



PLANNING COMMISSION AGENDA

**SEPTEMBER 9, 2014
7:00 PM
CITY HALL**

- A. Roll Call**
- B. Approval of August 12, 2014 Minutes**
- C. Old Business: (None)**
- D. New Business:**
 - 1. SUP2014-004 Request for a Special Use Permit to allow the addition of a crematory at Crowell Brothers Funeral Home, located at 5051 Peachtree Industrial Boulevard; 6th District; Land Lot 270; Parcel 31**
- E. City Business Items:**
 - 1. Continued Review and Discussion of City Entryway Features Design Concepts.**
- F. Comments by Staff and Planning Commissioners.**
 - 1. Discussion of Permeable Pavers.**
- G. Adjournment.**

CITY OF PEACHTREE CORNERS
PLANNING COMMISSION
AUGUST 12, 2014

The City of Peachtree Corners held a Planning Commission meeting on Tuesday, August 12, 2014 at 7:00pm. Prior to the scheduled meeting there was a workshop pertaining to the review and discussion of City Entryway Features Design Concepts. The meeting was held at City Hall, 147 Technology Parkway, Suite 200, Peachtree Corners, GA, 30092. The following were in attendance:

Planning Commission: Matt Houser, Chairman, Post D
Alan Kaplan, Post A - *Absent*
Mark Middleton, Post B
Mark Willis, Post C
Italia Metts, Post E

Staff: Diana Wheeler, Community Development Director
Kym Chereck, City Clerk

MINUTES:

**MOTION TO APPROVE THE MINUTES FROM THE MAY 13, 2014
PLANNING COMMISSION.**

By: Mark Willis

Seconded by: Italia Metts

**Vote: Passed 3-0-1 (Willis, Metts, Middleton) (Houser
abstained)**

Chairman Houser informed the public that RZ2014-001 Oglethorpe, which was to be heard tonight, has been deferred by the applicant.

NEW BUSINESS:

SUP2014-003 New Church of Atlanta

Request for a Special Use Permit to expand church uses to an office building adjacent to an existing church, located on 2.9 acres at 2865 Amwiler Road in Land Lot 250, 6th District, Gwinnett County, Georgia.

Mrs. Diana Wheeler, Community Development Director, presented the case to the Commission. Mrs. Wheeler provided background information regarding the applicant's request. The applicant is requesting a Special Use Permit to permit church uses in an existing, vacant office building. No additions or alternations to the existing buildings or site are being proposed. After review, Staff

recommended approval of the applicant’s request to permit church uses in an existing vacant building at 2865 Amwiler Road, with the following conditions:

1. Required inspections and interior finish permits shall be obtained before occupancy.
2. The three (3) parcels owned by the church shall be combined into one tax parcel (6-250-050, 6-250-060, 6-250-062)

The applicant, Reverend Su (Bill) Sim, stated that he has no issue with Staff’s conditions.

Chairman Houser asked for public comment concerning this application. There was no public comment.

MOTION TO ACCEPT STAFF’S RECOMMENDATION TO APPROVE THE APPLICATION WITH THE TWO RECOMMENDED CONDITIONS.

By: Mark Willis

Seconded: Italia Metts

Vote: (4-0) (Willis, Metts, Houser, Middleton)

CITY BUSINESS ITEMS:

Town Center LCI Overview

Mr. Matt Cherry of Lord, Aeck and Sargent gave a brief overview of the Town Center LCI. Mr. Cherry discussed, among other items, the LCI process, public engagement to date, a transportation assessment, emerging themes, and the next steps in the process. Mr. Cherry encouraged all of the Planning Commission members to participate in the on-line survey located on the City’s website.

The Planning Commission meeting concluded at 8:07 PM.

Approved,

Attest:

Matt Houser, Chairman

Kym Chereck, City Clerk

SUP2014-004

**Crowell Brothers
Funeral Home**

**CITY OF PEACHTREE CORNERS
COMMUNITY DEVELOPMENT DEPARTMENT**

SPECIAL USE PERMIT ANALYSIS

PLANNING COMMISSION DATE:	SEPTEMBER 9, 2014
CITY COUNCIL DATE:	OCTOBER 21, 2014
CASE NUMBER	:SUP2014-004
APPLICATION REQUEST	:ADDITION OF ACCESSORY CREMATORY
LOCATION	:5051 PEACHTREE INDUSTRIAL BOULEVARD
PROPERTY SIZE	:2.76 ACRES
MAP NUMBER	:R6270 031
ZONING	:C-2
FUTURE DEVELOPMENT MAP	:PREFERRED OFFICE
APPLICANT	:CROWELL BROTHERS FUNERAL HOME, INC. 5051 PEACHTREE INDUSTRIAL BOULEVARD PEACHTREE CORNERS, GA 30091
CONTACT:	JOHN UNDERWOOD PHONE: 770.925.0111
OWNER:	PEACHTREE MEMORIAL PARK, INC. 5051 PEACHTREE INDUSTRIAL BOULEVARD PEACHTREE CORNERS, GA 30091
RECOMMENDATION:	IF APPROVAL IS CONSIDERED, CONDITIONS ARE INCLUDED

PROJECT DATA:

The applicant requests a Special Use Permit on a 2.76-acre parcel, zoned C-2 (General Business District), to allow a crematory as an accessory use to the existing funeral home. The property is the Crowell Brothers Funeral Home, located on the northwest side of Peachtree Industrial Boulevard, south of its intersection with South Old Peachtree Road. The property is developed with a 10,665 square foot one-story, brick and stucco funeral home building. The applicant's letter of intent indicates that a proposed 106 square-foot accessory crematory would be installed within the north end of the existing building, with no significant changes proposed to the building's footprint or exterior.

The surrounding area is characterized by a mix of residential, commercial, office and industrial uses. The subject property is located near the established commercial node shared with the City of Berkeley Lake at the intersection of Peachtree Industrial Boulevard and South Old Peachtree Road. Directly abutting the subject property to the north and west is the Peachtree Memorial Park cemetery, and on the east is a 120-foot wide cemetery buffer in between the funeral home and Berkeley Terrace subdivision, developed with attached single-family residential dwellings.

ZONING HISTORY:

The property was zoned R-75 (Single Family Residence District) in 1970. The property was rezoned to C-2 for the funeral home in 1984, pursuant to RZ-67-84.

ZONING STANDARDS:

Zoning Code Section 1702 identifies specific criteria that should be evaluated when considering a zoning decision. These criteria are listed in the form of questions labeled 'A' through 'F' below. The applicant's response follows each question and Staff's comment is noted after each applicant response.

A. Will this proposed rezoning, special use permit, or change in conditions permit a use that is suitable in view of the use and development of adjacent and nearby property?

Applicant's Response: Yes. The applicant seeks to have a crematory retort installed inside the garage portion of the existing funeral home, which has been in continuous operation as a funeral home and mortuary since 1980. Due to the increasing demand for cremation as an alternative to the traditional funeral service and burial, the addition of the retort is a natural and expected evolution of the funeral business.

Staff's Comment: The funeral home use pre-dates the residential uses surrounding it. This suggests that both the residential developer and the home purchasers believed that a funeral home was not an objectionable adjoining use; however, the crematory would be an additional function and not one that is available at every funeral home facility or one that should have necessarily been anticipated by surrounding homeowners.

B. Will this proposed rezoning, special use permit, or change in conditions adversely affect the existing use or usability of adjacent or nearby property?

Applicant's Response: No. The applicant has commissioned a certified real estate appraisal firm to conduct an extensive review of the potential impact of adding an on-site crematory on adjacent residential real estate property values. The appraisers reviewed hundreds of residential real estate sales over a broad time period in various North Atlanta metro locations in close proximity to the opening of a crematory site. The Appraisers were unable to discern any indication that the opening of a crematory had any long term or net negative impact on area residential real estate values. Therefore, Residential real estate values are not impacted by the singular event of a crematory opening in an existing funeral home.

Staff's Comment: The review performed (attached) of the appraiser's report (attached) found some shortcomings in the report's methodology and conclusions. Therefore, some questions may remain.

C. Does the property to be affected by a proposed rezoning, special use permit, or change in conditions have reasonable economic use as currently zoned?

Applicant's Response: Yes, the property has a reasonable economic use as a funeral home. However, the increasing market for cremation will ultimately have a negative impact of the property if the applicant is unable to provide on-site crematory services to meet the demand. The

applicant has seen the demand for cremation increase from 30% of all funeral services it performed in 2009 to 43% in 2013. For the first six months of 2014, cremation services represent 44% of all of Applicant's funeral services, which is in line with the national and metropolitan Atlanta averages. Nationwide, cremations have increased from 20% of all funeral services in 1996 to 42% in 2011. Cremations are projected to increase to 55% of all funeral services by 2021.

Staff's Comment: Agreed that the property has a reasonable economic use as a funeral home.

D. Will the proposed rezoning, special use permit, or change in conditions result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools?

Applicant's Response: No. On the contrary, the addition of an on-site crematory will actually reduce the traffic caused by funeral processions from the existing chapel to the offsite crematories in Lawrenceville or Loganville and back.

Staff's Comment: Agreed, provided that only on-site customers are served and not those of other funeral homes.

E. Is the proposed rezoning, special use permit, or change in conditions in conformity with the policy and intent of the land use plan?

Applicant's Response: Yes, the proposed addition of an on-site crematory to an existing funeral home that has been in continuous operation for thirty (30) years is consistent with the goals, policy and intent of the City of Peachtree Corners Comprehensive Plan dated November of 2013.

Staff's Comment: (see Comprehensive Plan heading, next page.)

F. Are there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the proposed rezoning, special use permit, or change in conditions?

Applicant's Response: Yes. The funeral home is located on 3 acre tract located within a 35 acre perpetual care cemetery which has been in operation since 1958. The addition of a crematory retort within the existing building will result in only the addition of a stack located on the roof of the southwestern corner of the garage portion of the building. The stack will be covered by an architectural enclosure with a stack vent above the enclosure. The stack enclosure and the vent will be located on the existing building at the point farthest away from the nearest residences on the north side of the cemetery. The vent will be approximately 450' from the nearest residential area, the townhouses to the north of the funeral home on Peachtree Industrial Boulevard. Currently, the view of the funeral home from the townhouses is screened by trees and foliage. The next closest residential neighborhood is on the west side of the cemetery, over one half mile from the funeral home. The funeral home is not even visible from any residential areas other than possibly a view through the foliage from the townhouses to the north. The exhaust vent will not be visible from traffic traveling southbound on Peachtree Industrial Boulevard, and will not be noticeable to northbound traffic. There will be no smoke, no odor and no appreciable emissions from the vent during the cremation process. It will be invisible to the passerby, except

perhaps for heat waves caused by the refraction of the high temperature exhaust air mixing with outside air at ambient temperature. The State of Georgia Department of Public Health reports that "Studies conducted by the U.S. Environmental Protection Agency (EPA) show that crematory emissions (substances discharged into the air) are at levels well below regulatory and health guidelines."

Staff's Comment: (No additional comment.)

COMPREHENSIVE PLAN:

The 2030 Unified Plan Future Development Map indicates that the property is located within a Preferred Office Character Area. Policies for the area state that buffers are to be imposed to protect areas of lower intensity or those that are predominantly residential. In the case of a crematory, however, there are additional considerations. Although proposed to be physically located within the existing funeral home building, crematories generate some emissions which are not necessarily mitigated by landscape buffers.

DEPARTMENT ANALYSIS:

The applicant previously submitted a request for a crematory addition in April, 2013. That application was withdrawn before the City Council public hearing. The applicant advised Staff that they wished to take the time to familiarize their neighbors with their request and provide additional information to help address neighbor concerns. Since the previous hearing, the applicant has invited neighbors to attend a cremation service, as well as to visit their existing facility. In addition, the applicant hired the Stripling Shaw Appraisal Group, a real estate appraisal company located in Peachtree Corners, to prepare a report (attached) analyzing the potential impact of crematory installations on residential property values and home sales.

From the previous public hearing case, it has been determined that there are two issues that dominate adjacent property owners' concerns: 1) smoke stack emissions from the crematory; and 2) the perceived impact that a crematory may have on adjacent residential property values and home sales. With this application, the applicant has specifically addressed both issues and provided additional data for consideration.

Emissions

The State of Georgia Department of Public Health published a Fact Sheet entitled *Common Health Concerns about Crematory Operations*. This document is attached and includes the following information:

What is released into the air during crematory operations?

Emissions from crematory operations may include a very small amount of several chemicals... One chemical, mercury, is sometimes a concern for nearby residents... The levels of mercury emitted from a crematory are considered extremely low and do not pose a health risk... Studies performed on existing crematories have measured mercury emissions in grams per cremation given an average of 100 cremations per year. Using this average, studies show a crematory may emit approximately two pounds of mercury (0.2% of one ton) per year.

Some reports indicate that the cremation process releases low amounts of vaporized mercury, dioxins, and particulate matter into the atmosphere. The amount of chemicals released is below government regulatory standards, so the emissions are not monitored or regulated by the EPA. As a result, there appears to be no definitive and conclusive information on the long-term effects, if any, on health and air quality that may be attributed to crematory emissions. While there are certainly many more intense pollutant sources, the crematory is not a pollution-free facility and that may be a factor for consideration.

Real Estate Impact

A study completed in 2009 indicates that there are at least eleven funeral homes with crematories in Georgia that are located near residential areas: four in Marietta, two in Roswell, and one each in Woodstock, Jasper, Decatur, Lawrenceville, and Lilburn. While two of these are in Gwinnett, it is interesting to note that the most recent requests for crematory additions to funeral homes (SUP2010-00038 and SUP2012-00007) were both denied by Gwinnett County, primarily based on their proximity to existing residential development.

In this case, the funeral home shares its eastern property line with the Berkeley Terrace townhomes, zoned RM-8. The two uses are separated by a 120 ft. buffer on the funeral home's property. Further north and northeast are four subdivisions on South Old Peachtree Road, including Berkeley Chase townhomes, zoned R-TH; Avocet subdivision, zoned R-60; Apremont subdivision, zoned R-75; and Highcroft subdivision, zoned R-75 Modified. If uses such as a cemetery and funeral home that have no emissions warranted implementation of a 120-foot wide vegetated buffer adjacent to residential zoning, then it seems reasonable that a larger buffer and separation of uses from what currently exists may be justified to accommodate a use that generates emissions.

At the applicant's request, the Stripling Shaw Appraisal Group prepared a report entitled, *Analysis and Review of Potential Impact of Crematory Installation on Residential Real Estate Values*. The report is dated June, 2014 and its authors describe the work as, "...an analysis of trending real estate values both before and after existing crematory sites were built, as well as, the same type of analysis regarding proposed/newly constructed sites before they are operational. These Before and After impact studies are for the purpose of determining if there is any measurable adverse effect on area residential real estate values."

The report then goes on to identify various properties that sold before and after the installation of a crematory and later finds that all the examples identified increased in value and "no detrimental impact on area residential real estate value was found." The report also includes two additional types of analysis. The first assesses the long-term impact on residential property values and the second is a review of sales data over a 24 month period for property within one mile of the subject property. At its conclusion, the report states that after reviewing hundreds of residential real estate sales over a broad time period, the report's authors, "have not been able to discern any indication that the opening of a crematory had any long-term or net negative impact on area residential real estate values."

In order to evaluate this real estate report, Staff contacted three Licensed Certified Appraisers and requested their assistance. One of the appraisers contacted was unavailable and another could not meet Staff's time requirement. The third appraiser, David Childers, MAI of Childers

Associates, a real estate consultant and appraisal company located at 321 14th St., Atlanta, Georgia, agreed to review and assess the Stripling Shaw report. Mr. Childers' findings are included in his letter dated August 19, 2014 (attached). His determination is that the real estate report is deficient in several key areas. The most notable and consistent deficiency throughout the report appears to be that while there are reviews of property sales near crematories, there are no evaluations of properties in the greater surroundings as a point of comparison. Therefore, while Mr. Childers does not dispute that properties gained in value over time, there is no way to know if properties near crematories gained less value as a result of their location than those not located near a crematory. Mr. Childers notes that having this comparison would help determine if the location of crematories near homes made any difference, not just whether home values increased over time despite a nearby crematory. Mr. Childers' evaluation also identifies other issues of concern with the Stripling Shaw report and concludes that the report is "inadequate."

After reading both the Stripling Shaw report and Mr. Childers' evaluation, Staff offers the following observations:

1. The Stripling Shaw report could have provided more complete information and answered additional questions.
2. While it may be possible that homes located near crematories did not appreciate at the same rate as homes not located near crematories, the Stripling Shaw report shows that homes near crematories did not lose value.

Therefore, after review of the applicant's proposal and other relevant information, it is recommended that if approval of SUP2014-004 is considered, the following conditions should be included:

1. Crematory, as a special use, shall be added to the funeral home facility and limited to a designated location within the existing building.
2. No additional building square footage shall be permitted to accommodate the crematory, and the crematory shall be limited to 1 (one) retort which may occupy no more than 110 square feet of building space within the existing funeral home.
3. Use of the crematory shall be limited to on-site customers only. No cremation services shall be provided for off-site funeral homes.
4. Any chimney associated with the crematory shall be enclosed.
5. All appropriate state and federal rules and regulations required for the crematory shall be observed in its use. The cremation system shall be a "destruction and capture of emissions" type unit, and shall include opacity controls, Intuitive Logic Control systems and oxygen controls.
6. Separate exterior ground or wall signage for the crematory use shall be prohibited.
7. Crematory shall have the same hours of operation as the funeral home. No after-hours use of the crematory shall be permitted.

REZONING, SPECIAL USE PERMIT, OR CHANGE IN CONDITIONS APPLICATION

AN APPLICATION TO AMEND THE OFFICIAL ZONING MAP OF THE CITY OF PEACHTREE CORNERS, GEORGIA

APPLICANT INFORMATION	OWNER INFORMATION
Name: <u>Peachtree Chapel and Mortuary, Inc., d/b/a Crowell Brothers Funeral Home</u>	Name: <u>Peachtree Memorial Park, Inc.</u>
Address: <u>5051 Peachtree Industrial Blvd.</u>	Address: <u>5051 Peachtree Industrial Blvd.</u>
City: <u>Peachtree Corners</u>	City: <u>Peachtree Corners</u>
State: <u>Georgia</u> Zip: <u>30091</u>	State: <u>Georgia</u> Zip: <u>30091</u>
Phone: <u>(770) 448-5757</u>	Phone: <u>(770) 448-3072</u>
CONTACT PERSON: <u>John E. Underwood, Esq.</u> Phone: <u>(770) 925-0111</u>	
CONTACT'S E-MAIL: <u>junderwood@tokn.com</u>	

*Include any person having a property interest and any person having a financial interest in any business entity having property interest (use additional sheets if necessary).

OWNER'S AGENT
 APPLICANT IS THE: PROPERTY OWNER
 CONTRACT PURCHASER

PRESENT ZONING DISTRICTS(S): C-2 REQUESTED ZONING DISTRICT: _____

LAND DISTRICT(S): 6 LAND LOT(S): 270 ACREAGE: 3 Acres 2.76

ADDRESS OF PROPERTY: 5051 Peachtree Industrial Boulevard, Peachtree Corners, Georgia 30091

PROPOSED DEVELOPMENT: Crematory Retort as an internal accessory to an existing funeral home.

Staff Use Only This Section

Case Number: SUP2014-004 Hearing Date: P/C _____ C/C _____ Received Date: 8-1-14

Fees Paid: _____ By: _____

Related Cases & Applicable Conditions:

Description:

**LETTER OF INTENT FOR SPECIAL USE PERMIT APPLICATION OF
CROWELL BROTHERS FUNERAL HOME, INC.
FOR STAND ALONE CREMATORY RETORT LOCATED WITHIN
ITS EXISTING FUNERAL HOME**

The Applicant, Peachtree Chapel & Mortuary, Inc. d/b/a Crowell Brothers Funeral Home ("Crowell Brothers" or the "Applicant") submits this Application for the purpose of constructing and operating a crematory retort within its existing Funeral Home in the City of Peachtree Corners, Georgia. The three (3) acre tract on which the funeral home is located is zoned C-2. A crematory, as an accessory to a funeral home, is designated Special Use that is permissible upon approval by the City Council after receiving recommendations from the Director of Planning and Development and Planning Commission and after a Public Hearing. 2012 Zoning Resolution of City of Peachtree Corners, Section 1308, Paragraph E, subparagraph 8.

The funeral home is located on a 3 acre tract located within a 35 acre perpetual care cemetery which has been in operation since 1958. The proposed crematory will be fifteen feet eight inches (15' 8") by six feet nine inches (6' 9") and will be installed in the southwestern-most corner of the existing building in the area which is now used for the garage.

The addition of a crematory retort within the existing building will result in a single external addition to the building, a small stack located within an architectural enclosure topped by a vent located on the roof of the southwestern corner of the garage portion of the building. See the Architectural renderings attached hereto and incorporated herein by reference. The stack enclosure and vent will be located on the roof of the existing garage at the point farthest away from the nearest residences on the north side of the cemetery. The addition of the crematory retort will not enlarge the size of the existing building nor will it change the existing density of the subject property.

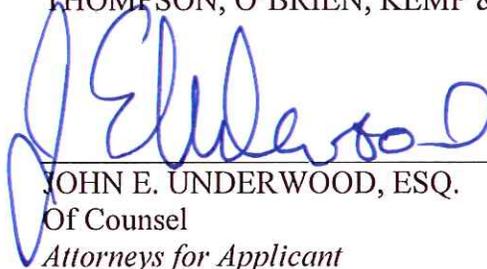
The vent will be approximately 450' from the nearest residential area, the townhouses to the north of the funeral home on Peachtree Industrial Boulevard. Currently, the view of the funeral home from the townhouses is screened by trees and foliage. The next closest residential neighborhood is on the west side of the cemetery, over one half mile from the funeral home. The funeral home is not visible from any residential areas other than possibly a view through the foliage from the townhouses to the north. The vent will not be visible from traffic traveling southbound on Peachtree Industrial Boulevard, and will not be noticeable to northbound traffic. There will be no smoke, no odor and no appreciable emissions from the vent. It will be invisible to the passerby, except perhaps for heat waves caused by the refraction of the high temperature exhaust air mixing with outside air at ambient temperature during the cremation process.

This application, if granted, will be in compliance with state law, specifically, O.C.G.A. § 43-18-72, which permits the addition of a crematory located on or adjacent to a tract or parcel of land which contains a funeral establishment within 1000' of a residential area. Moreover, this is not an application for a "stand alone" crematory; it is an application for a crematory located wholly within the existing funeral home that will be virtually unnoticeable to its neighbors.

LETTER OF INTENT FOR SPECIAL USE PERMIT APPLICATION OF
CROWELL BROTHERS FUNERAL HOME, INC.
FOR STAND ALONE CREMATORY RETORT LOCATED WITHIN
ITS EXISTING FUNERAL HOME

This 1st day of August, 2014.

THOMPSON, O'BRIEN, KEMP & NASUTI, P.C.

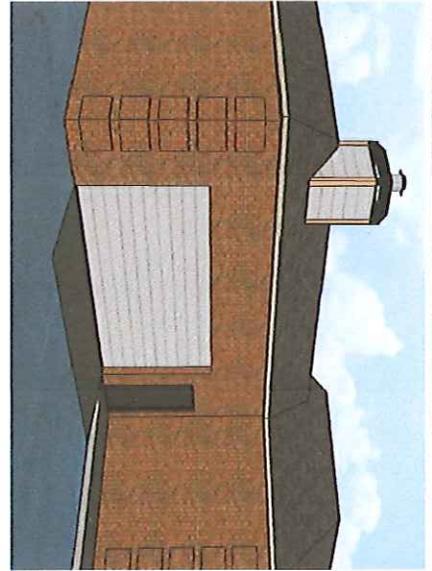


JOHN E. UNDERWOOD, ESQ.

