternatives in reference to green burial. The first alternative is to leave the Town Code as it currently stands, continue to require the use of vaults in town cemeteries, and conduct further study on modern burial techniques and future cemetery capacity. The second option is to move forward with amending the Town Code to allow green burial as an option for all citizens in the Old Carrboro Cemetery. Westwood Cemetery is not included in this recommendation because the grave spacing, uniform maintenance needs, and overall structure of the cemetery are not compatible with creating a hybrid cemetery in the existing blocks. However, a segment of the un-plotted area could be examined in the future when that land is surveyed.

1. Continued Study

Further study allows more time to analyze best practices in regard to maintenance, procedures, and location for green burial. Ongoing challenges relate to maintenance associated with grave sinking and grave mounding. Both of these issues are difficult for grounds keeping, one of the primary cemetery maintenance activities. Another reason to take more time to look at this issue is that the demand for green burial is very low. Also, with additional time, the Town could determine if there is an area that could be dedicated to green burial, perhaps as a conservation ground. There would also be ample time for citizen input on the matter.

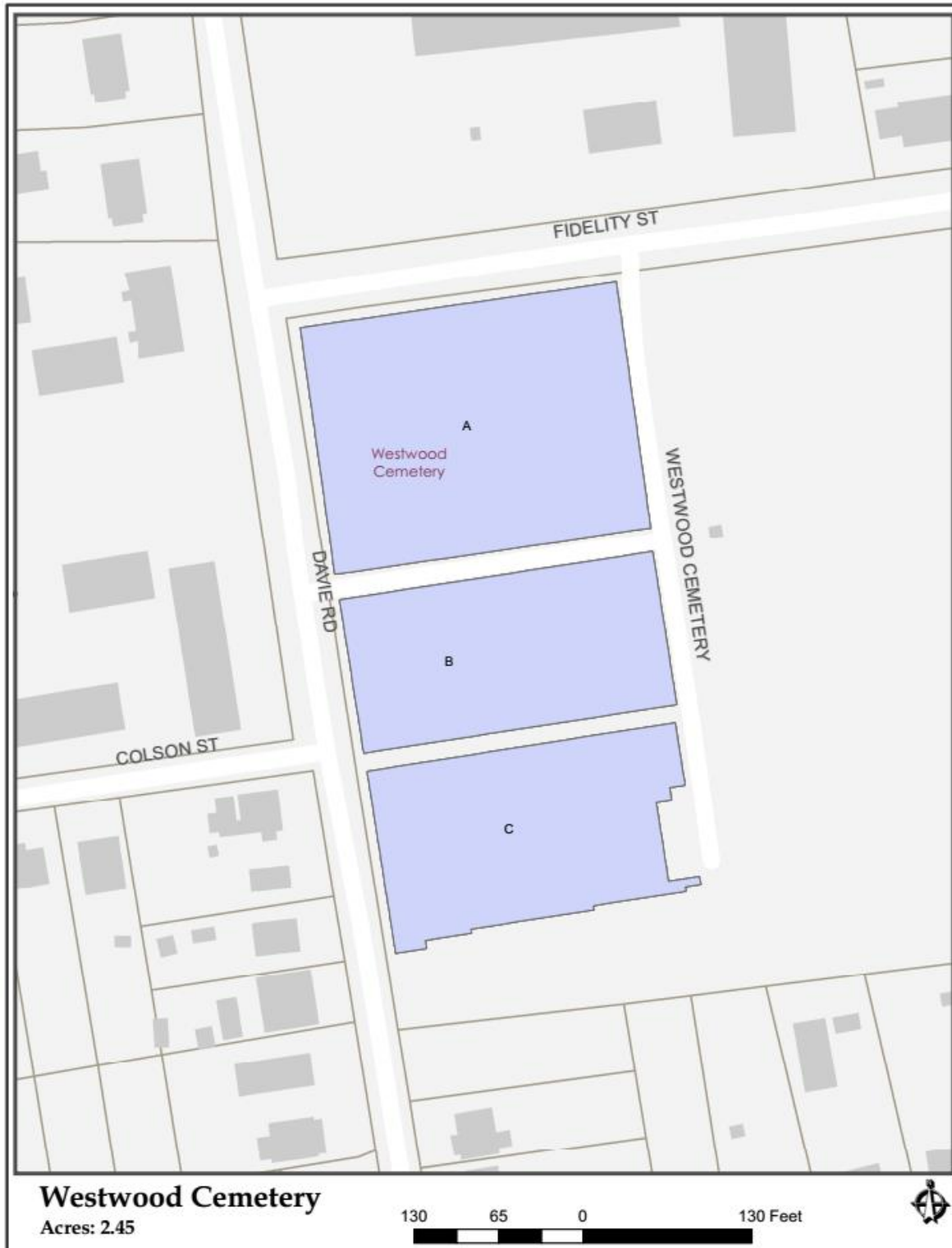
2. Amend the Town Code to allow green burial in Old Town Cemetery