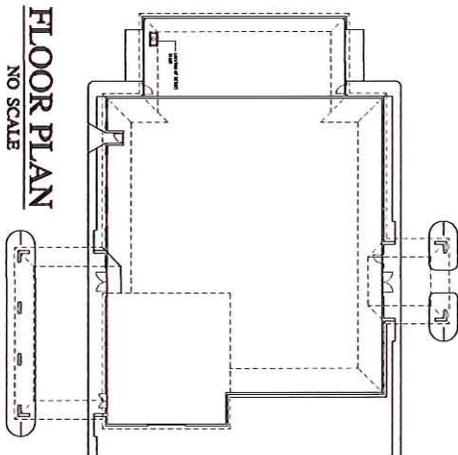
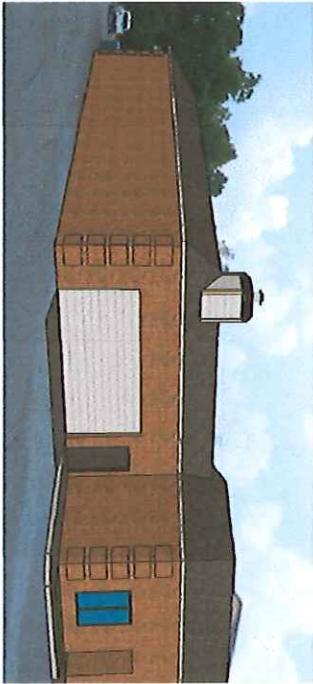
Of Counsel

Attorneys for Applicant

Crowell Brothers Funeral Home,



DATE: 08-19-14
 1000 S.E. 14th Avenue
 Ft. Lauderdale, FL 33316



McCLESKEY
 MAUSOLEUMS
 CONSTRUCTION COMPANY
 PROFESSIONAL SERVICES

CORPORATE OFFICE
 729 S. CHURCH STREET
 ATLANTA, GEORGIA 30310
 PH: 770-497-4070 FAX: 770-383-4882

<http://www.mccleskey.com>

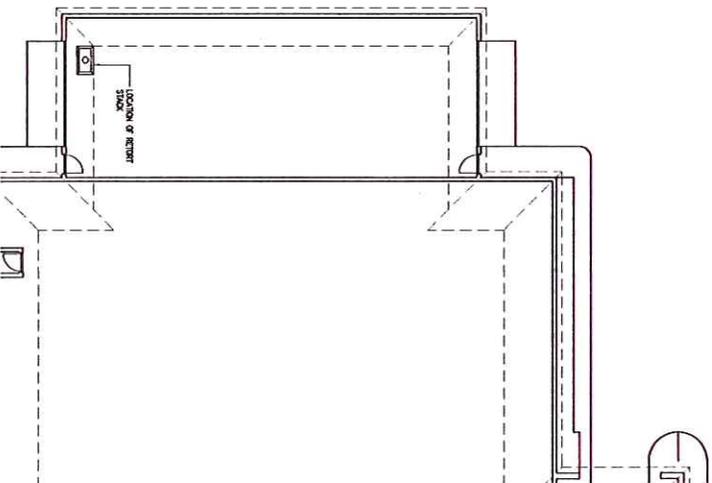
Prepared for:
 FUNERAL HOME at
PEACHTREE MEMORIAL PARK
 PEACHTREE CORNERS, GEORGIA

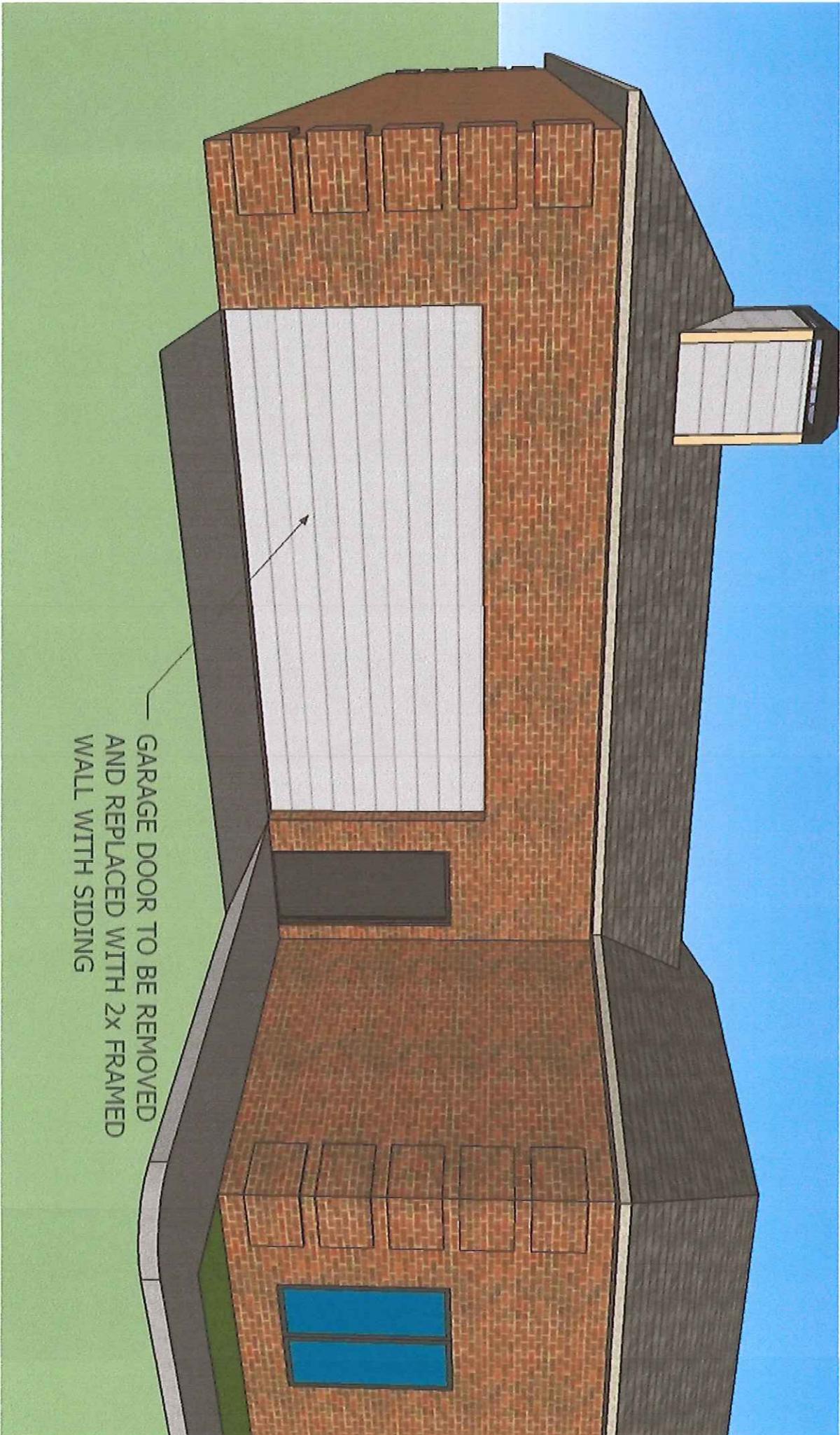
DATE DRAWN: 7-28-2014
 ARCHITECT: JON
 DRAUGHTSMAN: JON
 REPRESENTATIVE:

1
 OF 1



NOTE:
GARAGE DOOR TO BE REMOVED AND REPLACED
W/ 2x4 FRAMING AND FINISHED WITH SIDING TO
MATCH NEW STACK AND FACADE





GARAGE DOOR TO BE REMOVED
AND REPLACED WITH 2X FRAMED
WALL WITH SIDING



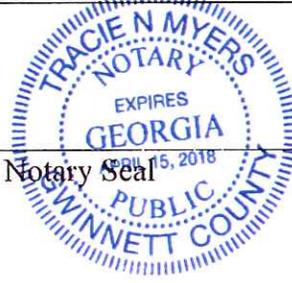
APPLICANT'S CERTIFICATION

The undersigned below states under oath that they are authorized to make this application. The undersigned is aware that no application or reapplication affecting the same land shall be acted upon within 12 months from the date of last action by the city council unless waived by the city council. In no case shall an application or reapplication be acted upon in less than six (6) months from the date of last action by the city council.

Jeff K. Crowell 7-30-14
Signature of Applicant Date

Jeffrey K. Crowell, CFO, Peachtree Chapel & Mortuary, Inc. d/b/a Crowell Brothers Funeral Home
Type or Print Name and Title

Tracie N Myers 7-30-14
Signature of Notary Public Date



PROPERTY OWNER'S CERTIFICATION

The undersigned below states under oath that they are authorized to make this application. The undersigned is aware that no application or reapplication affecting the same land shall be acted upon within 12 months from the date of last action by the city council unless waived by the city council. In no case shall an application or reapplication be acted upon in less than six (6) months from the date of last action by the city council. As the property owner, I authorize the above noted applicant to act on my behalf with regard to this application.

Jeff K. Crowell 7-30-14
Signature of Applicant Date

Jeffrey K. Crowell, CEO, Peachtree Memorial Park, Inc.
Type or Print Name and Title

Tracie N Myers 7-30-14
Signature of Notary Public Date



LEGAL DESCRIPTION

All that tract or parcel of land lying and being in Land Lot 270 of the 6th District of Gwinnett County, Georgia, as recorded in Deed Book 46345, Page 239, Gwinnett County records, and being more particularly described as follows:

Commencing at the intersection of Land Lots 270, 271, 286, and 287, thence following the Land Lot line between Land Lots 270 and 287 running North 60 degrees 21 minutes 37 seconds East a distance of 1009.25 feet to a point; thence leaving the Land Lot running South 30 degrees 04 minutes 10 seconds East a distance of 284.86 feet to a point; thence running South 30 degrees 21 minutes 12 seconds East a distance of 157.47 feet to an one-half inch iron pin set, this point being the True Point of Beginning; thence running South 30 degrees 21 minutes 12 seconds East a distance of 326.70 feet to a one-half inch iron pin set on the northwesterly right-of-way of Peachtree Industrial Boulevard (right-of-way varies); thence following the northwesterly right-of-way of Peachtree Industrial Boulevard running South 56 degrees 53 minutes 00 seconds West a distance of 400.00 feet to a one-half inch iron pin set; thence leaving the northwesterly right-of-way of Peachtree Industrial Boulevard running North 30 degrees 21 minutes 12 seconds West a distance of 326.70 feet to a one-half inch iron pin set; thence running north 56 degrees 53 minutes 00 seconds East a distance of 400.00 feet to a one-half inch iron pin set, this point being the True Point of Beginning, this tract or parcel having an area of 130,528 square feet or 3.000 acres.

*APPLICANT'S RESPONSE
STANDARDS GOVERNING THE EXERCISE OF THE ZONING POWER*

Pursuant to section 1702 of the 2012 zoning resolution, the city council finds that the following standards are relevant in balancing the interest in promoting the public health, safety, morality or general welfare against the right to the unrestricted use of property and shall govern the exercise of the zoning power.

PLEASE RESPOND TO THE FOLLOWING STANDARDS IN THE SPACE PROVIDED OR USE AN ATTACHMENT AS NECESSARY:

A. Will this proposed rezoning, special use permit, or change in conditions permit a use that is suitable in view of the use and development of adjacent and nearby property?

Yes. The applicant seeks to have a crematory retort installed inside the garage portion of the existing funeral home, which has been in continuous operation as a funeral home and mortuary since 1980. Due to the increasing demand for cremation as an alternative to the traditional funeral service and burial, the addition of the retort is a natural and expected evolution of the funeral business.

B. Will this proposed rezoning, special use permit, or change in conditions will adversely affect the existing use or usability of adjacent or nearby property?

No. The applicant has commissioned a certified real estate appraisal firm to conduct an extensive review of the potential impact of adding an on-site crematory on adjacent residential real estate property values. The appraisers reviewed hundreds of residential real estate sales over a broad time period in various North Atlanta metro locations in close proximity to the opening of a crematory site. The Appraisers were unable to discern any indication that the opening of a crematory had any long-term or net negative impact on area residential real estate values. Therefore, Residential real estate values are not impacted by the singular event of a crematory opening in an existing funeral home.

C. Does the property to be affected by a proposed rezoning, special use permit, or change in conditions have reasonable economic use as currently zoned?

Yes, the property has a reasonable economic use as a funeral home. However, the increasing market for cremation will ultimately have a negative impact of the property if the applicant is unable to provide on-site crematory services to meet the demand. The applicant has seen the demand for cremation increase from 30% of all funeral services it performed in 2009 to 43% in 2013. For the first six months of 2014, cremation services represent 44% of all of Applicant's funeral services, which is in line with the national and metropolitan Atlanta averages. Nationwide, cremations have increased from 20% of all funeral services in 1996 to 42% in 2011. Cremations are projected to increase to 55% of all funeral services by 2021.

D. Will the proposed rezoning, special use permit, or change in conditions will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools?

No. On the contrary, the addition of an on-site crematory will actually reduce the traffic caused by funeral processions from the existing chapel to the offsite crematories in Lawrenceville or Loganville and back.

E. Will the proposed rezoning, special use permit, or change in conditions is in conformity with the policy and intent of the land use plan?

Yes, the proposed addition of an on-site crematory to an existing funeral home that has been in continuous operation for thirty (30) years is consistent with the goals, policy and intent of the City of Peachtree Corners Comprehensive Plan dated November of 2013.

F. Are there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the proposed rezoning, special use permit, or change in conditions?

Yes. The funeral home is located on 3 acre tract located within a 35 acre perpetual care cemetery which has been in operation since 1958. The addition of a crematory retort within the existing building will result in only the addition of a stack located on the roof of the southwestern corner of the garage portion of the building. The stack will be covered by an architectural enclosure with a stack vent above the enclosure. The stack enclosure and the vent will be located on the existing building at the point farthest away from the nearest residences on the north side of the cemetery.

The vent will be approximately 450' from the nearest residential area, the townhouses to the north of the funeral home on Peachtree Industrial Boulevard. Currently, the view of the funeral home from the townhouses is screened by trees and foliage. The next closest residential neighborhood is on the west side of the cemetery, over one half mile from the funeral home. The funeral home is not even visible from any residential areas other than possibly a view through the foliage from the townhouses to the north. The exhaust vent will not be visible from traffic traveling southbound on Peachtree Industrial Boulevard, and will not be noticeable to northbound traffic. There will be no smoke, no odor and no appreciable emissions from the vent during the cremation process. It will be invisible to the passerby, except perhaps for heat waves caused by the refraction of the high temperature exhaust air mixing with outside air at ambient temperature.

The State of Georgia Department of Public Health reports that "Studies conducted by the U.S. Environmental Protection Agency (EPA) show that crematory emissions (substances discharged into the air) are at levels well below regulatory and health guidelines."

**DISCLOSURE REPORT FORM
CONFLICT OF INTEREST CERTIFICATION/CAMPAIGN CONTRIBUTIONS**

WITHIN THE (2) YEARS IMMEDIATELY PRECEDING THE FILING OF THIS ZONING PETITION HAVE YOU, AS THE APPLICANT FOR THE REZONING, SPECIAL USE PERMIT, OR CHANGE IN CONDITIONS PETITION, OR AN ATTORNEY OR AGENT OF THE APPLICANT FOR THE REZONING, SPECIAL USE PERMIT, OR CHANGE IN CONDITIONS PETITION, MADE ANY CAMPAIGN CONTRIBUTIONS AGGREGATING \$250.00 OR MORE OR MADE GIFTS HAVING AN AGGREGATE VALUE OF \$250.00 TO THE MAYOR OR ANY MEMBER OF THE CITY COUNCIL?

CHECK ONE: YES NO

Jeffrey K. Crowell

(If yes, please complete the "Campaign Contributions" section below)

1. CAMPAIGN CONTRIBUTIONS

Name of Government Official	Total Dollar Amount	Date of Contribution	Enumeration and Description of Gift Valued at \$250.00 or more

2. THE UNDERSIGNED ACKNOWLEDGES THAT THIS DISCLOSURE IS MADE IN ACCORDANCE WITH THE OFFICIAL CODE OF GEORGIA, SECTION 36-67A-1 ET. SEQ. CONFLICT OF INTEREST IN ZONING ACTIONS, AND THAT THE INFORMATION SET FORTH HEREIN IS TRUE TO THE UNDERSIGNED'S BEST KNOWLEDGE, INFORMATION AND BELIEF.

<u>Jeffrey K. Crowell</u>	<u>7-30-14</u>	Jeffrey K. Crowell, CFO Peachtree Chapel and Mortuary, Inc.
Signature of Applicant	Date	Type or Print Name and Title
<u>John E. Underwood</u>	<u>7/30/14</u>	John E. Underwood, Esq.
Signature of Applicant's Attorney or Representative	Date	Type or Print Name and Title
<u>Tracie N. Myers</u>	<u>7-30-14</u>	Notary Seal
Signature of Notary	Date	



VERIFICATION OF CURRENT PAID PROPERTY TAXES FOR REZONING

THE UNDERSIGNED BELOW IS AUTHORIZED TO MAKE THIS APPLICATION. THE UNDERSIGNED CERTIFIES THAT ALL CITY OF PEACHTREE CORNERS PROPERTY TAXES BILLED TO DATE FOR THE PARCEL LISTED BELOW HAVE BEEN PAID IN FULL TO THE TAX COMMISSIONER OF GWINNETT COUNTY, GEORGIA. IN NO CASE SHALL A PUBLIC HEARING APPLICATION BE PROCESSED WITHOUT SUCH PROPERTY VERIFICATION.

A SEPARATE VERIFICATION FORM MUST BE COMPLETED FOR EACH TAX PARCEL INCLUDED IN THE REZONING REQUEST.

PARCEL I.D. NUMBER: 6 - 270 - 031
(Map Reference Number) District Land Lot Parcel

Jeff K. Crowell
Signature of Applicant

7-30-14
Date

Jeffrey K. Crowell, CEO, Peachtree Memorial Park, Inc.
Type or Print Name and Title

=====

Tax Commissioners Use Only

(PAYMENT OF ALL PROPERTY TAXES BILLED TO DATE FOR THE ABOVE REFERENCED PARCEL HAVE BEEN VERIFIED AS PAID CURRENT AND CONFIRMED BY THE SIGNATURE BELOW)

Debra Smith
NAME

tax services associate
TITLE

July 30, 2014
DATE

=====

THOMPSON | O'BRIEN

Thompson O'Brien Kemp & Nasuti, P.C. | Attorneys at Law

R. Michael Thompson
J. Patrick O'Brien
Albert F. Nasuti
Bret T. Thrasher
Ted W. Hight III
Aaron M. Kappler

Adam L. Cleveland
Kevin S. Kovalchik
Bobby S. Palmer
Michael B. Pugh
Jeremy B. Ross
William J. Shaughnessy
Thomas J. Smith, Jr.
Delia C. Thrasher
David C. Whitridge (GA, VA, WV & MD)

Author's E-Mail: junderwood@tokn.com

August 1, 2014

OF COUNSEL

John E. Underwood
James M. Cavin
Aaron M. O'Brien

VIA HAND DELIVERY

City of Peachtree Corners
Community Development
147 Technology Parkway NW, Suite 200
Peachtree Corners, GA 30092



Attention: Diana Wheeler, Community Development Director

Re: Application for Special Use Permit for crematory retort
Crowell Brothers Peachtree Chapel Funeral Home
5051 Peachtree Industrial Boulevard
Peachtree Corners, GA 30092
Our File No. 6741.00001

Ms. Wheeler:

This firm represents Peachtree Chapel & Mortuary, Inc. d/b/a Crowell Brothers Funeral Home ("Crowell Brothers" or the "Applicant") with respect to this Application for a Special Use Permit for a Crematory Retort to be located within the existing Funeral Home in the City of Peachtree Corners, Georgia.

Attached please find the following:

1. Ten copies of
 - a. The completed application form;
 - b. The boundary survey/site plan;
 - c. Legal Description;
 - d. Applicant Certification with Notarized Signature;
 - e. Standards Governing the Exercise of Zoning Power (Steinberg Criteria), with Applicant's responses;
 - f. Disclosure Report Form (Conflict of Interest Certification/Campaign Contributions) signed by representatives of Applicant and Property Owner;
 - g. Letter of Intent, with architectural sketches; and
 - h. Analysis and Review of Potential Impact of Crematory Installation on Residential Real Estate Values prepared for Crowell Brothers Funeral

Home by The Stripling Shaw Appraisal Group, Peachtree Corners,
Georgia.

2. One Original Verification of Paid Property Taxes for the most current year;
3. Crowell Brothers Constitutional Objections;
4. This firm's Check in the amount of \$850.00 made payable to the City of Peachtree Corners; and
5. One Electronic Copy of all of the above documents, and this transmittal letter, with attachments.

As you know, Crowell Brothers filed SUP2013-0004 for the addition of a crematory in its existing funeral home last year. They withdrew the SUP without prejudice due to unexpected opposition.

In sum, Crowell Brothers failed to properly lay the groundwork prior to filing its application for the crematory last year. The Applicant underestimated the concerns of the community. Prior to filing the instant application, they reached out to their neighbors, you, the Community Development Director for the City of Peachtree Corners, the Peachtree Corners Zoning Commission Members and the Mayor and Council of the City of Peachtree Corners to explain the need for the on-site crematory retort in their existing funeral home, and the benefits to the community of Peachtree Corners so they could address everyone's concerns before filing this new application.

We believe that the primary concern over the addition of a crematory to the existing funeral home was the false perception that a crematory would have a negative effect on adjacent property values. This belief is based, in part, on staff recommendations regarding SUP2013-0004 and your response to my open records act request for the documentation backing up the staff recommendations. Staff apparently based their opinion that there might be a negative effect on real estate values on a single study by two economists of the effect of one crematory that was apparently operating out of compliance in a town over 1500 miles from Peachtree Corners at the beginning of the economic downturn that resulted in faltering home prices throughout the entire United States. Moreover, that study also reached the inconclusive result that properties closest to the crematory (within 0.1 mile) *actually increased in value 4.89%*! This study is irrelevant to the instant application. Moreover, it is irrelevant to any market study regarding the effect of a crematory on the market value of adjacent residential real estate other than the 372 single family home transactions evaluated between January 2004 and March 2006 in Rawlins, Wyoming, to the extent it has any relevance at all.

Therefore, Crowell Brothers commissioned a study of the potential impact of adding an on-site crematory on adjacent residential real estate property values. The study, completed in June of this year, was conducted by Wayne Shaw and Cindy Maynard, both certified real estate appraisers. They reviewed hundreds of residential real estate sales over a broad time period in various metropolitan Atlanta locations in close proximity to the opening of a crematory site. The appraisers were unable to discern any indication that the opening of a crematory had any long-term or net negative impact on area residential real estate values. In sum, this study shows that residential real estate values are not impacted by the singular event of a crematory opening in an existing funeral home. Ten copies of the appraisers' report are attached hereto for your convenience.

With respect to staff's earlier contention that they "had researched the issue of crematory emissions and discovered that the data is somewhat inconclusive," you produced a single document, a "fact sheet" from the Georgia Department of Public Health. That document states that "[e]missions from crematory operations may include a very small amount of several chemicals... emitted at extremely low levels and when released into the air, ... break down quickly by sunlight, or are diluted and carried by the wind." Furthermore, the fact sheet states "Crematory emissions are far below levels of environmental and health concern and, therefore, will not affect your health." This document actually supports the proposition that there is no environmental hazard associated with emissions from a crematory. There is nothing contradictory or inconclusive about the statements in the Georgia Department of Public Health's fact sheet, which remains available online at <https://dph.georgia.gov/sites/dph.georgia.gov/files/EnvHealth/Chemical/CrematoryFS.pdf>.

Crowell Brothers then reached out to you, the Mayor and Council and the Members of the Planning Commission by letter on July 1, 2014, a copy of which is attached hereto. In that letter, Crowell Brothers invited each of you to attend a cremation service so that you could see for yourselves that the community of Peachtree Corners needs a crematory at the existing funeral home and to show that there is no odor nor are there any visible emissions in the cremation process. So far, one zoning commission member and one city council member have attended a cremation service. The invitation remains open, if you or anyone else concerned wishes to attend a service. Please contact Jeff Crowell by email at jeff@crowellbrothers.com, or call him at (770) 448-3072 to make arrangements.

Then, on July 22, 2014, Crowell Brothers hosted an open house at its funeral home after advertising the open house in the Peachtree Corners Patch, and giving notice by email to the adjacent homeowners associations through the efforts of Scott Hilton of the United Peachtree Corners Homeowners Civic Association. We also sent the invitation to the open house by email to you, the Mayor, all Council members and each of the members of the Zoning Commission.

We held the open house as scheduled and attracted a small audience of about twenty-five, including two members of the City Council. In our program, we explained the increasing demand for cremation as an alternative to traditional burial, the inconvenience to the families of the deceased caused by having to travel to an off-site crematory, the study that shows there is no adverse impact on property values, we viewed the location of the retort within the existing facility, and displayed the architect's renderings showing the minor change in appearance to the exterior of the existing building. It appeared to us that the consensus of those that attended the open house was in favor of adding the crematory retort.

Now, having reached out to the community as well as the decision makers for the City of Peachtree Corners, we are filing this application, and hopefully have addressed all of the valid concerns of the public as well as the concerns of the City support staff, the Planning Commission, and the Mayor and councilmembers.

Crowell Brothers Peachtree Chapel Funeral Home and the adjacent cemetery and mausoleums have been good neighbors to the Peachtree Corners Community. Peachtree Memorial Park cemetery has been at its present location for more than half a century. Charles and Helen Crowell established Peachtree Memorial Park in July, 1958 and the Funeral Home was added in 1980. The funeral home and cemetery are currently owned and operated by the sons of the founders, Alan and Jeff Crowell. The third generation, Justin, Cody and Brit Crowell are also involved in the daily operation and are expected to continue the family business.

Peachtree Memorial Park was the first perpetual care cemetery in Gwinnett County; it is the first cemetery to have a funeral home on the same grounds in Gwinnett County; and it is the first cemetery to have a chapel mausoleum in Gwinnett County. Out of thirty-three (33) perpetual care cemeteries in Metro Atlanta, Crowell Brothers is the only one that has never changed ownership – it remains a local family owned business to date.

The demand for Crematory services is driven by the public, not by funeral directors or cemeteries. Nationwide, cremations have increased from 20 % of all funeral services in 1996 to 42% in 2011. Cremations are projected to increase to 55% of all funeral services nationwide by 2021.

In Georgia, cremations have increased from 24% of all funeral services in 2006 to 32.8% in 2011. In the metropolitan Atlanta area, the cremation rate is equal to or higher than the national average of 42% of all funeral services. It has been estimated at 46% of all funeral services.

Crowell Brothers has seen the demand for cremation increase from 30% of all funeral services in 2009 to 43% in 2013. For the first six months of 2014, cremation services represent 44% of all of Crowell Brothers' funeral services, which is in line with the national and metropolitan Atlanta averages.

Crowell Brothers is losing funeral services to other funeral homes that offer on-site crematory services. Crowell Brothers currently has to rely on other funeral homes in other locations to provide cremation services, usually in Lawrenceville or Loganville. The problem is basically logistics, as is shown below.

First, the Memorial Service is conducted at Crowell Brothers Peachtree Chapel Funeral Home. After the service, Crowell Brothers must transport the deceased (and oftentimes, the relatives with a full funeral procession) to Lawrenceville or Loganville for the final commitment service and cremation of the deceased. Crowell Brothers loses control over the body of the deceased because they have to turn it over to others to have the remains cremated. They also lose control of scheduling and coordination with other funeral services when using a remote crematory. Oftentimes, the body of the deceased may wait for hours to be cremated. Then, Crowell Brothers has to transport the cremains of the deceased back to the cemetery for interment or delivery to the relatives of the deceased.

Cremation clients prefer to have on-site crematory services. Often, the relatives wish to have a committal service (similar to a graveside service) just before cremation. On-site cremation avoids excessive handling of the remains of their departed loved one. It also eliminates the indignity, expense and inconvenience of having a funeral procession from Crowell Brothers' Peachtree Chapel to a remote funeral home with crematory services. Indeed, with an on-site crematory, there is really no need for a funeral procession at all, since the memorial, the committal service and the interment of the cremains will all occur on-site.

There is clearly a need for an on-site crematory at Crowell Brothers. The addition of a crematory in the existing building will result only in the addition of a stack enclosure and vent at the rear of the building that will be virtually out of sight. There is no odor, there are no visible or dangerous emissions and the addition of the crematory retort in an existing funeral home surrounded by a 35 acre cemetery will not have any negative effect on adjacent properties.

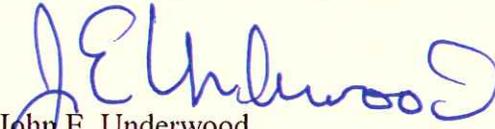
Therefore, we respectfully request that the City of Peachtree Corners approve this application for a special use permit for the addition of a crematory retort accessory to and located wholly within their existing funeral home.

City of Peachtree Corners
Community Development
August 1, 2014
Page 6 of 6

Should you have any questions, or require any additional information, please do not hesitate to contact me.

Very truly yours,

THOMPSON, O'BRIEN, KEMP & NASUTI, P.C.



John E. Underwood
Of Counsel

JEU:bms

Enclosures

cc: Jeff and Alan Crowell, with attachments

1349445_1



PEACHTREE CHAPEL • PEACHTREE MEMORIAL PARK

July 1, 2014

VIA REGULAR MAIL AND
E-MAIL ATTACHMENT TO:
mmason@peachtreecornersga.org
Mayor Mike Mason & City Council
City of Peachtree Corners
147 Technology Parkway NW, Suite 200
Peachtree Corners, GA 30092

VIA REGULAR MAIL AND
EMAIL ATTACHMENT TO:
dvwheeler@peachtreecornersga.org
Diana Wheeler
Community Development Director
City of Peachtree Corners
147 Technology Parkway NW, Suite 200
Peachtree Corners, GA 30092

VIA REGULAR MAIL AND
E-MAIL ATTACHMENT TO:
matt.houser@gwinnettcounty.com
Matt Houser, Planning Commission Chairman
and City Planning Commission
City of Peachtree Corners
147 Technology Parkway NW, Suite 200
Peachtree Corners, GA 30092

Re: Special Use Permit for crematory retort
Crowell Brothers Peachtree Chapel Funeral Home
5051 Peachtree Industrial Boulevard
Peachtree Corners, GA 30092

Ladies and Gentlemen:

As you know, Peachtree Chapel and Mortuary, Inc. d/b/a Crowell Brothers Funeral Home filed SUP2013-0004 for the addition of a crematory in our existing funeral home last year. We withdrew the SUP without prejudice due to unexpected concerns and intend to apply again shortly.

Upon reflection, we failed to properly lay the groundwork prior to filing our application for the crematory last year. We obviously underestimated the concerns of the community, and we wish to reach out to our neighbors and to each of you to explain our need for the on-site crematory retort, the benefits to the community of Peachtree Corners, and to address everyone's concerns before filing our new application.

As you know, funeral arrangements are a deeply personal choice. We continue to experience the increasing demand for cremation funeral services, which we now have to conduct in two separate locations. Usually the viewing and service takes place at our funeral home location; then the deceased has to be transported to another funeral home in Lawrenceville for the actual cremation. After the cremation is complete the remains are transported back to our funeral home for final disposition, usually to be interred in our cemetery in one of our mausoleums or for burial. Timing is a very significant issue. A cremation often cannot be scheduled at the time a family desires (usually the same day as the viewing or service). Frequently, the cremation service must be postponed one or two days. If postponed, we must store the deceased in a cooler until the scheduled time at the crematory. This delay places a hardship on the family and friends of the deceased at their time of grief, causing them to make multiple trips to the funeral home and cemetery.

It occurred to us that many of you may not have had the opportunity to attend a cremation funeral service and have not witnessed the dignity of the ceremony. Moreover, we wish to assure you that there is no odor and that there are no visible emissions due to the cremation process. If you wish to attend a service, please do not hesitate to contact me. I will ask the families of the deceased for permission for a group of not more than three City representatives to attend each such service, and if they grant permission, I will notify you of the date and time of the service. We should be able to give you at least two or three days' notice. We believe that we can accommodate all who wish to attend.

Prior to filing our application, we will also hold an open house for the community and our neighbors to explain our position and to listen to and address their concerns with property values and emissions. We will notify you of the date and time of the open house, and you are all invited to attend the open house.

We look forward to working with the City of Peachtree Corners and our neighbors regarding our upcoming application for a special use permit. Should you have any questions or concerns, please do not hesitate to contact me. I can be reached by email at jeff@crowellbrothers.com, or you can reach me or leave a message for me at (770) 448-3072.

Sincerely yours,

CROWELL BROTHERS FUNERAL HOME



Jeff Crowell

City of Peachtree Corners
July 1, 2014
Page 3 of 3

JC:bms

cc: Councilmember Phil Sadd, Post 1 - psadd@peachtreecornersga.org
Councilmember James Lowe II, Post 2 - jlowe@peachtreecornersga.org
Councilmember Alex Wright, Post 3 - awright@peachtreecornersga.org
Councilmember Jeanne Aulbach; Post 4 - jaulbach@peachtreecornersga.org
Councilmember Lorri Christopher, Post 5 - lchristopher@peachtreecornersga.org
Councilmember Weare Gratwick, Post 6 - wgratwick@peachtreecornerga.org
Italia Metts, Planning Commission Member - imettspccommissioner@gmail.com
Mark Willis, Planning Commission Member - mwillispc@gmail.com
Mark Middleton, Planning Commission Member - mark@middletonlaw.net
Alan Kaplan, Planning Commission Member - alankaplanpc@gmail.com

ANALYSIS AND REVIEW

OF

POTENTIAL IMPACT

OF

CREMATORY INSTALLATION

ON

RESIDENTIAL REAL ESTATE VALUES

JUNE 2014

Prepared by:

*Wayne Shaw, GAA
Cindy Maynard
The Stripling Shaw Appraisal Group
6185 Crooked Creek Road
Norcross, Georgia 30092*

(File#181A – CWS - 05-15-14 - Crematory Study - Underwood)

THE STRIPLING SHAW APPRAISAL GROUP

AN ASSOCIATION OF INDEPENDENT REAL ESTATE APPRAISERS
COMMERCIAL- RESIDENTIAL APPRAISERS & CONSULTANTS

6185 Crooked Creek Road, Suite C
Norcross, Georgia 30092

W. S. Stripling, MAI
Wayne Shaw, GAA

(770) 449-1600 · Office
(770) 449-6110 · Fax

June 25, 2014

Mr. John E. Underwood
Thompson O'Brien Kemp & Nasuti, P.C.
40 Technology Parkway South
Suite 300
Norcross, Georgia 30092

RE: Analysis and Review of Potential
Impact of Crematory Installation on
Residential Real Estate Values
Crowell Brothers Funeral Home, Inc.
5051 Peachtree Industrial Boulevard
Peachtree Corners, Georgia

Dear Mr. Underwood:

We have been engaged to perform an analysis of trending real estate values both before and after existing crematory sites were built, as well as, the same type of analysis regarding proposed/newly constructed sites before they are operational. These "Before and After" impact studies are for the purpose of determining if there is any measurable adverse effect on area residential real estate values.

The purpose for this study is the 3± acre funeral home with a 10,665± square foot building built in 1985 and currently operating as Crowell Brothers Funeral Home on Peachtree Industrial Boulevard in the City of Peachtree Corners. The property owners have made an application to the City of Peachtree Corners to include a crematory operation within the existing footprint of the funeral home structure. The issue addressed within our analysis is the actual impact, if any, on value for area residential real estate with the addition of a crematory at various Metro Atlanta locations.

The first approach applied was a paired data analysis. This means that we searched through the available sales data to locate individual homes within reasonable proximity to a crematory that sold prior to and after the date of installation for the crematory.

Paired data analysis is defined by *The Dictionary of Real Estate Appraisal, Fifth Edition (2010)* as "a quantitative technique used to identify and measure adjustments to the sales price or rent of comparable properties; to apply this technique, sales or rental data of nearly identical properties is analysed to isolate and estimate a single characteristic effect on value or rent. This is often referred to as a "Paired Sales" analysis."

In this instance we applied this technique to the sale and resale of two sets of five specific properties located in close proximity to existing crematories. Each individual property sold both before and after the the installation of the specific crematories.

Mr. John E. Underwood - June 25, 2014 - Analysis and Review of Potential Impact of Crematory Installation on Residential Real Estate Values -Page 2

In our paired sales analysis we found only increasing values within a one-mile radius of a new crematory operation. The value increases where in line with market expectations for the area at the time of the crematory installation. No detrimental impact on area residential real estate value was found.

To further study the data concerning any adverse impact of the opening of a crematory we utilized five crematory locations within the northern arch of the Metroplitian Atlanta Market with opening dates that excluded the years 2007 and 2008. This excluded period is due to the catastrophic decline in residential real estate values in the Atlanta market during that time period. It is the opinion of the appraisers that with such significant market declines it would be extremely difficult to separate any potential impact from a singular event like a crematory opening to that of the overall declining market.

In this second analysis we were looking for long-term impact on residential real estate that would be beyond the normal fluxuations expected in small market samples. The opening dates were June 2011, March 2009, May 2006, March 2004 and April 2002 (March 2004 and April 2002 were also analysed as the paired data analysis). For each of the locations we researched the residential sales data for a one-mile radius and calculated the median sales price for that area and converted the data into two graphs. The first graph is the median quarterly sales data for twelve quarters surrounding the opening of a specific crematory location. Graph 2 is a 12-Month Rolling Median also known as a moving median. This is a calculation that provides a long-term data perspective wherein, as the data for each new quarter rolls into the calculation the indication shifts to the next 12-months (e.g., the 4 most recent quarters) to generate a new rolling average. This graph begins with the total sales from the first four quarters and drops the oldest quarter when new quarterly data is calculated. The black line in each graph is a linear regression curve that plots a line indicative of the straight-line median of the pool of sales data specified. This type of linear regression curve identifies an overall market trend.

Finally, we performed a review and analysis of the sales data for the last 24-month period in a one-mile radius of the subject property. This subject area data analysis gives an awareness of the current fluctuations in the residential real estate market without the addition of a crematory. It should be noted that there is signifcant fluctuation in the subject market.

In conclusion, we have reviewed hundreds of residential real estate sales over a broad time period in various metro locations in close proximity to the opening of a crematory site and have not been able to discern any indication that the opening of a crematory had any long-term or net negative impact on area residential real estate values. It is our opinion that the fluctuations noted in values of the area residential real estate were due to the normal fluctuations attributable to ever-changing market conditions not impacted by the singular event of a crematory opening.

Respectfully Submitted,



Wayne Shaw, GAA
Certified General Real Estate Appraiser
GA - CG#78



Cindy Maynard
Certified General Real Estate Appraiser
GA - CG#260769

EXECUTIVE SUMMARY

In this analysis we looked for evidence of long-term impact on residential real estate values beyond the normal fluctuations expected in small market samples. The first approach applied was a paired data analysis meaning that we searched through the available sales data to locate individual homes within reasonable proximity to a crematory that sold prior to and after the date of a crematory installation. Paired data analysis is defined by *The Dictionary of Real Estate Appraisal, Fifth Edition (2010)* as “a quantitative technique used to identify and measure adjustments to the sales price or rent of comparable properties; to apply this technique, sales or rental data of the same property or nearly identical properties is analysed to isolate and estimate a single characteristic effect on value or rent. Often referred to as a “Paired Sales” analysis.”

This technique was utilized to determine if, notwithstanding any other discernable market conditions, there is market evidence of a long-term negative value trend attributable to close proximity to a crematory. We chose to first review data from crematory openings that occurred during relatively stable real estate markets. For this reason the March 2004 opening of SouthCare Cremations located at 595 Franklin Road in Marietta and the April 2002 opening of Premire Crematory located at 495 Smyrna Road in Conyers were utilized. It should be noted that both of these businesses are stand-alone crematory operations that did not have any previous crematory businesses in these locations. It is the expectation of the appraisers that these types of stand-alone installation sites should indicate any significant negative impact to values in the specific areas and there were none.

From the data analysed we located two sets of five sales each for a paired data analysis. The first site located in Marietta yielded increases in value from about 10% to about 24% over the time period reviewed. The second location was in Conyers and yielded increases from about 12% to about 27% over the time period reviewed. These crematory openings occurred in markets when there was a steady overall increase in real estate values in the area giving us a clear indication that the proximity to a crematory opening did not influence the real estate values in a negative direction.

The converse is also true, we have no indication that the opening of these crematories had any positive impact that was not directly attributable to the general increase in values in area residential real estate markets.

To further explore any impact of an opening of a crematory, we selected three additional crematory locations within the northern arc of the Metropolitan Atlanta Market with opening dates that excluded the 2007 and 2008 markets. The opening dates selected were June 2011, March 2009, May 2006 in addition to the March 2004 and April 2002 previously discussed in the paired data analysis. For each of these locations we researched the residential sales data for a one-mile radius and calculated the median sales price for that area and converted the data into two basic graphs.

The first graph is the median quarterly sales data for twelve quarters both before and after the opening of a specific crematory location. Graph 2 is a 12-Month Rolling Median also known as a moving median. This calculation provides a long-term data perspective wherein as the data for each new quarter rolls into the calculation the indication shifts to the next 12-months (e.g., the 4 most recent quarters) to generate a new rolling average. This graph begins with the total sales from the first four quarters in the study and drops the oldest quarter when new quarterly data is calculated.

The black line in each graph is a linear regression curve that plots a line indicative of the straight-line median of the pool of sales data specified. This type of linear regression curve identifies overall trend direction and minimizes the impact of the quarterly movements.

Finally, we analyzed the existing sales data within a one-mile radius of the subject property for the last 24-month period. The purpose of reviewing this data for the subject location was to get an indication of the existing swings in market conditions in the area overtime without the existence or impact of a new crematory. We have included a multi-page analysis of the sales and listing data for a period beginning in May 2014 and running back through June 2012.

Throughout our research and analysis of hundreds of sales in close proximity to five different crematories in various types of residential real estate markets we have not located any indication that the opening of a crematory negatively impacted residential real estate values. Further, we have observed no market movements that do not appear to be a direct result of traditional real estate market fluctuations.

Therefore, it is the final opinion of the appraisers that there is no statistically relevant impact on the value of residential properties located in close proximity to old or new crematory operations.

Respectfully Submitted,



Wayne Shaw, GAA
Certified General Real Estate Appraiser
GA - CG#78



Cindy Maynard
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PAIRED DATA ANALYSIS-SITE 1

As discussed, the first analysis applied was a paired data analysis meaning that we searched through the available sales data to locate individual homes within reasonable proximity to the crematory that sold prior to the crematory installation and after the date of the installation.

Our first location for the paired data analysis was SouthCare Cremation located on Franklin Road in Marietta. SouthCare is a stand alone crematory with no traditional funeral services or previous business in this location prior to the March 2004 opening. For this analysis we reviewed historical sales data to find sales of homes that were in close proximity to the crematory sold prior to and following this installation. The purpose of looking at before and after sales data was to see if there was an indicated trend in this data set. The five sets of before and after sales located, indicated residential value increases ranging from 10% to 24%.

The fact that this was a new independent crematory location in close proximity to residential properties in a stable real estate market indicated to the appraisers that there was no discernable impact, negative or positive, on area residential real estate values due to the opening of this crematory. The specific sales and their data is shown in chart below and a map of their locations follows.

**SouthCare Cremation
595 Franklin Road
Marietta, Georgia 30067 – Opened March 2004**

Sale #	Address	Sale Date	Sales Price	% Change	Distance
1	530 Meadowbrook Drive	Aug-03	\$118,500		
		Oct-05	\$132,000	11%	1,890 lf
2	614 Lyle Drive	Nov-03	\$124,000		
		Mar-06	\$139,000	12%	3,100 lf
3	793 Forrest Ridge Drive	Jul-03	\$159,900		
		Jul-08	\$175,000	10%	4,050 lf
4	758 Forrest Ridge Drive	Apr-02	\$142,500		
		Aug-06	\$176,000	24%	3,800 lf
5	212 Shawnee Trail	Aug-02	\$129,900		
		Feb-08	\$160,000	23%	4,700 lf



PAIRED DATA ANALYSIS - SITE 2

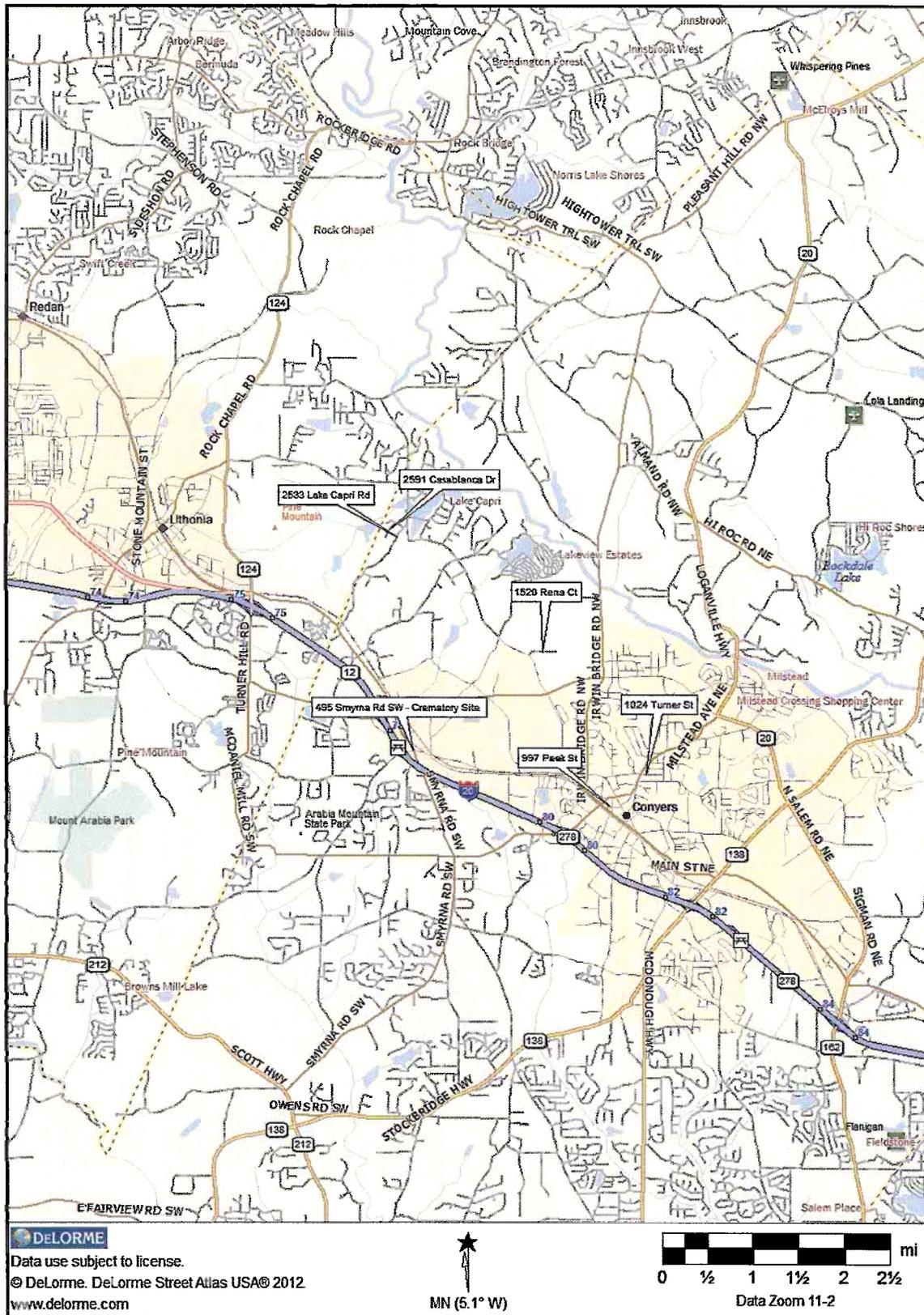
Our second location for the paired data analysis was Premire Cremation located on Smyrna Road in Marietta that began operation in April 2002. For this analysis we also reviewed historical sales data to find sales of homes in proximity to the crematory that sold prior to and again following the installation of the crematory. In this Conyers location during the specified time period we noted that the sales were somewhat more geographically dispersed; this is attributed to the more rural nature of the area at the time of this study. The purpose of looking at before and after sales data was to see if there was an indicated trend in the data set. The five sets of before and after sales indicated value increases ranging from 12% to 24%.

Premire Creation is a stand alone crematory with no traditional funeral services or previous business in this location prior to their opening in April 2002. Given that this was new, independent crematory location in close proximity to residential properties in a stable real estate market indicated to the appraisers that there was no discernable impact, negative or positive, on area residential real estate values due to the opening of this crematory. The specific sales and their data is shown in chart below and a map of the locations follows.

**Premire Crematory
495 Smyrna Road
Conyers, Georgia 30012 – April 2002**

Sale #	Address	Sale Date	Sales Price	% Change	Distance
1	2591 Casablanca Drive	Jun-01	\$105,000		
		Feb-03	\$130,000	24%	2.0 miles South
2	1520 Rena Court	Nov-01	\$78,000		
		Feb-03	\$92,000	18%	1.70 miles SW
3	2533 Lake Capri Road	Mar-01	\$125,000		
		Oct-07	\$149,000	20%	2.30 miles S
4	1024 Turner Street	May-01	\$107,000		
		Mar-04	\$136,000	27%	2.30 miles SE
5	997 Peek Street	Jun-14	\$159,900		
		Jun-14	\$174,500	12%	2.10 North

Map of Smyrna Road Crematory & Paired Sales



THE FIVE-SITE ANALYSES

In this five-site study we were looking for long-term impact on residential real estate that would be beyond the normal market fluctuations expected in relatively small market samples. The opening dates selected were the first two sites discussed in the paired data analysis which were April 2002, March 2004 and May 2006, March 2009 and June 2011. For each of the sites we located residential sales information for a one-mile radius from the crematory site and calculated the median sales price for the area and then graphed the median quarterly sales data for twelve quarters surrounding the opening of the crematory; this is indicated as Graph 1. Data Set 1 is the numerical representation of the data points as graphed in Graph 1. Graph 2 is a 12-month rolling median also known as a moving median. This is a calculation that provides long-term perspective wherein as the data for each new quarter rolls in the indication shifts to the next 12-months (e.g., the 4 most recent quarters) to generate a new rolling average. This graph begins with the total sales from the first four quarters of the study and drops the oldest quarter when new quarterly data is received and thus creates the next data point on the graph. Data Set 2 is the numerical representation of the data points in Graph 2.