It would be improper for the Town to consider granting an exception for one individual unless the Town Code authorizes a process and criteria for making an exception. However, amending the Town Code so that burial vaults and mounding are not prohibited in Old Town Cemetery is feasible. The Cemetery is fenced in, has a forest feel (see attachment E), and was established in 1860 when it was common practice to bury people without embalming or cement vaults. Given the age of Old Town Cemetery some of the burial sites are already “green” as they predate the 1984 ordinance amendment requiring vaults, so a green burial site now would not be the first. In fact, according to the Durham-Orange Genealogical Society, a survey conducted in 1973 found that there are 85 unmarked graves in the upper section of this cemetery, possibly 50 or more in the lower section, and approximately 55 non-identifiable graves.^{vii} Also, the lack of current demand is not necessarily a good predictor of the future demand, given the environmentally friendly nature of green burial. If residents have the option to use green burial presumably some would be more likely to use it.

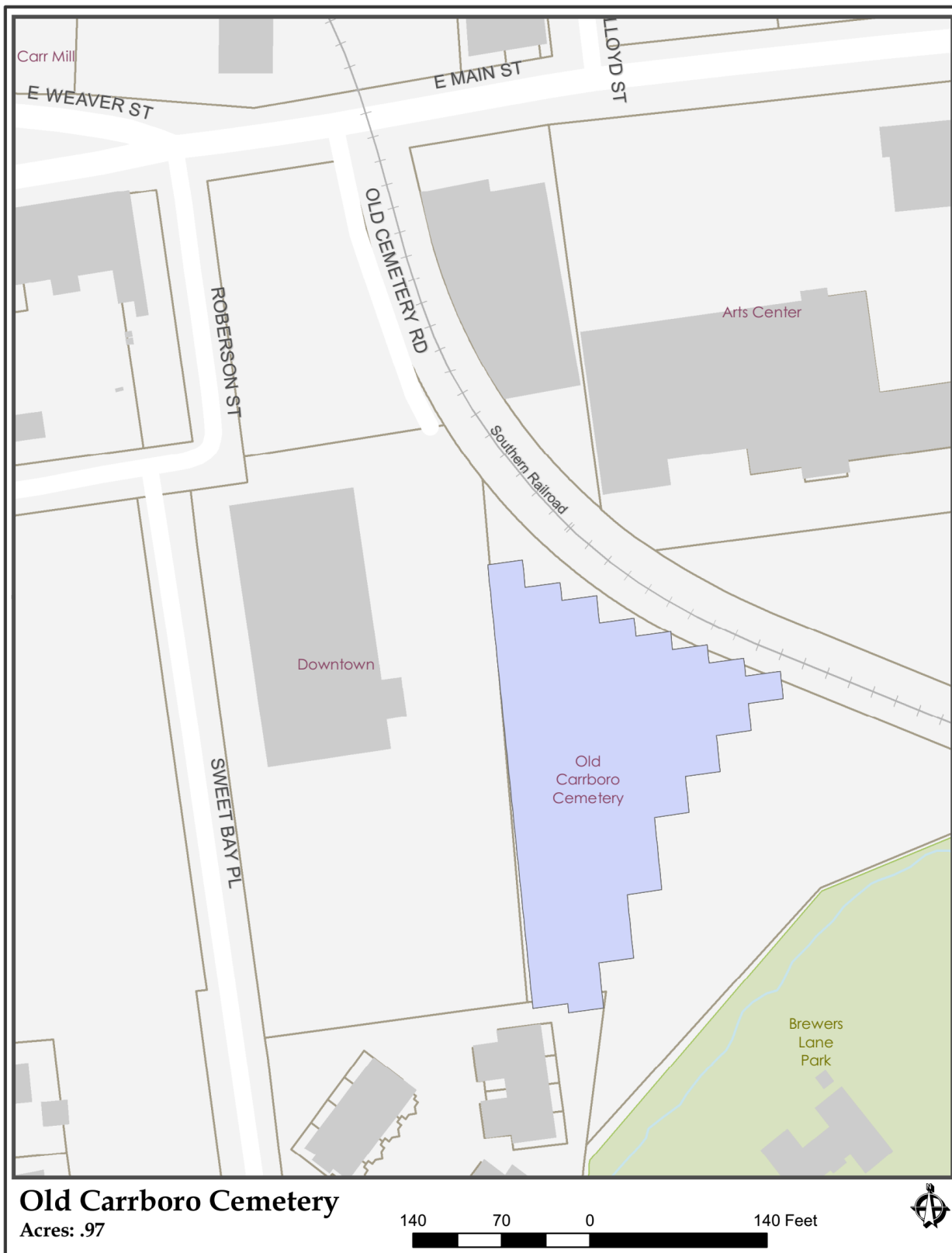
Future analysis

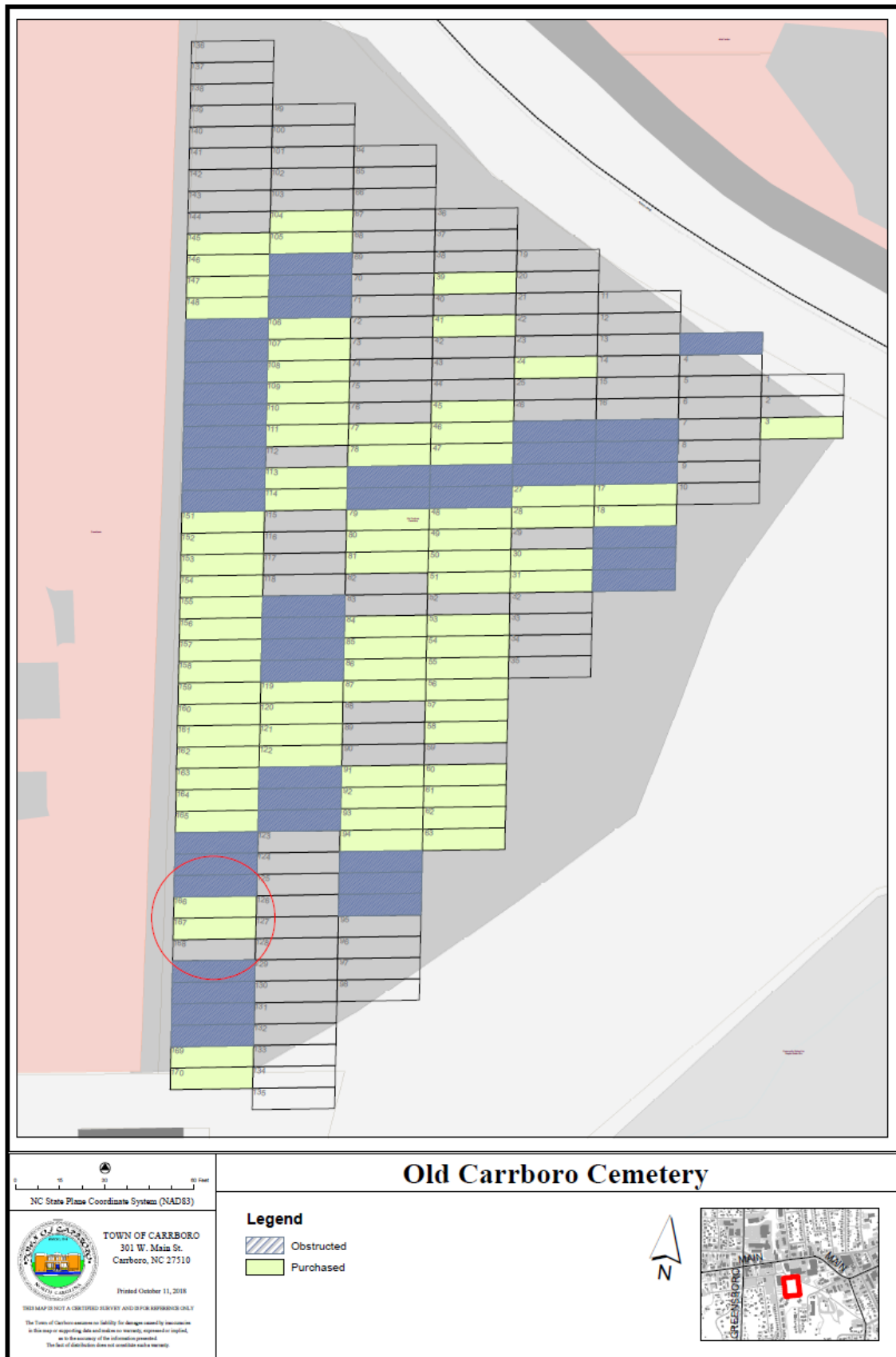
The following information was noted in the meeting in 2016 and will be included in the planning process for a future agenda item related to Carrboro Cemeteries:

- Maintenance required to mitigate the natural sinking of the graves
- Staff time currently being devoted to cemetery upkeep and when the majority of the work occurs
- Spacing of the graves for cycling of the graves
- Potential for certain plants and fruit trees to be planted so that an area could become an orchard
- Cost of plots over time
- Where people are being buried if they are not choosing Carrboro Cemeteries
- Information on the unmarked graves in the Old Carrboro Cemetery (and throughout Town)
- Soil toxicity related to the area where ashes are allowed to be scattered
- Plotting out the rest of Westwood









Attachment E

Carrboro's Old Cemetery (Photo taken 10/9/18)



ⁱ Green Burial Council, "What is Green Burial," <https://greenburialcouncil.org/home/what-is-green-burial/>

ⁱⁱ Green Burial Council, Cemeteries <http://greenburialcouncil.org/standards/>

ⁱⁱⁱ <http://www.nfda.org/news/media-center/nfda-news-releases/id/2419>

^{iv} <http://landquestlegacy.com/cemeteries/chapelhill/burial.html>

^v National Funeral Directors Association (<http://www.nfda.org/news/statistics>)

^{vi} Ann M. Murphy, Please Don't Bury Me Down In That Cold Cold Ground: The Need For Uniform Laws On The Disposition Of Human Remains, 15 Elder L. J. 381, 391(2007).

^{vii} <http://cemeterycensus.com/nc/orng/cem073.htm>

<https://www.nytimes.com/2018/03/22/smarter-living/green-funeral-burial-environment.html>