The straight black line on each graph is a linear regression curve that plots a line that best fits the prices specified from the specific data pool. The Linear Regression Curve identifies overall trend direction for the period and data set indicated.

Median is defined by *The Dictionary of Real estate Appraisal, Fifth Edition (2010)* as “a measure of central tendency identified as the middle value in an ordered array of numerical values, e.g. 7 is the median of (1, 4, 6, 6, 7, 9, 11, 23, 41). If the ordered array contains an even number of values, then the median is the mean of the two values on either side of the middle.”

The sites selected for the study vary in geographical location and time in order to give us a broad look at the data available and to help us ascertain if there were any discernable declines in area values following the opening of a crematory. As discussed, it was our expectation that there were variances in the median values that were a normal function of the real estate market. Our goal was to determine if there was significant, long-term value loss due to close proximity to a crematory. It is the opinion of the appraisers that this five-site approach allows for a broad spectrum of data to be viewed in such a way that statistically relevant variations will be visible. A short description of the five study sites followed by the graphs with a map and aerial view of the each location follows.

STUDY LOCATION 1

Premier Crematory
495 Smyrna Road
Conyers, Georgia 30012
Crematory Opened – April 2002

Premier Crematory is located off Interstate 20 in the City of Conyers in an older mixed residential, industrial and commercial area. The business offers direct cremations as well as services to various area funeral homes.

The data analysis for this location in Graph 1 and Data Set 1 included 280 sales over 12 quarters. The quarterly median values ranged from a high of 24.8% for the quarter ending in June 2001 to a decline of -14.3% for the last quarter of 2003. The crematory began operations in April 2002 with the June and September 2002 median value showing a decline of -1.3% and -4% while December 2002 reflected a 22% increase in median values. The median values reflected positive increases until the last quarter of 2003.

The data analysis for Graph 2 and Data Set 2 included a twelve-month rolling median over a three-year term. In this instance the sales for the first four quarters were added up and graphed as the first data point and the second point on the graph is the loss of the oldest quarter median sales data and the addition of the newest quarter median data so that each data point represents 12 months of rolling data. The overall rolling trend is a slow upward increase in value that is closely tracked by the quarterly trends.

In our review of the data, the appraisers did not find evidence of a long-term decline in real estate values in a one-mile vicinity of the crematory. Overall, the trends noted and discussed were considered to be within the norm for the location and the period of time in which the data was sampled. All of the data analyzed is retained in the appraisers work file.

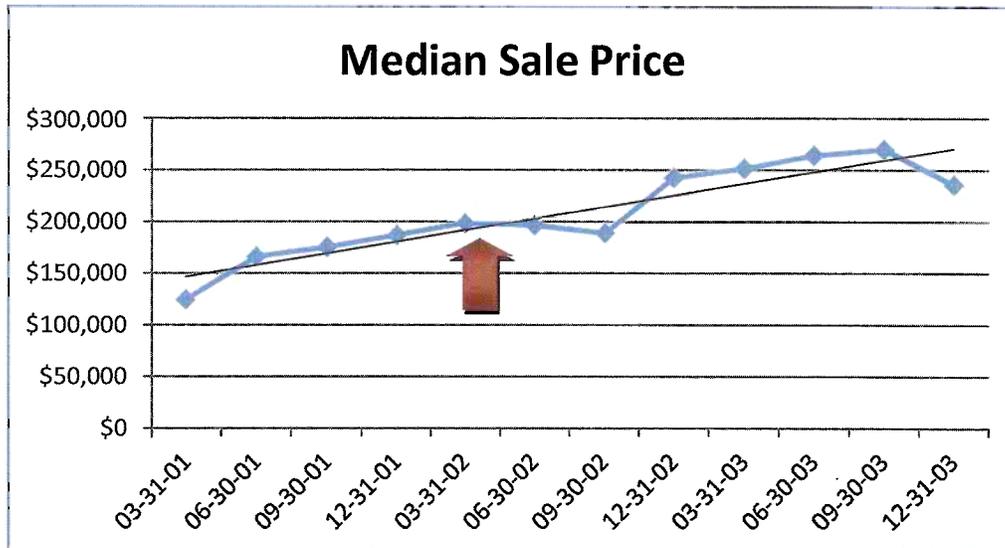
Therefore, it is the opinion of the appraisers that no statistically relevant impact could be found utilizing a 12 quarter analysis surrounding the opening of the crematory for residential sales within a one-mile radius of the crematory.

Premier Crematory
Crematory Opened – April 2002

Median sales within a one-mile radius from March 31, 2001 through December 2003

Graph 1

The blue line indicates the median prices as charted every quarter while the black line is the straight-line regression curve of the median values indicating the median trend over time. The red arrow indicated the opening of the crematory.



Data Set 1

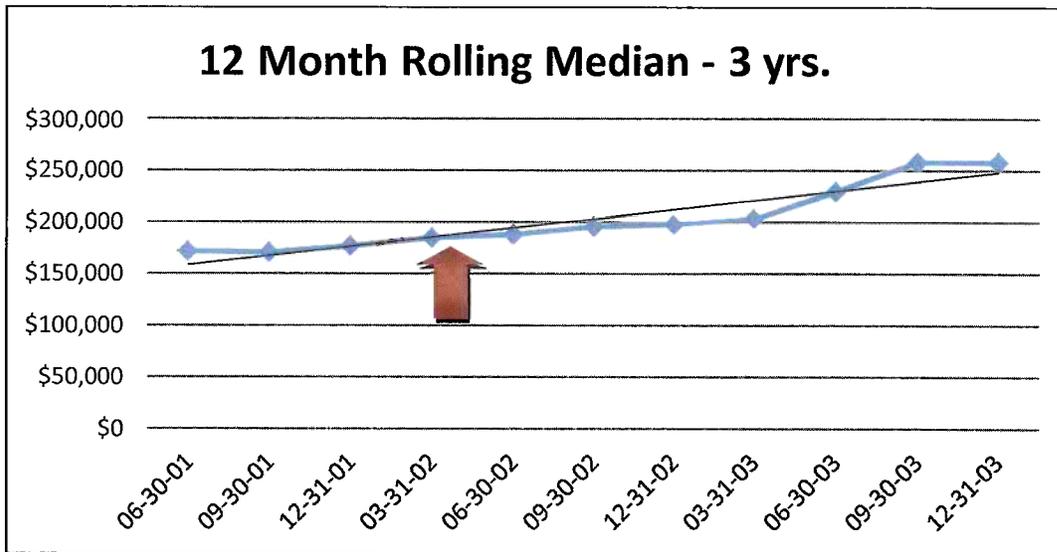
Graphed Quarterly Data

Period	Median	Num. Sales	Value Change
03-31-01	\$125,000	15	
06-30-01	\$166,200	16	24.8%
09-30-01	\$175,442	16	5.3%
12-31-01	\$186,900	35	6.1%
03-31-02	\$198,900	37	6.0%
06-30-02	\$196,400	53	1.3%
09-30-02	\$188,900	39	-4.0%
12-31-02	\$242,718	10	22.2%
03-31-03	\$251,550	14	3.5%
06-30-03	\$264,128	12	4.8%
09-30-03	\$269,900	19	2.1%
12-31-03	\$236,130	14	-14.3%
Total Sales		280	

Premier Crematory
Crematory Opened – April 2002

Graph 2

The blue line indicates the rolling median prices as charted every quarter (first 4 quarters – one oldest quarter + one newest quarter) while the black line is the straight-line regression curve of the median values indicating the median trend over time. The red arrow indicated the opening of the crematory.

**Data Set 2****Graphed Rolling Data**

Period	Rolling Median	Num. Sales
06-30-01	\$171,850	58
09-30-01	\$170,750	56
12-31-01	\$176,900	82
03-31-02	\$184,950	104
06-30-02	\$188,000	141
09-30-02	\$195,636	129
12-31-02	\$198,000	139
03-31-03	\$203,860	116
06-30-03	\$229,900	75
09-30-03	\$257,900	55
12-31-03	\$257,900	59

STUDY LOCATION 2

SouthCare Cremation
595 Franklin Road
Marietta, Georgia 30067
Crematory Opened – March 2004

SouthCare Crematory is located off of Interstate 75 at the SR 120 Loop in the City of Marietta in a mixed residential, industrial and commercial area. The business offers direct cremations as well as services to various area funeral homes.

The data analysis for this location in Graph 1 and Data Set 1 included 110 sales over 12 quarters. The quarterly median values ranged from a high of 24.3% for the quarter ending in December 2004 to a decline of -14.8% for the quarter ending in March 2004. The crematory began operations in March 2004 with the June 2004 quarter reflecting a 16.9% increase and the September 2004 quarter reflected a 20.6% decline. The area continued both positive and negative quarterly trends through the study period which ended in December 2005.

The data analysis for Graph 2 and Data Set 2 included is a twelve-month rolling median over a three-year term. In this instance the sales for the first four quarters were added up and graphed as the first data point and the second point on the graph is the loss of the oldest quarter median sales data and the addition of the newest quarter median data so that each data point represents 12 months of rolling data. The overall rolling trend was a slow upward increase in value that was closely tracked by the quarterly trends.

In our review of the data, the appraisers did not find evidence of a long-term decline in real estate values in the immediate area of the crematory. Overall, the trends noted and discussed are considered to be within the norm for the location and the period of time in which the data was sampled. All of the data analyzed is retained in the appraisers work file.

Therefore, it is the opinion of the appraisers that no statistically relevant impact could be found utilizing a 12 quarter analysis surrounding the opening of the crematory for residential sales within a one-mile radius of the crematory.

SouthCare Cremation
Crematory Opened – March 2004

Median sales within a one-mile radius from March 31, 2003 through December 2005

Graph 1

The blue line indicates the median prices as charted every quarter while the black line is the straight-line regression curve of the median values indicating the median trend over time. The red arrow indicated the opening of the crematory.



Data Set 1

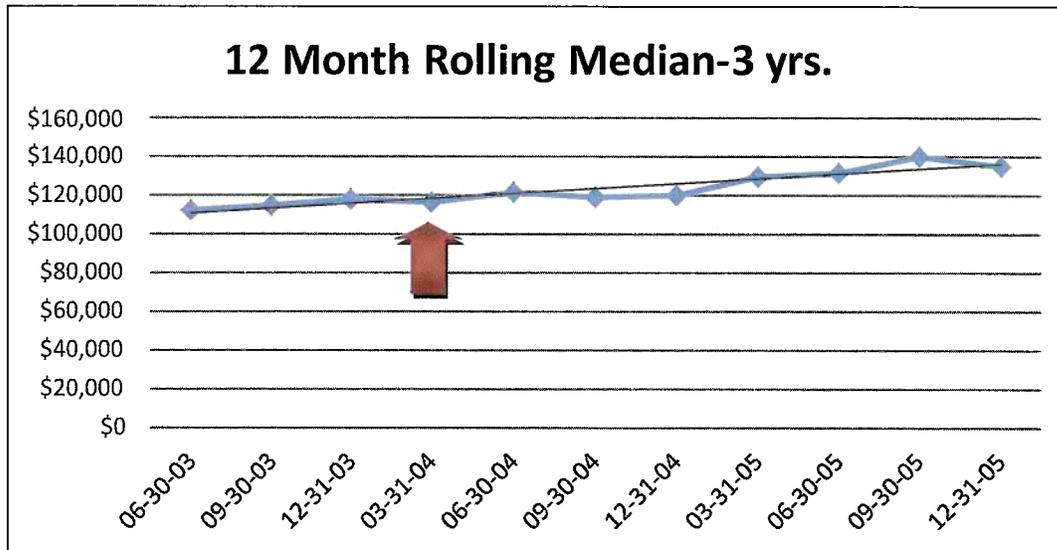
Graphed Quarterly Data

Period	Median	Num. Sales	Value Change
03-31-03	\$92,750	6	
06-30-03	\$112,950	10	17.9%
09-30-03	\$118,500	7	4.7%
12-31-03	\$124,000	13	4.4%
03-31-04	\$108,000	7	-14.8%
06-30-04	\$130,000	13	16.9%
09-30-04	\$107,750	11	-20.6%
12-31-04	\$142,250	2	24.3%
03-31-05	\$134,000	8	-6.2%
06-30-05	\$140,000	11	4.3%
09-30-05	\$140,211	12	0.2%
12-31-05	\$128,500	10	-9.1%
Total Sales		110	

SouthCare Cremation
Crematory Opened – March 2004

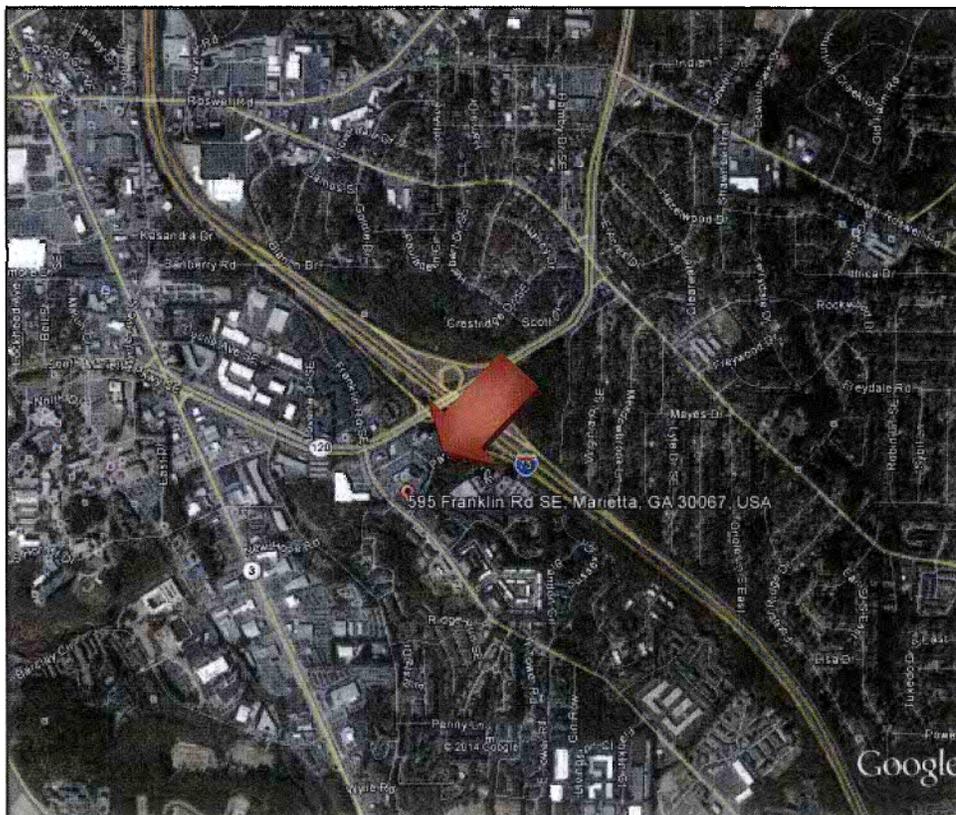
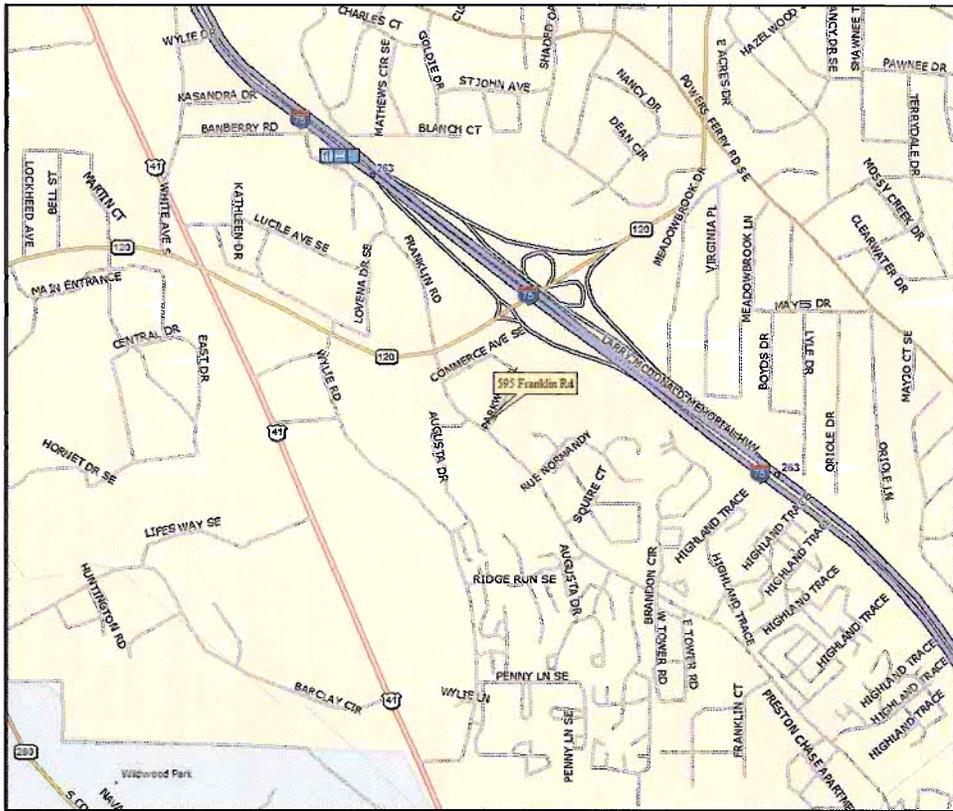
Graph 2

The blue line indicates the rolling median prices as charted every quarter (first 4 quarters – one oldest quarter + one newest quarter) while the black line is the straight-line regression curve of the median values indicating the median trend over time. The red arrow indicated the opening of the crematory.

**Data Set 2****Graphed Rolling Data**

Period	Rolling	
	Median	Num. Sales
06-30-03	\$112,450	22
09-30-03	\$115,000	25
12-31-03	\$118,000	36
03-31-04	\$116,500	37
06-30-04	\$121,500	40
09-30-04	\$119,000	31
12-31-04	\$120,000	33
03-31-05	\$129,500	34
06-30-05	\$131,500	32
09-30-05	\$139,900	33
12-31-05	\$135,000	41

Metro Atlanta Location Map and Aerial for Study 2 Subject



STUDY LOCATION 3

Tim Stewart Funeral Home
300 Simonton Road SW
Lawrenceville, Georgia 30046
Crematory Opened –May 2006

Tim Stewart Funeral Home is located off of Grayson Highway in the City of Lawrenceville in a mixed residential, industrial and commercial area. The business was a full service funeral home prior to the addition of the crematory.

The data analysis for this location in Graph 1 and Data Set 1 included 281 sales over 12 quarters. The quarterly median values ranged from a high of 4.7% for the quarter ending in June 2005 to a decline of -19% for the last quarter of 2007. The crematory began operations in May 2006 with the subsequent quarters alternating in an upward and downward pattern until there was a significant decline in December 2007.

The data analysis for Graph 2 and Data Set 2 included a twelve-month rolling median over a three-year term. In this instance the sales for the first four quarters were added up and graphed as the first data point and the second point on the graph is the loss of the oldest quarter median sales data and the addition of the newest quarter median data so that each data point represents 12 months of rolling data. The overall rolling trend was a slow upward increase in value that was closely tracked by the quarterly trends.

In our review of the data, the appraisers did not find evidence of a long-term decline in real estate values in the immediate area of the crematory. Overall, the trends noted and discussed were considered to be within the norm for the location and the period of time in which the data was sampled. All of the data analyzed is retained in the appraisers work file.

Therefore, it is the opinion of the appraisers that no statistically relevant impact could be found utilizing a 12 quarter analysis surrounding the opening of the crematory for residential sales within a one-mile radius of the crematory.

Tim Stewart Funeral Home

300 Simonton Road SW
Lawrenceville, Georgia 30046
Crematory Opened –May 2006

Median sales within a one-mile radius from March 31, 2005 through December 2007

Graph 1

The blue line indicates the median prices as charted every quarter while the black line is the straight-line regression curve of the median values indicating the median trend over time. The red arrow indicated the opening of the crematory.



Data Set 1

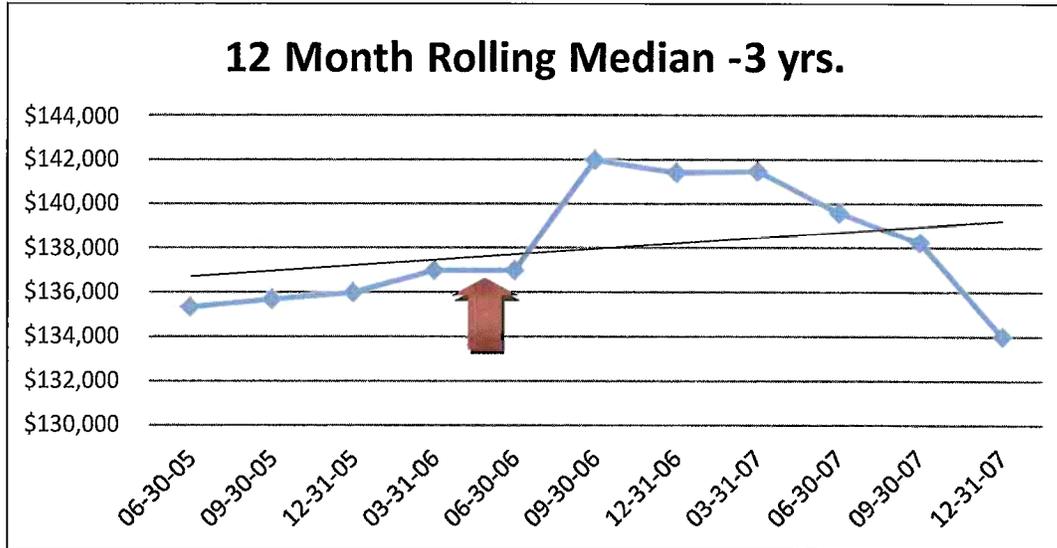
Graphed Quarterly Data

Period	Median	Num. Sales	Value Change
03-31-05	\$136,250	26	
06-30-05	\$143,000	27	4.7%
09-30-05	\$135,500	32	-5.5%
12-31-05	\$136,250	32	0.6%
03-31-06	\$142,450	20	4.4%
06-30-06	\$141,000	50	-1.0%
09-30-06	\$141,950	36	0.7%
12-31-06	\$135,500	30	-4.8%
03-31-07	\$141,950	18	4.5%
06-30-07	\$134,900	29	-5.2%
09-30-07	\$138,000	23	2.2%
12-31-07	\$116,000	21	-19.0%
Total Sales		281	

Tim Stewart Funeral Home
Crematory Opened –May 2006

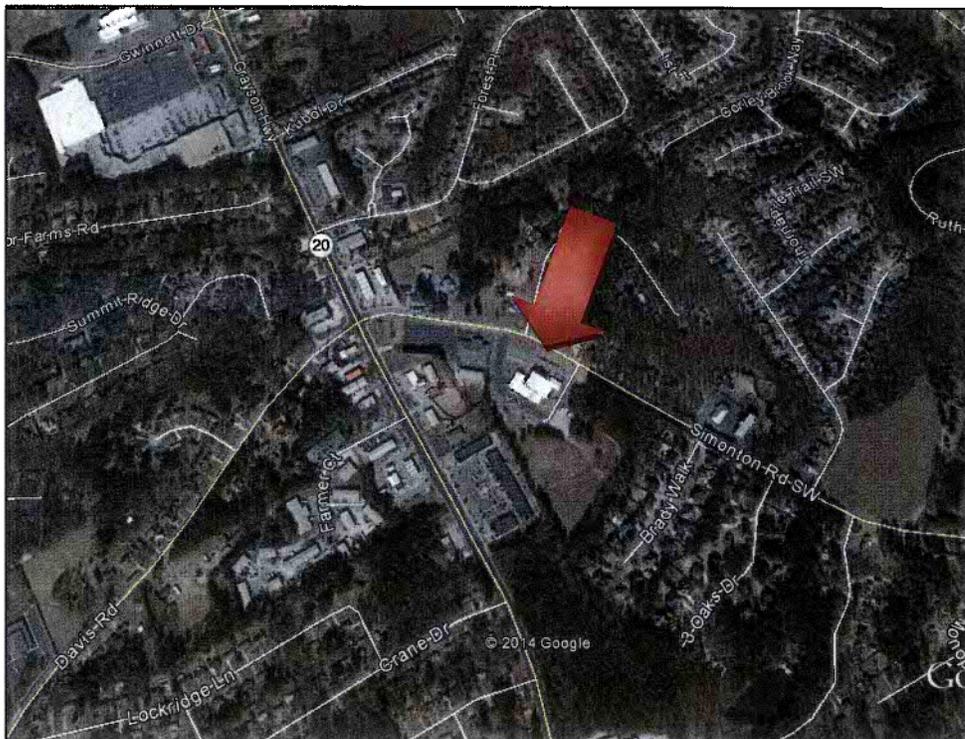
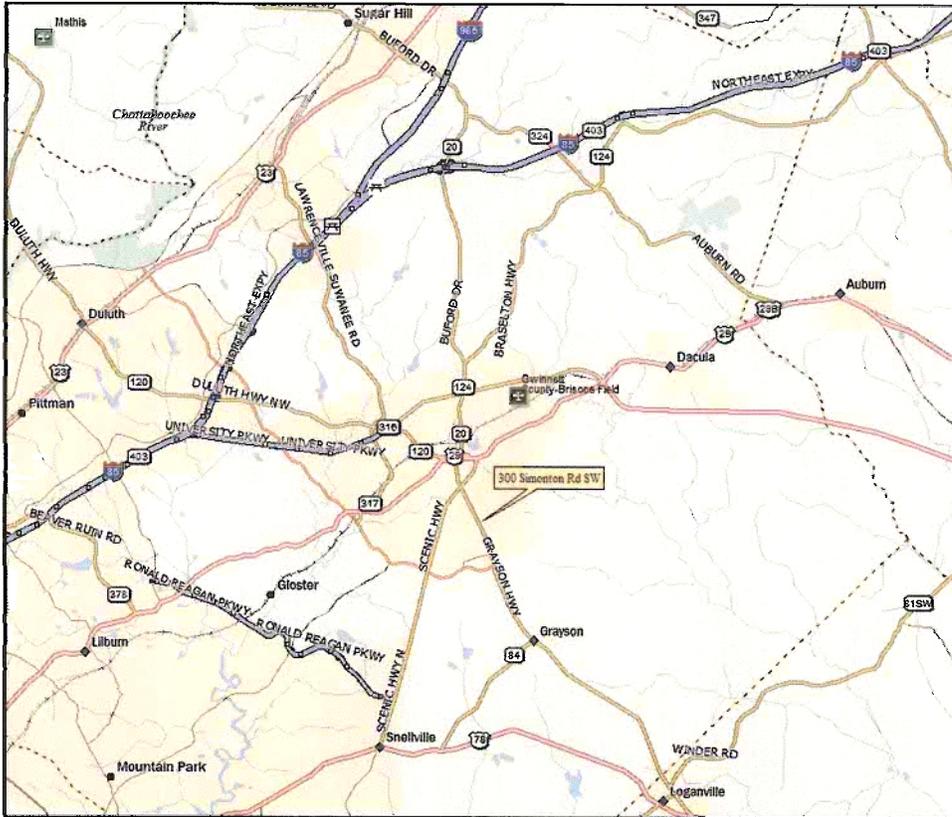
Graph 2

The blue line indicates the rolling median prices as charted every quarter (first 4 quarters – one oldest quarter + one newest quarter) while the black line is the straight-line regression curve of the median values indicating the median trend over time. The red arrow indicated the opening of the crematory.

**Data Set 2****Graphed Rolling Data**

Period	Rolling	
	Median	Num. Sales
06-30-05	\$135,350	118
09-30-05	\$135,700	111
12-31-05	\$136,000	117
03-31-06	\$137,000	111
06-30-06	\$137,000	134
09-30-06	\$141,950	106
12-31-06	\$141,400	136
03-31-07	\$141,450	134
06-30-07	\$139,600	113
09-30-07	\$138,250	100
12-31-07	\$134,000	91

Metro Atlanta Location Map and Aerial for Study 3 Subject



STUDY LOCATION 4**R T Patterson Funeral Home**

500 Harbins Road
Lilburn, Georgia 30047
Crematory Opened –March 2009

R T Patterson Funeral Home began their crematory operation at the Lilburn location in March 2009. Their location along Harbins Road is just off Lawrenceville Highway. The immediate area is primarily residential in nature with houses, apartments and a church located across from the property. There is a school and residential homes located to the rear. The general area includes commercial and retail businesses along Lawrenceville Highway. At the intersection of Harbins Road and Lawrenceville Highway there is a cemetery that fronts both streets that is also adjacent to the funeral home.

The data analysis for this location in Graph 1 and Data Set 1 included a total of 277 sales over 12 quarters beginning in March 2008 through year-end 2010. The quarterly median values ranged from a high of 33.2% for the quarter ending in June 2010 to a decline of 70.4% for the first quarter of 2010. The crematory began operations in March 2009, which was the second quarterly decrease of a four-quarter decline, which was followed by four significant high, low, high, low activities. Considering that this was the early stage of the residential market recovery, it does not strike the appraisers as unusual for general Metro Atlanta conditions for the period.

The data analysis for Graph 2 and Data Set 2 included a twelve-month rolling median over a three-year term. In this instance the sales for the first four quarters were added up and graphed as the first data point and the second point on the graph is the loss of the oldest quarter median sales data and the addition of the newest quarter median data so that each data point represents 12 months of rolling data. Graph 4 represents a moving twelve-month median of both the sales price and the number of sales.

In our review of the data, the appraisers did not find evidence of a long-term decline in real estate values in the immediate area of the crematory. The trends noted and discussed were not considered to be outside of the norm of either the location or the period in which the data was sampled. All of the data analyzed is retained in the appraisers work file.

R T Patterson Funeral Home

Median sales within a one-mile radius from March 31, 2008 through December 2010

Graph 1

The blue line indicates the median prices as charted every quarter while the black line is the straight line regression curve of the median values indicating the median trend over time. The red arrow indicated the opening of the crematory.



Data Set 1

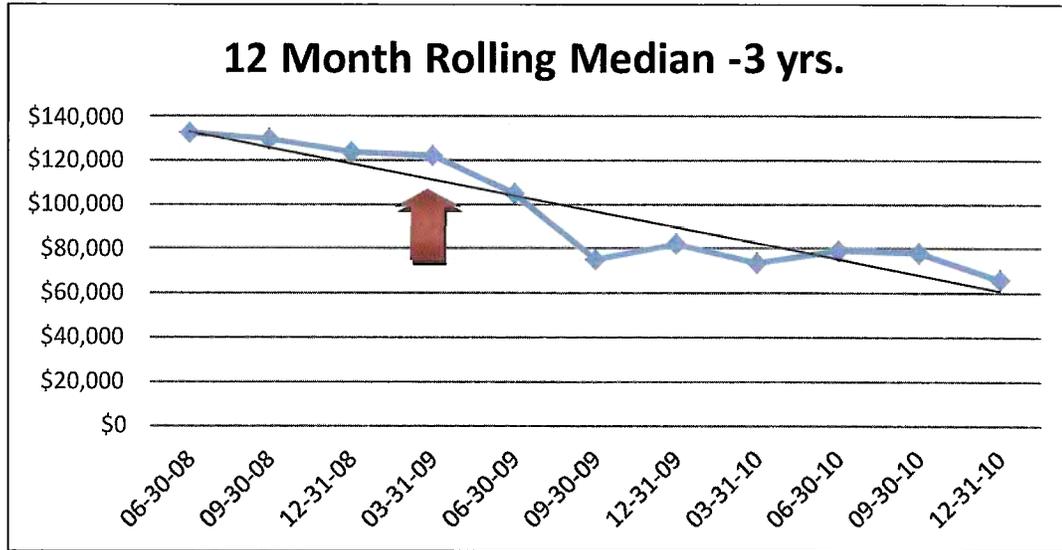
Graphed Quarterly Data

Period	Median	Num. Sales	Value Change
03-31-08	\$115,200	18	
06-30-08	\$134,138	24	14.1%
09-30-08	\$117,000	19	-14.6%
12-31-08	\$121,500	22	3.7%
03-31-09	\$98,450	18	-23.4%
06-30-09	\$74,000	25	-33.0%
09-30-09	\$75,000	26	1.3%
12-31-09	\$102,500	20	26.8%
03-31-10	\$60,150	29	-70.4%
06-30-10	\$90,000	30	33.2%
09-30-10	\$65,500	22	-37.4%
12-31-10	\$64,000	24	-2.3%
Total Sales		277	

R T Patterson Funeral Home

Graph 2

The blue line indicates the rolling median prices as charted every quarter (first 4 quarters – one oldest quarter + one newest quarter) while the black line is the straight-line regression curve of the median values indicating the median trend over time. The red arrow indicated the opening of the crematory.

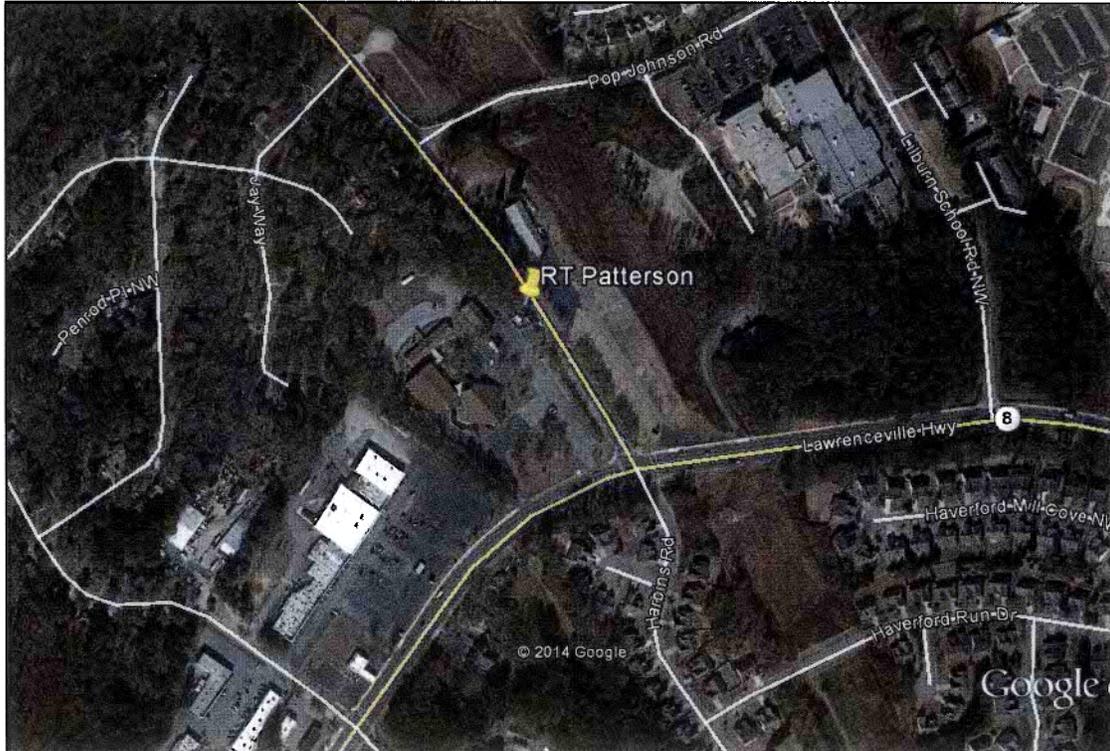
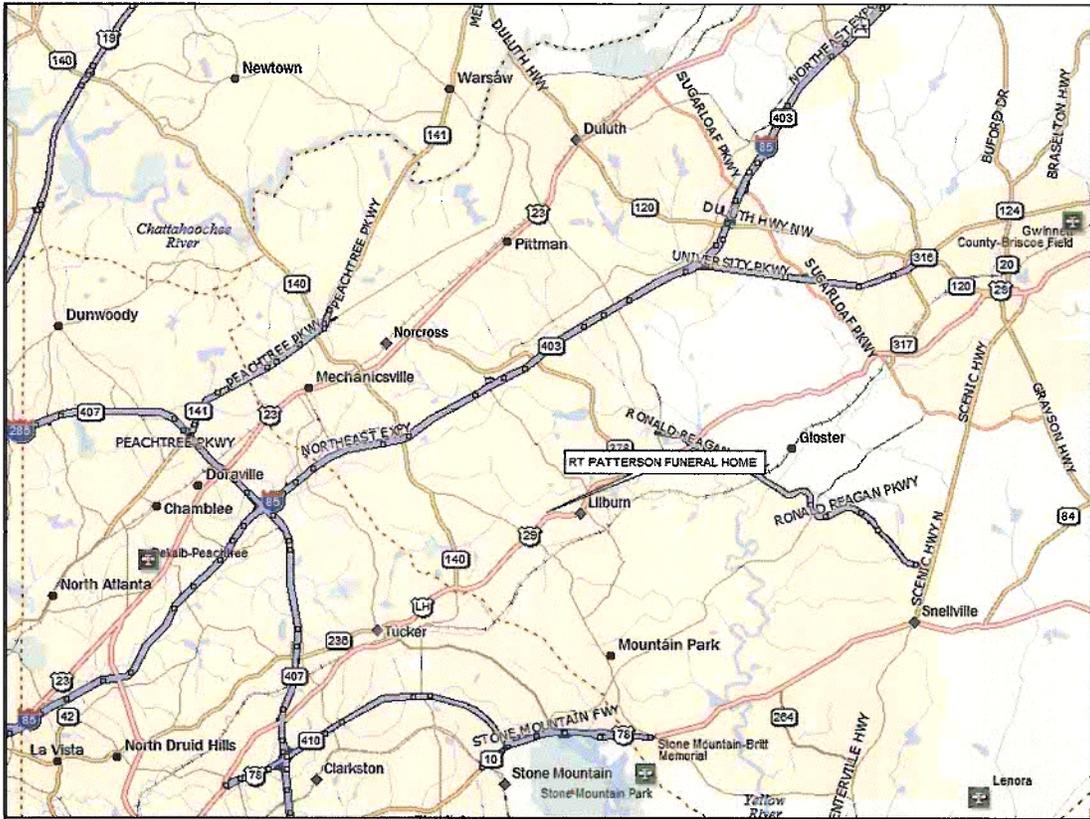


Data Set 2

Graphed Rolling Data

Period	Rolling Median	Num. Sales
06-30-08	\$132,250	82
09-30-08	\$129,380	75
12-31-08	\$123,500	83
03-31-09	\$122,000	83
06-30-09	\$104,950	84
09-30-09	\$75,000	69
12-31-09	\$82,000	89
03-31-10	\$73,450	100
06-30-10	\$79,000	105
09-30-10	\$78,000	101
12-31-10	\$66,000	105

Metro Atlanta Location Map and Aerial for Study 4 Subject



STUDY LOCATION 5**A S Turner & Sons Funeral Home**

2773 N Decatur Road

Decatur, Georgia 30033

Crematory Opened – June 2011

A S Turner and Sons is located along N Decatur Road and is in an older area of Decatur that includes residential, commercial, industrial and a hospital.

In conversation with the Mr. Ernie Mosier, owner of the business, the appraisers were told that there was very little public interest or concern about the addition of a crematory to their existing funeral home location. Mr. Mosier further stated that there is a significant shift in the general funeral home business with cremations becoming much more acceptable and a rising trend of friends and family wishing to attend the actual cremation making an on-site crematory a necessity. It is this later fact that convinced Mr. Mosier that the addition of an on-site crematory was critical for the continued success of his current business. Mr. Mosier further stated that with the increase in cremation only businesses, it was clear that if he did not expand in his current market that it was only a matter of time before another business would make the move to fill the void. According to Mr. Mosier for year 2011, (the most recent data of which he was aware), the national percentage of people who chose cremation was 42% with the number expected to be 49% by 2016.

The data analysis for this location in Graph 1 and Data Set 1 included 246 sales over 12 quarters. The quarterly median values ranged from a high of 34.7% for the quarter ending in March 2012 to a decline of -28.4% for the last quarter of 2011. The crematory began operations in June 2011 during which an increase of 16.9% in the median value was indicated. The following two quarters reflected a decrease in the median value, which rebounded in the first quarter of 2012 and reflected minimum fluctuations until the last quarter of 2012.

The data analysis for Graph 2 and Data Set 2 included a twelve-month rolling median over a three-year term. In this instance the sales for the first four quarters were added up and graphed as the first data point and the second point on the graph is the loss of the oldest quarter median sales data and the addition of the newest quarter median data so that each data point represents 12 months of rolling data. Graph 4 represents a moving twelve-month median of both the sales price and the number of sales.

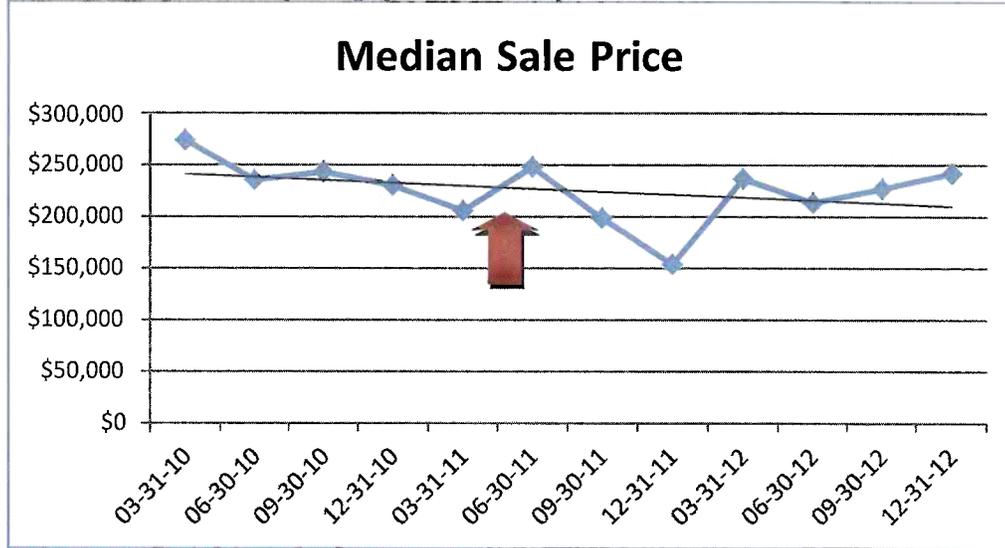
In our review of the data, the appraisers did not find evidence of a long-term decline in real estate values in the immediate area of the crematory. The trends noted and discussed were not considered to be outside of the norm of either the location or the period in which the data was sampled. All of the data analyzed is retained in the appraisers work file.

A S Turner & Sons Funeral Home

Median sales within a one-mile radius from March 31, 2010 through December 2012

Graph 1

The blue line indicates the median prices as charted every quarter while the black line is the straight-line regression curve of the median values indicating the median trend over time. The red arrow indicated the opening of the crematory.



Data Set 1

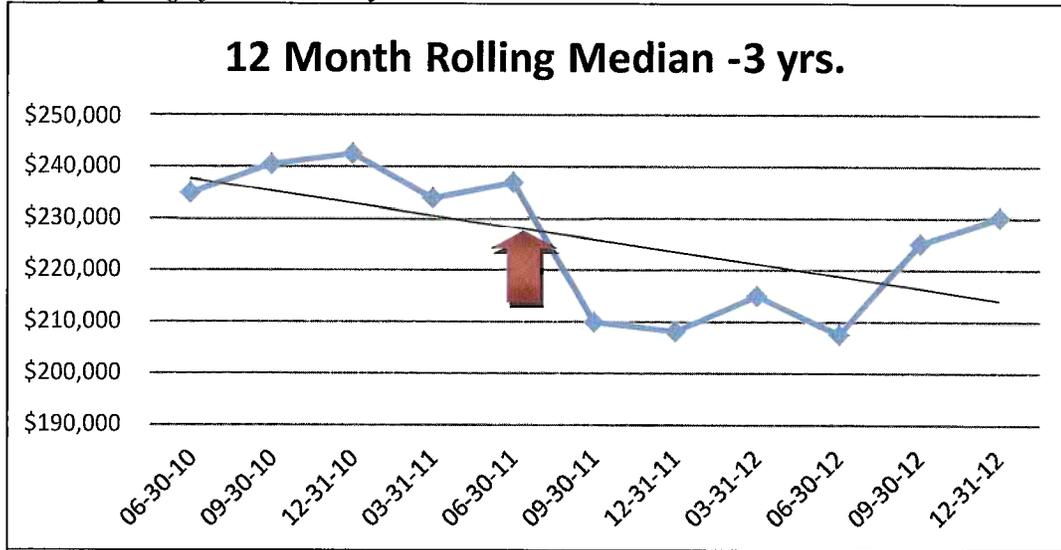
Graphed Rolling Data

Period	Median	Num. Sales	Value Change
03-31-10	\$273,250	10	
06-30-10	\$235,000	29	-16.3%
09-30-10	\$243,000	21	3.3%
12-31-10	\$230,000	18	-5.7%
03-31-11	\$205,750	16	-11.8%
06-30-11	\$247,500	23	16.9%
09-30-11	\$198,450	22	-24.7%
12-31-11	\$154,500	12	-28.4%
03-31-12	\$236,500	16	34.7%
06-30-12	\$213,250	30	-10.9%
09-30-12	\$227,000	35	6.1%
12-31-12	\$241,500	14	6.0%
Total Sales		246	

A S Turner & Sons Funeral Home

Graph 2

The blue line indicates the rolling median prices as charted every quarter (first 4 quarters – one oldest quarter + one newest quarter) while the black line is the straight-line regression curve of the median values indicating the median trend over time. The red arrow indicated the opening of the crematory.



Data Set 2

Graphed Rolling Data

Period	Rolling Median	Num. Sales
06-30-10	\$235,000	85
09-30-10	\$240,500	82
12-31-10	\$242,500	78
03-31-11	\$234,000	84
06-30-11	\$237,000	78
09-30-11	\$210,000	61
12-31-11	\$208,180	73
03-31-12	\$215,000	73
06-30-12	\$207,590	80
09-30-12	\$225,000	93
12-31-12	\$230,000	95

SUBJECT PROPERTY

Crowell Brothers Funeral Home is located at 5051 Peachtree Industrial Boulevard within the City of Peachtree Corners in Gwinnett County. Crowell Brothers Funeral Home is a family-owned business currently in their third generation that began operations at their current location in July 1958 as Peachtree Memorial Park. Currently the business includes a 28± acre cemetery with a 12,000 square foot mausoleum and a 3± acre site with a 10,665± square feet funeral home. The property owners have made an application to the City of Peachtree Corners to include within their existing funeral home footprint a crematory operation. The issue addressed within our analysis is any adverse impact on area real estate values with the addition of the crematory within the Crowell Brothers Funeral Home location.

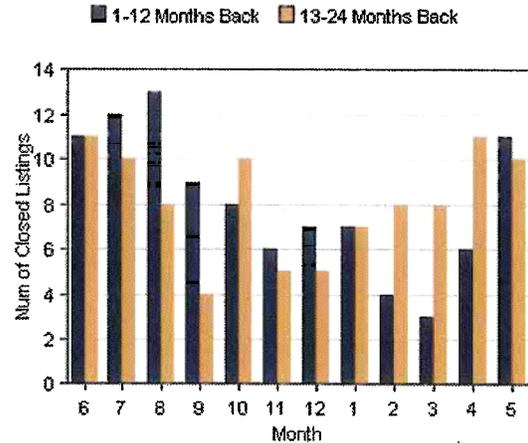
First, we will review the existing sales data within a one-mile radius of the subject property. The purpose of reviewing the last 24 months of data for the subject location is to get an indication of the existing swings in market conditions in the area over time without the existence of the crematory. The primary theme of this data seems to be that there are significant market swings in the area of the subject property unrelated to the business as it currently exists. Located on the following pages is an analysis of the residential sales data for both attached and detached properties for the last 24-month period beginning in June 2012 and running through May 2014. The look back date of the report is June 6, 2014.

Significant data points in the area include an overall improvement in new listings but a decline in unit sales of about 50% for February, March and April (2014) but rebound in May (2014) of about 10% year over year. For the same period overall, there has been a rising trend in sales price with the average price for May 2014 being \$253,482 versus \$201,330 in May 2013 reflecting an increase of about 25% year over year. Days on market were down from a high of 119 days in September of 2012 to a low of 26 days in May 2014. There were two foreclosures in the last twelve months versus three in the preceding 12 months. Overall, the data reflects an improving real estate market for Gwinnett and the Metro Atlanta market in general. The data discussed herein is located on the following pages.

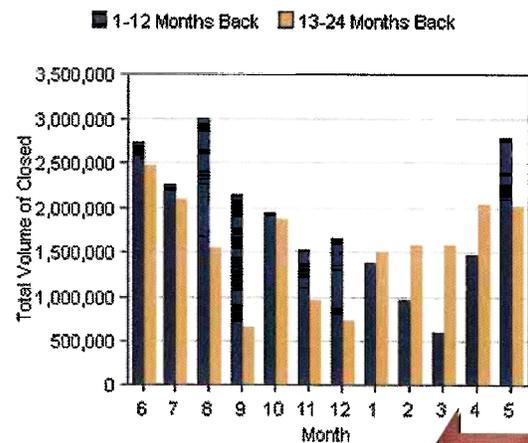
LAST 24 MONTHS RESULTS

Search Criteria: May 2014 versus May 2013 through June 2013 versus June 2012. Read charts and graphs in the direction of the red arrows.

Measure	Month	1-12	13-24	% Change
Closed Sales (Units)	June	11	11	0.0%
	July	12	10	20.0%
	August	13	8	62.5%
	September	9	4	125.0%
	October	8	10	-20.0%
	November	6	5	20.0%
	December	7	5	40.0%
	January	7	7	0.0%
	February	4	8	-50.0%
	March	3	8	-62.5%
	April	6	11	-45.5%
	May	11	10	10.0%



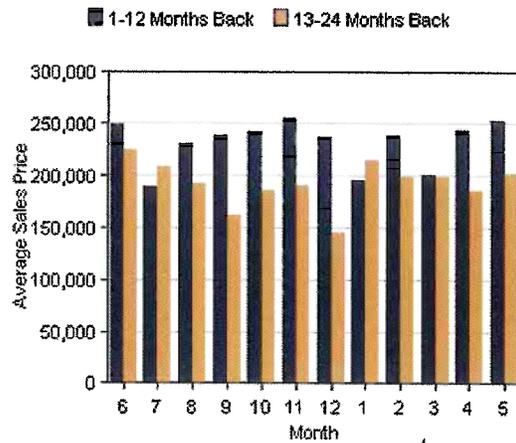
Measure	Month	1-12	13-24	% Change
Closed Sales (\$\$)	June	2,740,750	2,462,000	11.3%
	July	2,269,065	2,090,200	8.6%
	August	3,007,738	1,541,640	95.1%
	September	2,149,600	647,700	231.9%
	October	1,940,775	1,860,951	4.3%
	November	1,531,000	954,150	60.5%
	December	1,657,500	724,800	128.7%
	January	1,369,600	1,500,000	-8.7%
	February	955,000	1,583,076	-39.7%
	March	601,000	1,586,900	-62.1%
	April	1,468,500	2,040,165	-28.0%
	May	2,788,300	2,013,300	38.5%



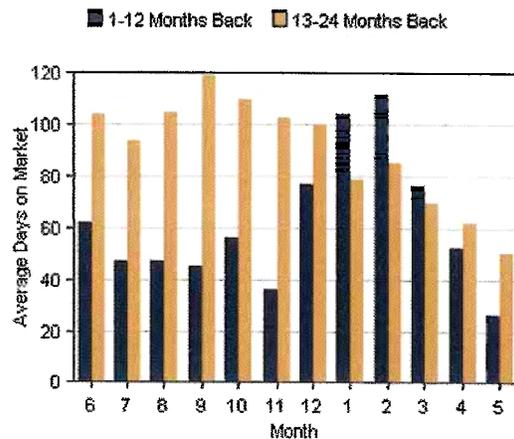
(Data Source Georgia MLS)

Search Criteria: May 2014 versus May 2013 through June 2013 versus June 2012. Read charts and graphs in the direction of the red arrows.

Measure	Month	1-12	13-24	% Change
Average Sales Price	June	249,159	223,818	11.3%
	July	189,089	209,020	-9.5%
	August	231,364	192,705	20.1%
	September	238,844	161,925	47.5%
	October	242,597	186,095	30.4%
	November	255,167	190,830	33.7%
	December	236,786	144,960	63.3%
	January	195,657	214,286	-8.7%
	February	238,750	197,885	20.7%
	March	200,333	198,363	1.0%
	April	244,750	185,470	32.0%
	May	253,482	201,330	25.9%



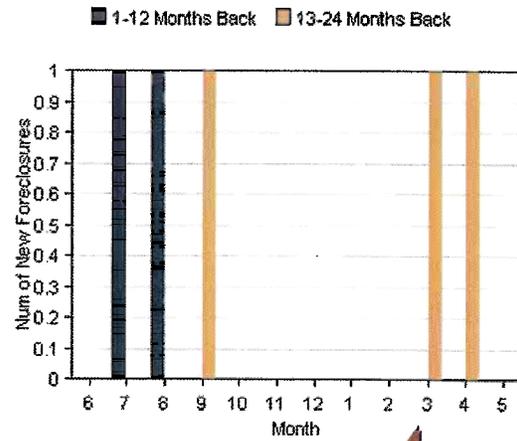
Measure	Month	1-12	13-24	% Change
Average Days on Market	June	62	104	-40.4%
	July	47	94	-50.0%
	August	47	105	-55.2%
	September	45	119	-62.2%
	October	56	110	-49.1%
	November	36	103	-65.0%
	December	77	100	-23.0%
	January	104	79	31.6%
	February	112	85	31.8%
	March	76	70	8.6%
	April	52	62	-16.1%
	May	26	50	-48.0%



(Data Source Georgia MLS)

Search Criteria: May 2014 versus May 2013 through June 2013 versus June 2012. Read charts and graphs in the direction of the red arrows.

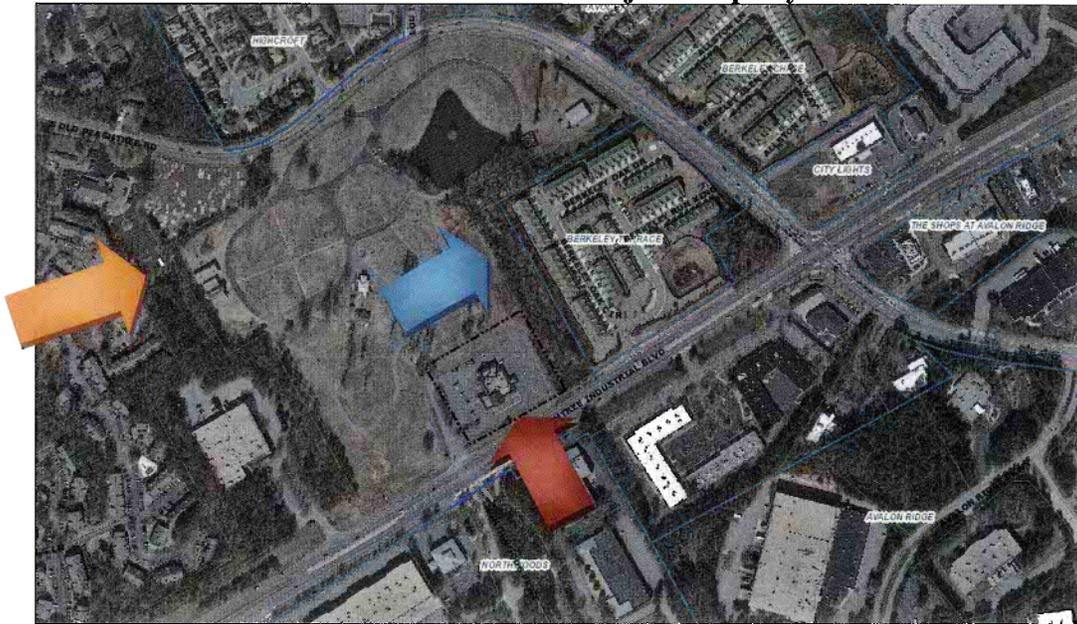
Measure	Month	1-12	13-24	% Change
New Foreclosures	June	0	0	0.0%
	July	1	0	0.0%
	August	1	0	0.0%
	September	0	1	-100.0%
	October	0	0	0.0%
	November	0	0	0.0%
	December	0	0	0.0%
	January	0	0	0.0%
	February	0	0	0.0%
	March	0	1	-100.0%
	April	0	1	-100.0%
	May	0	0	0.0%



(Data Source Georgia MLS)

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Aerial View of the Subject Property

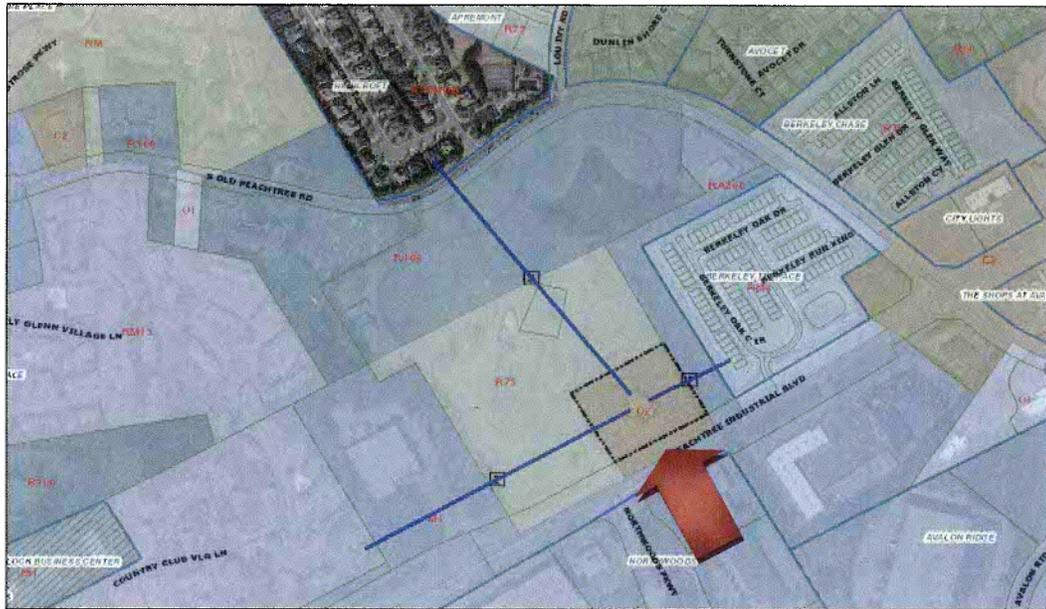


The Crowell Brothers Funeral Home property is outlined in black and indicated by the red arrow above. Located at the rear of the property and indicated by the orange arrow is the 28± acre memorial park and mausoleum site. Indicated above by an aqua arrow is a 3.16± acre parcel (R6270 090) also under the ownership of the Crowell Brothers that wraps the adjacent townhome development and serves as a natural buffer to the development.

Located on the following page is an aerial map that indicates area residential properties and their estimated proximity to the existing funeral home. Located northeast of the property is the townhome development of Berkley Terrace built about 2005. This development has the closest proximity of any residential property to the subject. According to measurements taken via the Gwinnett County GIS System, the proximity to the funeral home building is estimated at 350± linear feet.

Located with the closest residential proximity to the southwest is Windscape Apartments estimated at 1,350± linear feet from the existing funeral home building. To the northwest is a development of detached small acreage single-family homes with the closest proximity estimated at about 1,200± linear feet. Located across Peachtree Industrial Boulevard are primarily industrial properties. The properties, as discussed are indicated on the following aerial map.

Aerial Map with Residential Proximity Indicated



The proximity to residential properties is considered to be similar to the properties for the SouthCare Crematory located on Franklin Road in Marietta. Through our paired data analysis it was clear there was no impact on value from similar located residences that sold before and after the installation of the stand-alone crematory.

It is clear from our review of the current state of the residential real estate market in the one-mile radius of the subject property that there are significant market fluctuations that are not related to the current operation of the existing funeral home. The entire site controlled and maintained by the Crowell Brothers is in excess of about 31± acres which is significant in size and the business has been dominant in the area for about 65± years.

Given our significant market sample data review of the potential impact of the opening of a crematory location, it is our opinion that the addition of a crematory at the current Crowell Brothers Funeral Home location within their existing building would not have any negative impact on the surrounding residential real estate.

CERTIFICATION

As the undersigned authors, we hereby certify that to the best of our knowledge and belief:

1. The statements of fact contained in this report are true and correct to the best of our belief and knowledge.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and is our personal, unbiased professional analyses, opinions, and conclusions.
3. We have no present or prospective interest in the property that is the subject of this report, and we have no personal interest or bias with respect to the parties involved.
4. Our compensation is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, and attainment of a stipulated result, or the occurrence of a subsequent event.
6. The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and the Standards of Professional Appraisal Practice of the Appraisal Institute.
7. As of the date of this report, we, Wayne Shaw and Cindy Maynard, have completed the requirements under the continuing education program of the Appraisal Institute.
8. No one provided significant professional assistance to the persons signing this study.



Wayne Shaw, GAA
Certified General Real Estate Appraiser
GA - CG#78



Cindy Maynard
Certified General Real Estate Appraiser
GA - CG#260769

ASSUMPTIONS AND LIMITING CONDITIONS

1. The information furnished the appraisers is assumed to be correct.
2. No responsibility is assumed for matters that are legal in nature.
3. Any sketch or map in this report is included only to assist the reader and no responsibility is assumed for its accuracy.
4. The appraisers assume that the soil and subsoil conditions are in harmony with the highest and best use. No geological reports have been furnished the appraisers.
5. Although the appraisers have made, insofar as is practical, every effort to certify as factual and true all data set forth in this report, no responsibility is assumed for the accuracy of any information furnished the appraisers either by the client or others. If for any reason, future investigations should prove any data to be in substantial variance with that presented in this report, the appraisers reserves the right to alter or change any or all conclusions..
6. In the event that litigation is involved, court preparation, i.e., meetings with clients and/or other involved parties, preparation of exhibits, pre-trial conferences and actual courtroom testimony, the fee are \$1,000.00 per 8-hour day or \$125.00 per hour or any portion thereof.
7. Possession of this report, or a copy thereof, does not carry with it the right of publication.
8. This study may not be used for any purpose other than as stated in the report, by any persons other than the client(s) without previous consent of the appraisers and his client(s), and then only with the proper qualification.
9. Unless otherwise stated, the existence of hazardous material, which may or may not be present on any of the properties, was not observed by the appraisers. The appraisers are not qualified Soils Engineers, nor have we been provided information concerning soils testing, unless otherwise stated. Therefore, we assume, unless noted, that there is no existence of such materials on or in the property. The presence of substances such as asbestos, urea-formaldehyde foam insulation or other potentially hazardous materials may affect the value of the properties. The value estimate is predicated on the assumption that there is no such material on or in the property that would cause a loss in value. No responsibility is assumed for any such conditions, or for any expertise or engineering knowledge required to discover them.
10. Unless otherwise stated in this study, the properties analyzed are without a specific compliance survey having been conducted to determine if the property is or is not in conformance with the requirements of the Americans with Disabilities Act. The presence of architectural and communications barriers that are structural in nature that would restrict access by disabled individuals may adversely affect the property's value, marketability, or utility are not considered in this study.

QUALIFICATIONS - WAYNE SHAW, GAA

Education

University of Florida, 1964-1969, B.S. Degree
Gainesville, Florida

AIREA - Principles of Real Estate Appraisal, May 1982
 AIREA - Basic Valuation, October 1985
 AIREA - Capitalization Theory & Techniques - Part A, March 1986
 AIREA - Capitalization Theory & Techniques - Part B, February 1987
 AIREA - Standards of Professional Practice, September 1987
 AIREA - Litigation Valuation, February 1988
 Georgia School of Real Estate, June-August 1985
 Georgia School of Real Estate, February 1986
 Georgia School of Real Estate, September 1990
 Georgia School for Certification, February 1991
 Appraisal Institute - Case Studies, February 1992
 Appraisal Institute - Report Writing, February 1993
 Appraisal Institute - Standards of Professional Practice, September 2001
 Continuing Education 1984-Present

Experience

Thirty years' experience as a full time real estate appraiser and related real estate activities. Have completed appraisal assignments for major financial institutions, insurance agencies, and private clients; such as investors, developers, accountants, attorneys, mortgage lenders and state & local governmental departments.

Appraisals have been made on all types of real estate including residential, commercial (office buildings, retail stores, small shopping centers, mobile home parks, car service centers and vacant land); industrial (vacant land and warehouses); special use (churches, schools, hospitals, nurseries, building & lumber supply, and banks); and right-of-way acquisitions for county, federal, state & utility companies.

Qualified as an Expert Witness: Special Masters/Federal Bankruptcy Court/Superior Court

Ten years' experience in full time cost consulting, scheduling and estimating costs of heavy construction from excavation of the site to completion of the structure. The estimating of costs includes all the engineering disciplines, i.e., civil, electrical, mechanical, plumbing, instrumentation and controls, and heating ventilation & air conditioning.

Professional

Member, National Board of REALTORS
 Member, Gwinnett County Board of REALTORS, Inc.
 Member, International Right-of-Way Association
 Member, National Association of REALTORS Appraisal Section
 GAA Designation - General Accredited Appraiser - National Association of REALTORS -
 Real Estate Appraisal Section

Associate Member of the Appraisal Institute - Candidate **File #M861458**

State of Georgia - Certified General Real Estate Appraiser - **Certification #78**

SEC Realty, LLC - Owner/Qualifying Broker - #H-53635
 State of Georgia Licensed Real Estate Broker - #130273

QUALIFICATIONS – CINDY MAYNARD

Certified General Real Property Appraiser
Georgia # 260769

GDOT Approved Appraiser
Georgia Power Approved Appraiser

Professional Memberships

Appraisal Institute Associate Member # 443418
Member, National Board of REALTORS
Member, National Association of REALTORS Appraisal Section

Full-Time Appraisal Practice

February 2003- Present

Assignments completed include hotels, warehouses, automobile dealerships, convenience stores, estate appraisals, subdivisions via discounted cash flow analysis, strip retail centers, cell towers, raw land, historical buildings, converted Office and Institutional structures, restaurants, office condominiums, flex warehouses, apartments, mini storage centers, proposed construction projects as well as general use commercial buildings. Appraisals completed for Eminent Domain includes work for Georgia Power and Georgia Transmission, as well as, numerous DOT Road Projects.

Appraisal Education

All continuing educational requirements for both the State of Georgia and the Appraisal Institute are current.

Appraising Green Properties, The Appraiser as an Arbiter, Recession Appraising, Appraisal Curriculum Overview, Business Practices and Ethics, 7 Hour National USPAP (bi-yearly), State of Atlanta (AI Annually), REO Appraisals, Evolution of Finance, Market Analysis, Conservation Easements, Condemnation Appraising, General Applications, Analyzing Distressed Real Estate, Market Analysis, Forecasting Revenue, Eminent Domain in Practice, Loss Prevention, Appraisal Procedures, Supervising Appraisal Trainees, Income Capitalization, Analyzing Commercial Lease Clauses, Standards of Professional Practice and Appraisal Principles.

Experience

My real estate career began as a residential mortgage processor then originator in the early 1980's. Over time, I began investing in properties and eventually constructed about 100± single-family homes; designed and built "Best of Show" winner in the 1987 Home Builders Association Home Show; developed/built 35-unit single-family subdivision and constructed custom homes. Managed and renovated several hundred units of apartments. Subsequently spent 10 years (1990-2001) as the owner/publisher of a hospitality magazine; gained extensive knowledge of the hospitality industry with a focus on operations of small-to-medium size hotels. Currently own and manage residential as well as commercial properties in and around Metro Atlanta.

CHILDERS ASSOCIATES

REAL ESTATE CONSULTANTS AND APPRAISERS

321 FOURTEENTH STREET, N.W.

ATLANTA, GEORGIA 30318

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RICHARD S. CHILDERS, MAI
DAVID W. CHILDERS, MAI

August 19, 2014



Ms. Diana Wheeler
Community Development Director
City of Peachtree Corners
147 Technology Parkway
Suite 200
Peachtree Corners, Georgia 30092
Email: dwheeler@peachtreecornersga.gov

Re: Review of Property Value Diminution Study
Of Impact of Crematory Installation on
Residential Real Estate Values
Crowell Brothers Funeral Home, Inc.
5051 Peachtree Industrial Boulevard
Peachtree Corners, Georgia
Childers Associates File #: 041-14

Dear Ms. Wheeler:

In accordance with your request, I have reviewed the property value diminution study prepared for the above referenced project. The client for this review is the addressee of this letter. The intended use of the review is to assist the client in determining the credibility of the study analysis in supporting its conclusion that the development of a crematory facility, as proposed, will not diminish residential real estate values in proximity of the project. The purpose of the review is to determine the credibility of the diminution study analysis presented to the reviewer. I have not performed a separate analysis or come to my own conclusion as to diminution in value for the circumstances described. The effective date of this review is August 18, 2014.

The diminution report reviewed is dated June 25, 2014. The report proposes to estimate whether there is any measureable, adverse effect on area residential real estate values as a result of the development of a crematory facility in proximity of residential real estate. The report was prepared by Mr. Wayne Shaw, GAA, Certified General Real Estate Appraiser, State of Georgia number 78, and Ms. Cindy Maynard, Certified General Real Estate Appraiser, State of Georgia number 260769. I did not find a statement of the effective date of the study other than the date of the report of June 25, 2014. The study concerns a proposed crematory facility installation to be cited within the existing Crowell Brothers Funeral Home facility as referenced above. The question to be answered by the study is whether the proposed installation of a crematory facility would likely affect residential real estate values in proximity of the facility. The exact area defined by distance from the proposed crematory and the precise type of residential improvements studied are not believed specified in the report.

The scope of the review involves reading and analyzing the provided report. I have not inspected the proposed crematory site or the neighborhood which may be affected, and I have not researched the other market areas described and studied in the report. I have also not conducted an independent study to provide an answer to the question to be answered by the report. My comments and conclusions from my review follow.

Beginning on Page One, within the Executive Summary section of the report, the appraisers begin a summary of their logic. In the last paragraph on that page, the appraisers state that they have studied two areas in proximity of existing crematory facilities and have found five residential properties which sold prior to the development of the proximate crematory facility and then resold after operation of the crematory facility commenced. Their analysis states that since these pairings of sales indicate increases in sale prices over the time period studied before and after installation of a crematory that "there was a steady overall increase in real estate values in the area giving us a clear indication that the proximity to a crematory opening did not influence the real estate values in a negative direction." This is incomplete and illogical. You must also analyze a control market which is not influenced by a crematory to show its indicated increases in value over the same time period, and then compare that rate of increase to the area influenced by the crematory to determine if the rates of increase are similar or different. A slower rate of increase in value in proximity of a crematory could also indicate a diminution in value, but this comparison is not presented.

Page Two of the Executive Summary states that the market immediately around the subject is also studied for residential sales. The summary states "the purpose of reviewing this data for the subject location was to get an indication of the existing swings in market conditions in the area over time without the existence or impact of a new crematory." This study contributes no assistance in answering the question at hand. All markets vary over time; no study is necessary for that conclusion. The question at hand is how the variation in the market around the subject would be different with the development of the crematory. A study of the existing changes in the market has no relevance.

On Page Four of the report the appraisers present their first analysis involving Site One, a SouthCare cremation facility located on Franklin Road in Marietta. The appraisers present sale prices for, I assume, single-family residences in proximity of the crematory. The sale prices bracket the date of the opening of the crematory in March 2004. The appraisers calculate the percent change in sale price between before and after the opening of the crematory and find that all five pairings of sales show an increase in price. I note that the percent change calculation for the third pairing is incorrect. This analysis is flawed in several ways. First, there is no discussion of the properties involved in the sales, the conditions of sale, or any possible changes in the properties between the sales dates. Secondly, the differences in the sales dates vary greatly from about two to six years. But the analysis of the change in price is on a gross basis rather than a yearly basis. Thirdly, the sales are a considerable distance from the crematory up to 4,700 linear feet. The analysis includes no discussion as to whether the crematory is visible from the sale property or the actual effect on the property as determined by interviews with the property residents. And fourthly, there is no discussion as to how the broader market is increasing or decreasing in sale price to compare to the indicated increases for the five pairings. My conclusion is that this is a poor, incomplete analysis that does not support the conclusion of the study on Page Four that there is no discernable impact on residential real estate values due to the crematory.

Page Six of the report has the paired data analysis for Site Two which is the Premier Cremation facility on Smyrna Road in Marietta. A similar analysis is presented for this case study. I note that in this case study, the percent change in sale price for Sales Three and Five are miscalculated. And Sale Five is stated as selling in June 2014 and reselling June 2014; I suppose a typographical error. This study has the same faults as the previous study discussed, but also has the additional problem that the paired sales are at even greater distance from the crematory; up to 2.3 miles from the facility. I doubt that properties that distance from a crematory would even know it exists. Only discussions with the property owners could determine if these pairings have any relevance and no discussion of this nature is included. This study is judged mostly irrelevant.

On Page Eight of the report the appraisers broaden their study to include five other crematory sites. The analysis involves researching residential sales in an approximate one mile vicinity of each crematory site. The appraisers use the median sale price for each quarter beginning prior to the development of the crematory and extending well beyond the establishment of the crematory. These studies involve numerous sales and only the median price is reported. The median sale price is then graphed and a linear regression trend line is plotted. The data is also analyzed on a 12 month rolling median in a similar manner.

The first study involves the Premier Crematory in Conyers, Georgia. The data presented includes a calculated value change from quarter to quarter. It is noted that only two of these value change calculations are correct. The other nine are believed misstated. Misstatements of this nature and of this consistency reduce the credibility of the analysis. The major problem with this analysis, however, is that no data is presented to show the rate of change in the broader market to illustrate that the sales within the one mile radius of the crematory are changing in a similar manner as this broader market. The overall of increase in sale price for the studied area could be at a lower rate than the broader market supporting a conclusion of a diminution in value due to the crematory proximity. The conclusion of the study that there is “no statistically relevant impact” is therefore unsupported.

The second study commencing on Page 13 involves the SouthCare Cremation facility on Franklin Road in Marietta, Georgia. This study is the same as the previous study discussed and has the same faults including the miscalculated percent value change in the data chart.

The third study involves the Tim Stewart Funeral Home in Lawrenceville, Georgia. This study is the same as the previous two with the miscalculations in the value change. In this case, however, the median sale price has an overall decline over the time period studied while the 12 month rolling median shows an increase. The appraisers state that “overall, the trends noted and discussed were considered to be within the norm for the location and the period in time in which the data was sampled”. No data or analysis to show what the broader market is experiencing is presented, and the conclusion of no statistically relevant impact is unsupported.

The fourth study involves the RT Patterson Funeral Home in Lilburn, Georgia. This study shows a decided decline in median sale price for both the quarterly data and the 12 month rolling median. Yet the appraisers state “the trends noted and discussed were not considered to be outside of the norm of either the location or the period in which the data was sampled”. This is the same conclusion stated under the previous study with varying results. The study presents no evidence as to what the actual normal change in price is occurring in the market. The conclusion is unsubstantiated.

The final, fifth study involves the AS Turner & Sons Funeral Home in Decatur, Georgia. The data and analysis is the same as in the other studies with miscalculations of value change percentages and a declining median sale price for both analyses. The conclusion is stated as in the other studies without further discussion.

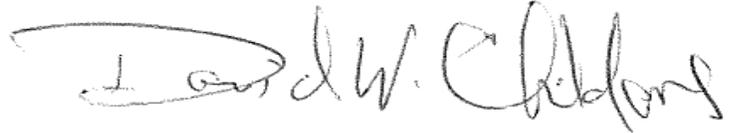
The study of the subject market, beginning on Page 29 has no relevance other than to show that sale prices vary in this market as they do in practically all markets. The conclusion of the study on Page 34 states that the subject market is similar in proximity to the proposed crematory as the SouthCare Crematory located on Franklin Road in Marietta. The appraisers restate that their paired data analysis of this similar location provides a clear indication that there is no impact on value. As previously stated, the analysis for the SouthCare Cremation facility, Site One, includes no comparison to the broader market and does not present any real evidence to quantify or refute diminution in value due to a crematory. Page 34 also includes the statement that “it is clear from our review of the current state of the residential real estate market in the one mile radius of the subject property that there are significant market fluctuations that are not related to the current operation of the existing funeral home”. The study of the local market only showed that there are fluctuations, but included no analysis as to why the market is fluctuating. The existing funeral home could be influencing the local market, but the data and analysis is inadequate to determine that impact.

My conclusion is that the diminution study under review is inadequate and misleading. There are no real market comparisons presented to determine the impact of a crematory on proximate residential real estate values. The answer to the question for the diminution study is not supported. A study of this nature requires finding sales data for properties in the immediate area of a crematory, verifying those sales with interviews of the people involved to determine how the market participants considered the proximity of the crematory in their pricing. I believe the diminution study violates the Uniform Standards of Professional Appraisal Practice, Standards Rule 1-1, (a) which states that the appraisers be aware of, understand and correctly employ those recognized methods and techniques that are necessary to produce a credible appraisal. I would place no reliance on the report reviewed as it does not support an answer as to whether and how a crematory facility may affect residential real estate values.

Page 5
Ms. Diana Wheeler
August 19, 2014

It has been a pleasure to assist you in this matter. If you have any questions concerning the above summarized review, please do not hesitate to contact me.

Sincerely,

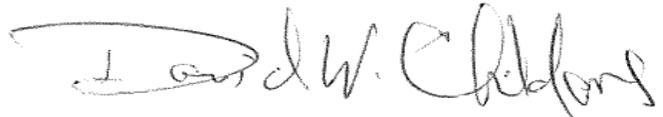
A handwritten signature in black ink, appearing to read "David W. Childers". The signature is fluid and cursive, with a large initial "D" and "C".

David W. Childers, MAI
Certified General Real Property Appraiser
State of Georgia No. CG001481

CERTIFICATION

I certify that, to the best of my knowledge and belief:

1. the statements of fact contained in this report are true and correct.
2. the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial and unbiased professional analyses, opinions and conclusions.
3. I have no present or prospective interest in the property that is the subject of the work under review and no personal interest with respect to the parties involved.
4. I have performed no other services, as an appraiser or in any other capacity, regarding the property that is the subject of the work under review within the three-year period immediately preceding acceptance of this assignment.
5. I have no bias with respect to the property that is the subject of the work under review or to the parties involved with this assignment.
6. my engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. my compensation is not contingent on an action or event resulting from the analyses, opinions, or conclusions in this review or from its use.
8. my compensation for completing this assignment is not contingent upon the development or reporting of predetermined assignment results or assignment results that favors the cause of the client, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal review.
9. my analyses, opinions and conclusions were developed, and this review report was prepared in conformity with the Uniform Standards of Professional Appraisal Practice and the Code of Professional Ethics and the Standards of Professional Appraisal Practice of the Appraisal Institute, and with the Georgia Real Estate Appraiser Classification and Regulation Act and the Rules and Regulations of the Georgia Real estate Appraisers Board.
10. I have not made a personal inspection of the subject property of the work under review.
11. No one provided significant appraisal, appraisal review, or appraisal consulting assistance to the person signing this certification.
12. I certify that the use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
13. as of the date of this report, I have completed the continuing education program for Designated Members of the Appraisal Institute.



David W. Childers, MAI
Certified General Real Property Appraiser
State of Georgia No. CG001481

QUALIFICATIONS - DAVID W. CHILDERS

Education: B.I.E. (Industrial Engineering), Georgia Institute of Technology, Atlanta, Georgia. M.S.E.M. (Engineering Management), University of Alaska, Anchorage, Alaska.

Credit for all courses required for designated membership in the Appraisal Institute and elective courses in Industrial, Litigation and Business Valuation. Licensed real estate agent in the State of Georgia. Approved faculty member, Appraisal Institute; national instructor since 1986. Courses taught include Real Estate Appraisal Principles, Basic Valuation Procedures, and Capitalization Theory and Techniques Part A. Chairman, Admissions Committee, Georgia Chapter 21 American Institute of Real Estate Appraisers, 1988 and 1989. Member, National Curriculum Committee, Course Development Subcommittee, American Institute of Real Estate Appraisers 1989 and 1990 and General Appraisal Board Curriculum Division of the Appraisal Institute 1994 and 1995. 1998 Chapter President, Atlanta Area Chapter of the Appraisal Institute. National Director for the Appraisal Institute 2001 through 2003. Presented with the 2003 Legion of Leaders award by the Atlanta Area Chapter of the Appraisal Institute. Presented "Selecting an Appraiser" continuing education session for the Eminent Domain Section of the State Bar of Georgia, February 2009.

Experience: Engaged exclusively as an appraiser/consultant in the real estate field since 1978. I have prepared appraisal, consulting, feasibility and market study assignments for banks, government agencies, attorneys, corporations and individuals in the metropolitan Atlanta area and the southeastern United States. Assignments include a broad variety of properties including land of all types, residences, office buildings, public buildings such as courthouses and convention centers, shopping centers, subdivisions, motels, service stations, industrial facilities and apartments. Special purpose properties appraised include laboratories, sanitary landfills, cemeteries, experimental cropland, prisons and sewage treatment facilities. Extensive experience in valuation for litigation purposes and served as expert witness on real estate valuation matters in the Superior Courts of Fulton, Fayette, Troup, Hall, Taylor, Henry, Carroll, Cobb, Newton, Douglas and Putnam Counties of Georgia and in Federal Courts.

Professional Affiliations:

Practicing Designated Member, Appraisal Institute, (MAI)
Certified General Real Property Appraiser, State of Georgia, No. 001481



COMMON HEALTH CONCERNS ABOUT CREMATORY OPERATIONS

Some people have public health concerns about chemicals released to the air and soil,
and about noise and odors during crematory operations.

There is no evidence that chemicals released to the environment near a crematory
are at levels of health concern.

What is cremation?

Cremation is the process of transforming human or animal remains to basic chemical compounds of gas and bone. A crematory is a funeral facility designed specifically for cremation. According to the National Funeral Directors Association, approximately 15% of death care services conducted each year in Georgia include cremation.

Proper cremation procedures require the removal of medical devices and implants during body preparation. Medical devices are often powered by lithium-ion batteries. If left intact, heating lithium powered devices may cause violent combustion or explosions that will damage cremation equipment, brickwork, electronic sensors and door seals. Devices and implants are identified using various methods including interviews with the guardian, mortuary and medical staff, medical records review, body and scar inspection, and metal detectors.

Following final preparations, the body is placed in a casket and incinerated. Because cremation temperatures are so high, (1400 to 1800 degrees Fahrenheit), the only remains are ash and bone, known as cremains.

Who regulates crematories in Georgia?

Crematories are licensed and inspected by the Secretary of State under the Official Code of Georgia Annotated; Title 43, Professions and Businesses; Chapter 18, Georgia State Board of Funeral Service Rules: Funeral Directors and Establishments, Embalmers, and Crematories (<http://rules.sos.state.ga.us>).

There are no federal or state environmental regulations for crematories. Studies conducted by the U.S. Environmental Protection Agency (EPA) show that crematory emissions (substances discharged into the air) are at levels well below regulatory and health guidelines. The capacity, location, odors, noise, and hours of operation of a crematory are governed by local zoning ordinances.

What is released into the air during crematory operations?

Emissions from crematory operations may include a very small amount of several chemicals. The source of many of the chemicals is the body burden from lifetime exposures that is stored in fat and tissue. Chemicals emitted by crematories may include mercury, dioxin, hydrochloric acid, nitrogen oxide, sulfur dioxide, carbon monoxide, and dioxins. These chemicals are emitted at extremely low levels and when released into the air, they break down quickly by sunlight, or are diluted and carried by the wind.

One chemical, mercury, is sometimes a concern for nearby residents. The levels of mercury emitted from a crematory are considered extremely low and do not pose a health risk.

Mercury is a silver colored metal found in nature and used in manufactured consumer products such as thermometers. People can be exposed to mercury by touching it, breathing it, eating contaminated fish or other food, or drinking contaminated water. Mercury emissions from crematories are often from dental fillings; however, its use as dental amalgam is declining because inexpensive substitute materials are now available.

Mercury becomes a gas (commonly called vapor) when burned at low temperatures (80 degrees Fahrenheit). The vapors are colorless and odorless, and can travel in outdoor air long distances. It eventually falls to the ground attached to dust and rain. Repeated exposure to low levels of mercury over a long period of time can be harmful to the brain and kidneys.

Regulated industrial emissions of mercury are measured in tons per year. For example, a coal-fired power plant will emit up to 48 tons of mercury per year. Studies performed on existing crematories have measured mercury emissions in grams per cremation given an average of 100 cremations per year. Using this average, studies show a crematory may emit approximately two pounds of mercury (0.2% of one ton) per year. In addition, emission control devices that reduce mercury levels released to air are located on crematory stacks.

Can other chemicals from crematories affect my health?

Dioxins are emitted into outdoor air from cremation in very small amounts. The term "dioxin" refers to a group of chemicals, however the most toxic is 2,3,7,8-tetrachlorodibenzo-p-dioxin, or TCDD. Because TCDD is the most toxic, health risk associated with dioxin is discussed in terms of TCDD. In a study conducted with the California Air Resources Board, the EPA determined that TCDD emitted from *all* crematories throughout the United States was approximately 0.0000002 pounds per year, which is far less than is released from motor vehicles.

In addition, extremely small amounts of lead, cadmium, hydrochloric acid, nitrogen oxide, sulfur dioxide, and carbon monoxide are released to air, and are diluted and carried by the wind. The trace amounts of these chemicals emitted during operations will not affect outdoor or indoor air quality. Crematory emissions are far below levels of environmental and health concern and, therefore, will not affect your health.

What about noise or odors from crematories?

Unpleasant odors and loud noises are nuisance issues, and may affect an individual's comfort and quality of life. They can have social and behavioral affects, such as diminishing one's sense of well being, enjoyment of daily activities, and ability to perform various tasks. However, odor and noise perception is subjective, meaning different individuals may react differently to the same type and intensity of odor and noise.

Residents concerned about noise, odor, or other nuisances in their neighborhoods should refer to local nuisance ordinances, or contact their local code enforcement offices.

Sources: U.S. Environmental Protection Agency, *Mercury*; www.epa.gov/mercury. Leopold, Barry R. Science Applications International Corporation, *Use and Release of Mercury in the United States*; EPA/600/R-02/104. December 2002.

FOR MORE INFORMATION

Georgia Department of Public Health
Environmental Health Branch
Chemical Hazards Program
(404) 657-6534
www.health.state.ga.us/programs/hazards

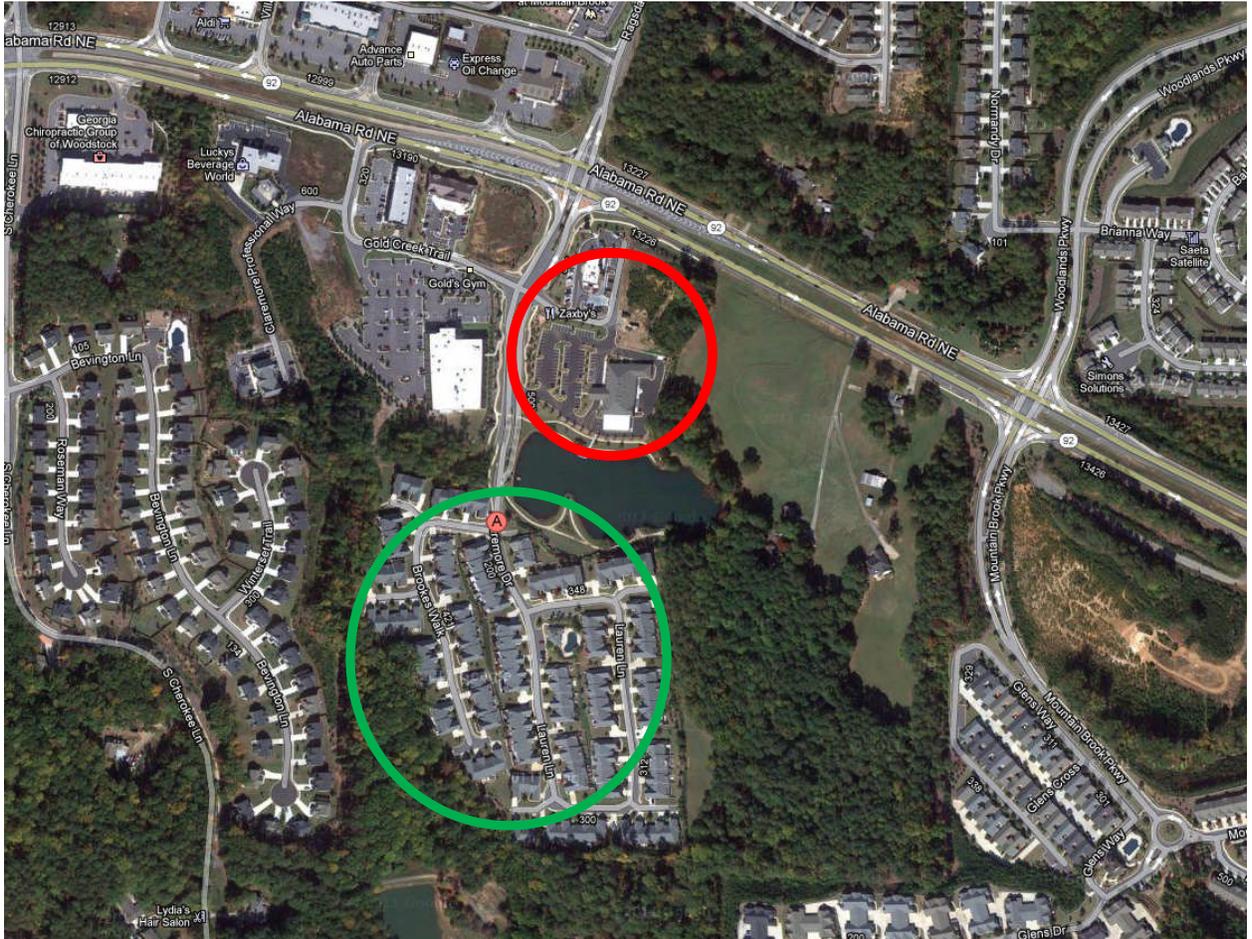
Crematory Locations in Georgia

Red Circle Crematory/ Green Circle Closest Residential

Lakeside Funeral Home

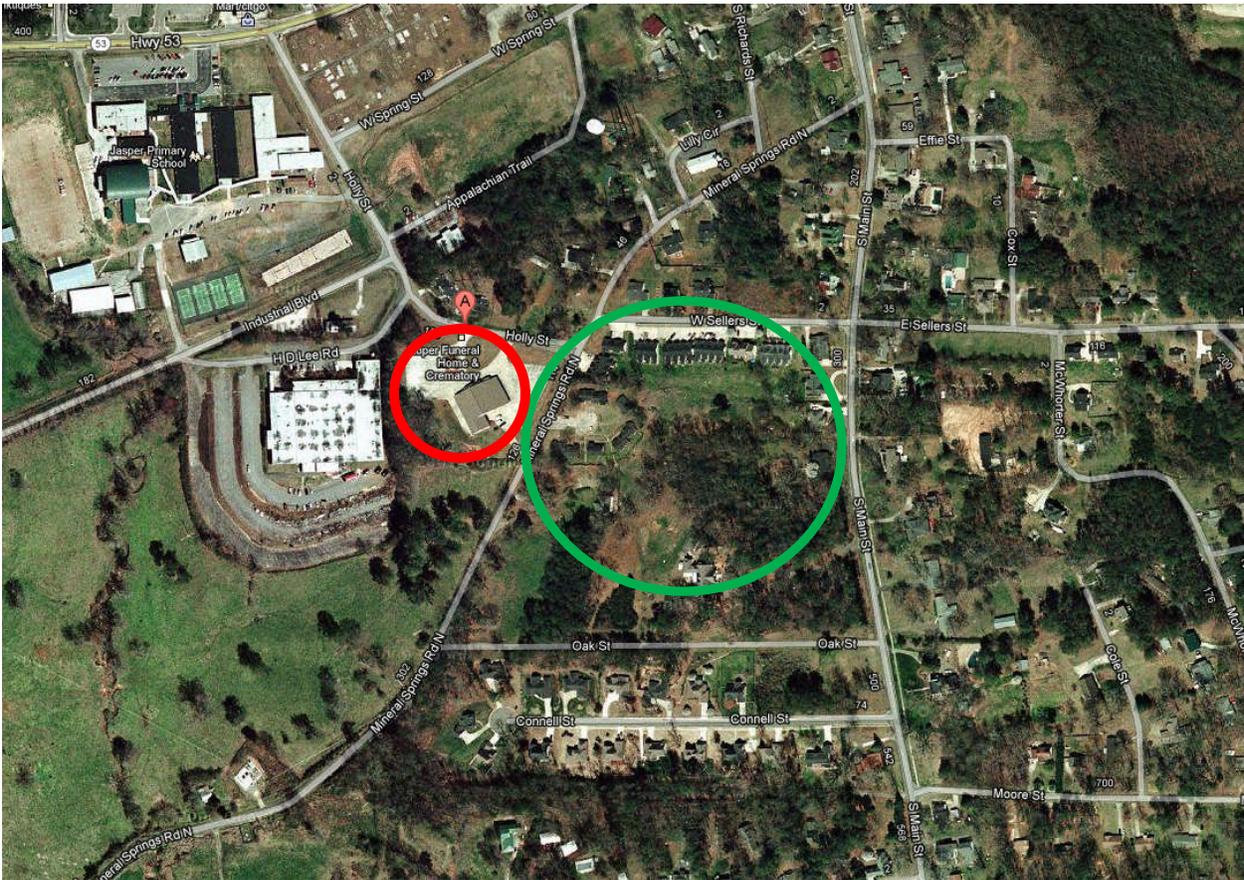
121 Claremore Dr

Woodstock GA

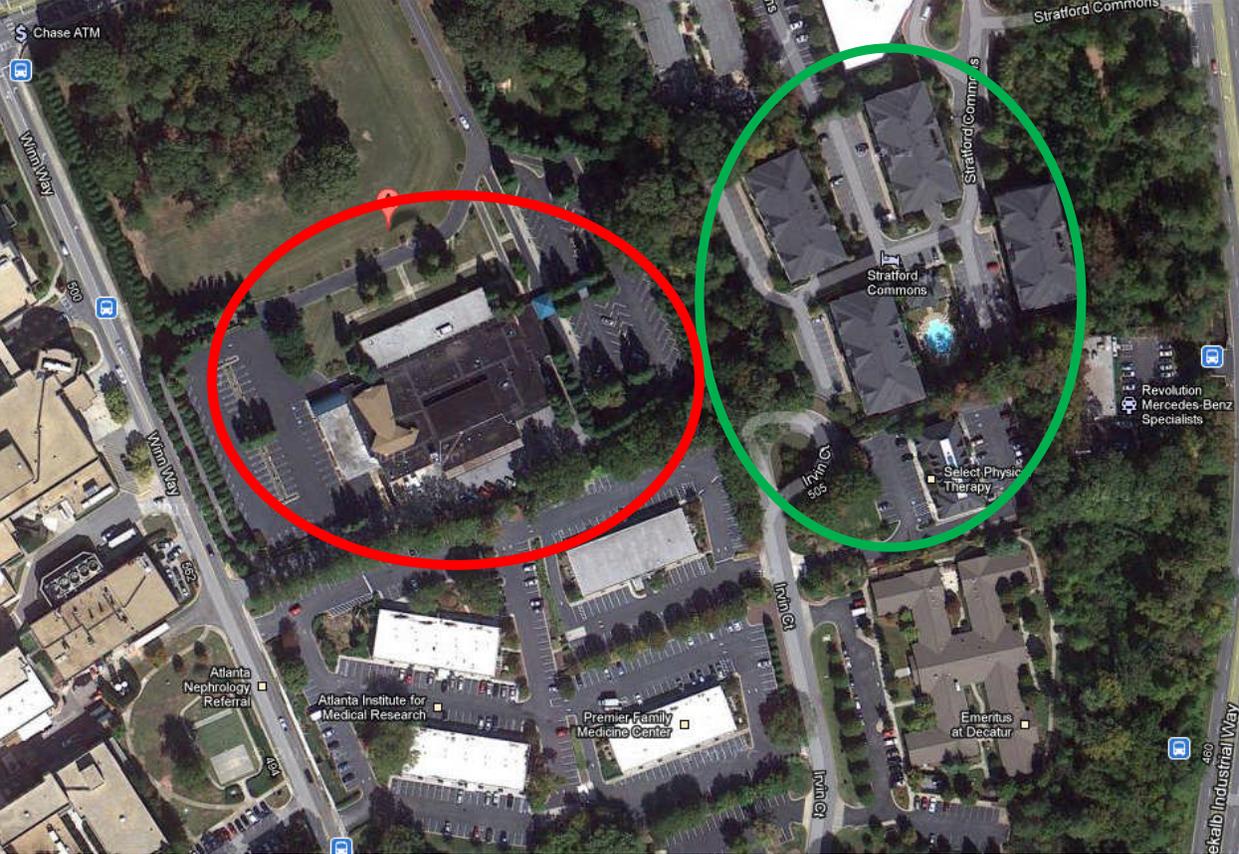


Roper Funeral Home and Crematory

206 Holly Street, Jasper GA



A .S. Turner & Sons Crematory
2773 N. Decatur Rd, Decatur GA



Marietta Funeral Home and Crematory

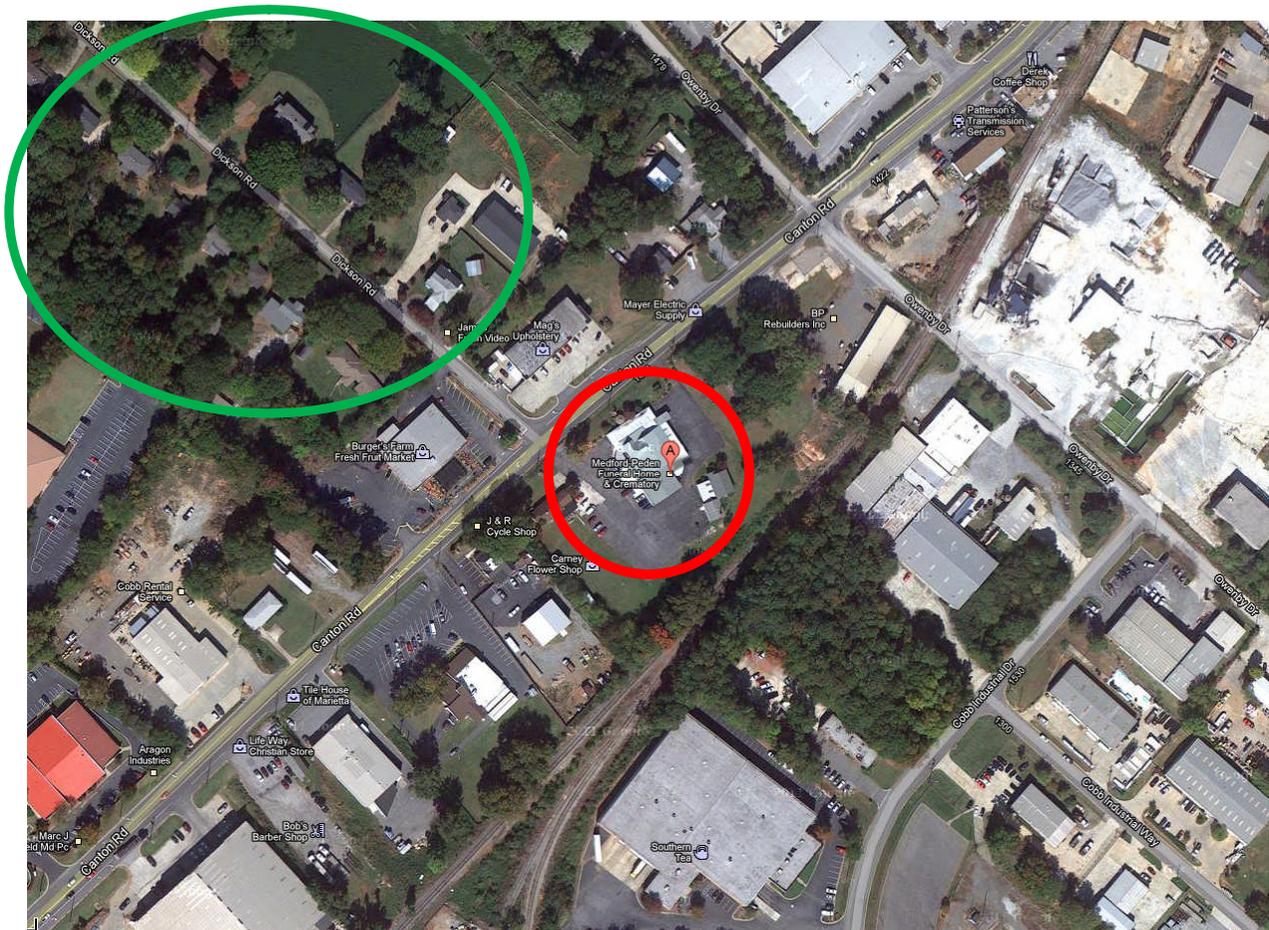
915 Piedmont Road, Marietta, GA 30066



Norman Medford-Peden Funeral Home

1408 Canton Highway

Marietta, GA



Green Lawn Cemetary

950 Mansell Road

Roswell GA



Northside Chapel Funeral Directors & Crematory

12050 Crabapple Road

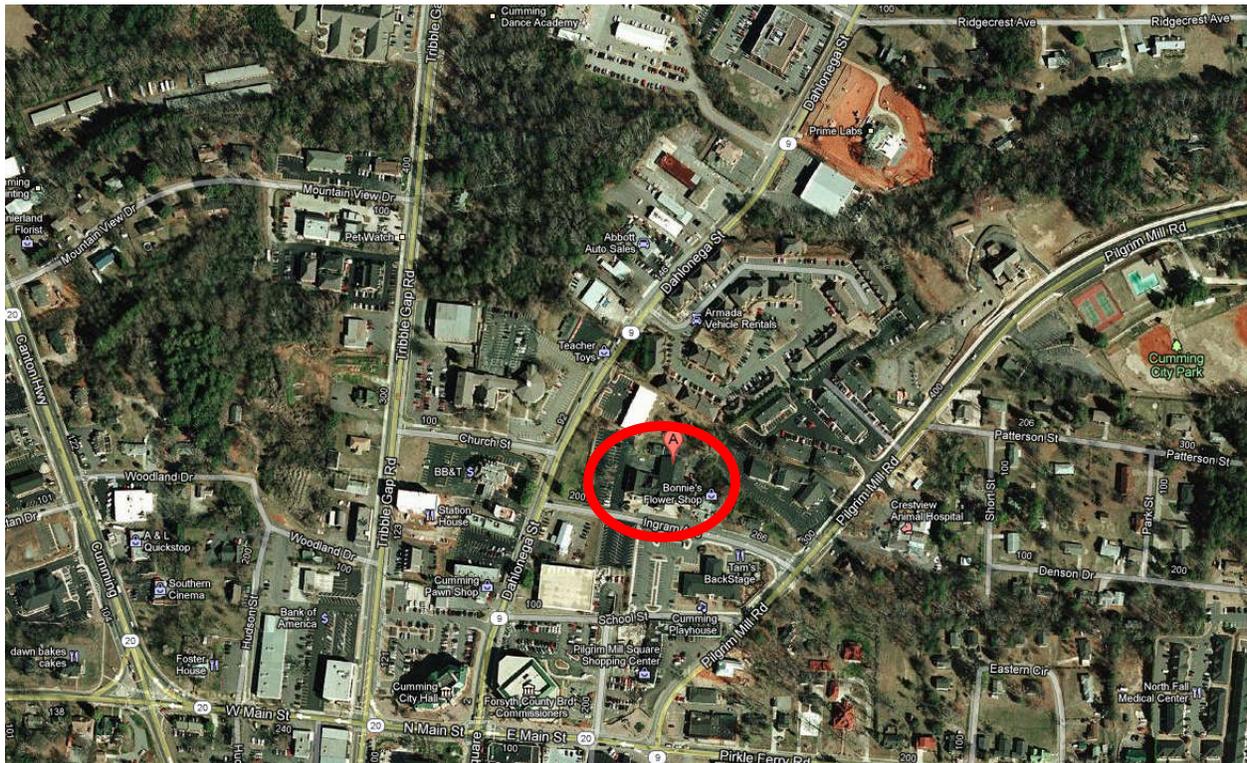
Roswell, GA



Colonnade Crematory of Georgia

210 Ingram St

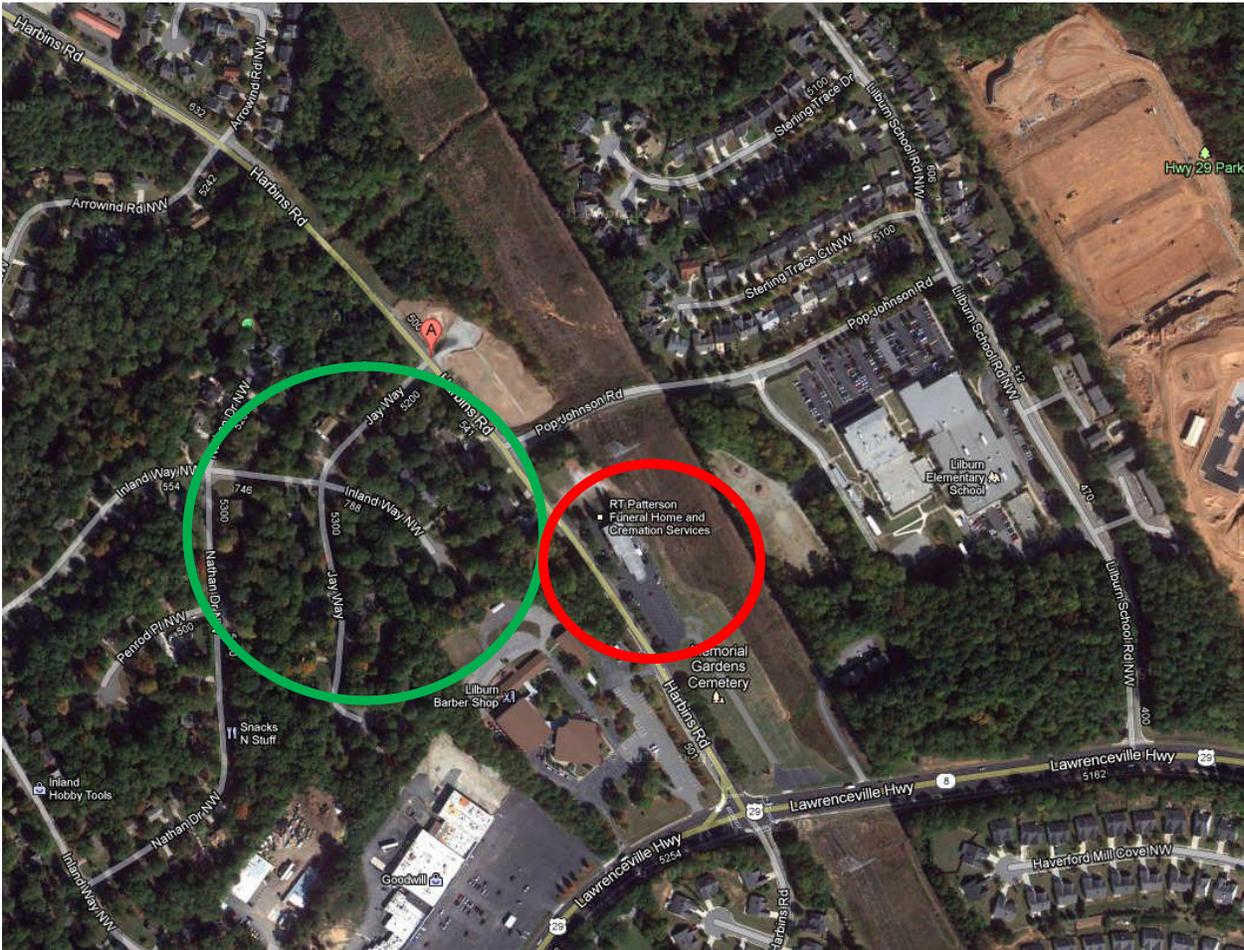
Cumming GA



National Cremation Society Crematory

500 Harbins Road

Lilburn GA



West Cobb Funeral Home and Crematory

2480 Macland Road

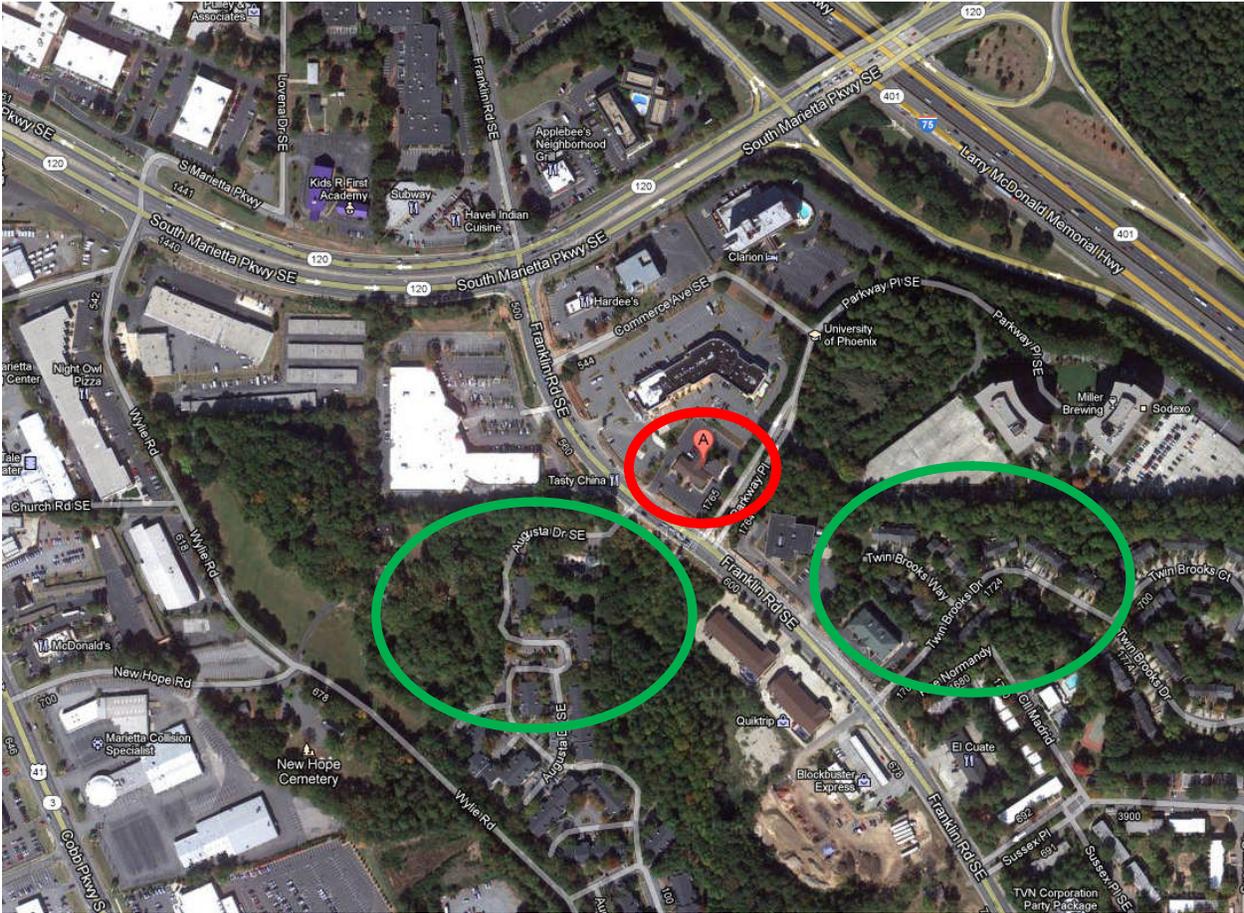
Marietta GA 30060



Cremation Society of The South

595 Franklin Road

Marietta, GA



Bill Head Funeral Home (**DENIED** by Gwinnett County – SUP2010-00038)
6101 Lawrenceville Hwy
Tucker, GA 30084

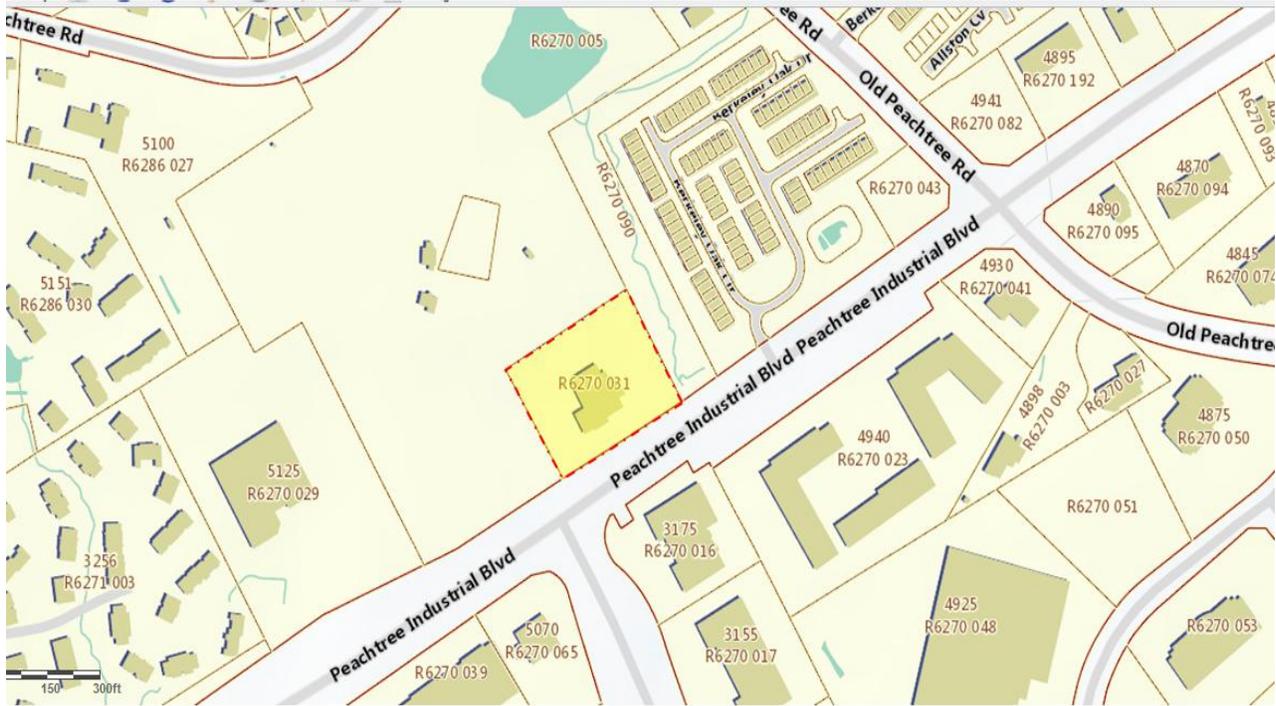


Richard Warren
1637 Athens Hwy (State Route 10) – (**DENIED** by Gwinnett County – SUP2012-00007)
Grayson, GA 30017



PUBLIC HEARING

CROWELL BROTHERS FUNERAL HOME



CASE NUMBER:	SUP2014-004		
	PLANNING COMMISSION	CITY COUNCIL 1ST READING	CITY COUNCIL 2ND READING
HEARING DATES:	9/9/14	9/16/14	10/21/14
PROPERTY ADDRESS:	5051 Peachtree Industrial Blvd. R6270 031		

Permeable Pavers

PERMEABLE INTERLOCKING CONCRETE PAVEMENT



A Comparison Guide to Porous Asphalt
and Pervious Concrete

Permeable pavement is becoming a major tool for on-site stormwater management.



Background

The past century has seen a tremendous growth of pavements for vehicular traffic. These impervious surfaces created significant environmental and economic impacts such as stream bank erosion, flooding and polluted streams, lakes, rivers and estuaries. Fortunately, on-site stormwater management is a priority in site design, rather than only collecting it off-site in detention/retention ponds and storm sewers. Infiltration via permeable pavement is rising as a major tool for on-site stormwater management.

The National Pollutant Discharge Elimination System in the U.S. for permitting stormwater discharges recognizes the viability of using permeable pavement as a best management practice (BMP) for stormwater control. Permeable pavements are recognized as a BMP by the U.S. Environmental Protection Agency and many provincial, state and local stormwater management agencies. In addition, rating systems for "green" or sustainable building such as Leadership in Energy and Environmental Design (LEED®) and GreenGlobes offer credit to site designs that use permeable pavement. Moreover, permeable pavement has become a cornerstone of low impact development (LID) design and regulations. An LID goal is to maintain and enhance the predevelopment hydrologic regime of urban and developing watersheds.

While there are several ways to make vehicular and pedestrian pavement permeable, the three primary technologies are porous asphalt, pervious

concrete and permeable interlocking concrete pavement (PICP). Figure 2 provides typical cross sections. This brochure offers stormwater agencies, design professionals, contractors and homeowners an overview of each and presents the advantages of PICP over the alternatives.

PICP has been used in Germany and elsewhere in Europe since the late 1980s and in North America since 1992. Pervious concrete pavement was first used in Florida in the early 1970s and porous asphalt emerged at the same time. Each of the pavement systems has been used in a variety of soils and climates.

All permeable pavements have high initial surface infiltration rates and all can immediately infiltrate and store rainfall and runoff from the heaviest of rainstorms. In many cases, runoff is completely eliminated. Permeable pavements rely on the ability of open-graded aggregate in their surfaces and base to receive, store and infiltrate runoff back into the soil beneath. Porous asphalt and pervious concrete with smaller sized open-graded aggregate surfaces support wheel loads while larger aggregate provides a structural base and reservoir that filters stormwater.

Research has demonstrated the ability of all permeable pavements to substantially reduce urban runoff. Over the past 15 years, PICP has been researched extensively in North America and overseas. Studies point to significant runoff reductions, as well as lower suspended solids, nutrients

and metals. Reports are available upon request from the Interlocking Concrete Pavement Institute

PICP Advantages

Pervious concrete and porous asphalt rely on small-sized aggregates bound with asphalt or cement to create a porous matrix that supports vehicular traffic. In contrast, PICP relies on solid, high-strength concrete units to support traffic surrounded by small, highly pervious stone-filled joints to receive and infiltrate stormwater. The stone-filled joints also contribute to interlocking and spreading wheel loads. Figure 3 illustrates PICP construction. The table on pages 4 and 5 summarizes similarities and differences among these pavement surfaces.

Depending on the paving unit design and pattern, PICP joints can vary between $\frac{1}{8}$ and $\frac{1}{2}$ in. (3 and 13 mm). Small-sized aggregate in the joints that allow water to pass through it can be somewhat deceptive. While PICP has less visible permeable surface area than porous asphalt or pervious concrete, PICP openings still provide high surface infiltration rates. These rates are well above practically all rainfall intensities, making their hydrological performance equal to or better than other permeable surfaces. The small aggregate in the joints and bedding also facilitates interlock and load transfer to neighboring pavers. Unlike standard interlocking concrete pavement, no sand is used in PICP joints or bedding since it has very low permeability.

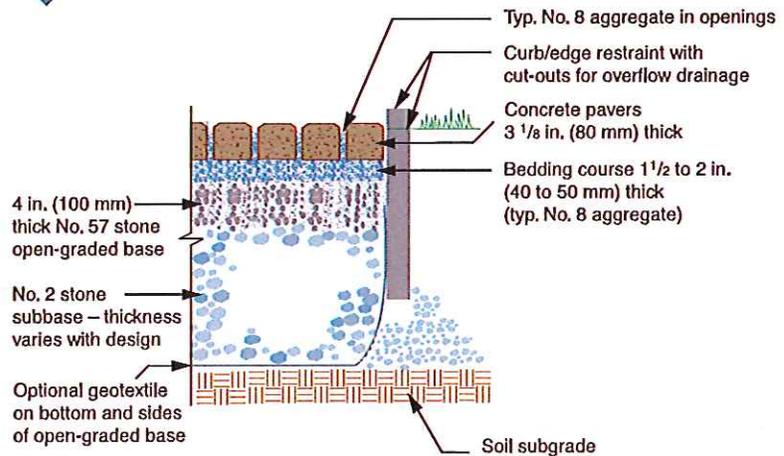
Figure 1. On-site infiltration practices such as permeable pavement are emerging as preferred stormwater management solutions to off-site controls such as detention (shown above) and retention ponds that consume valuable land. PICP can reduce or eliminate these facilities.

Materials and Construction

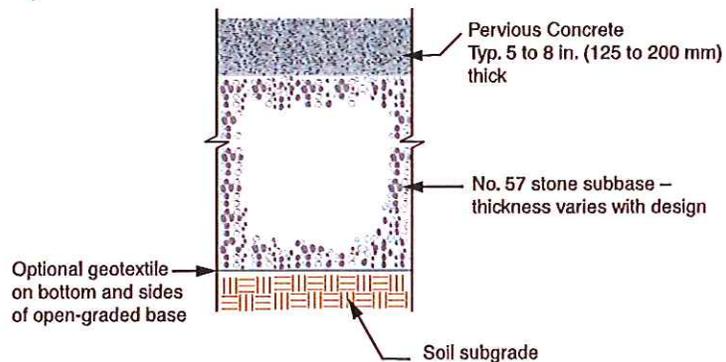
Porous asphalt and pervious concrete are supplied in a 'plastic' state and formed on the job site. This makes them subject to weather. PICP can be installed in freezing weather, however, porous asphalt and pervious concrete cannot. In above-freezing temperatures, plastic asphalt and concrete mixes must be regularly checked by the contractor for consistency and conformance to specifications. These materials impose time limits within which the contractor must work before asphalt cools and concrete cures and stiffens. These time and temperature-constrained materials rely on a high degree of site control in order to achieve a successful installation.

In contrast, PICP units are manufactured in a factory and delivered to the site. They are not subject to time and temperature limitations in installation. PICP paving units should comply with national product standards (ASTM C 936 or CSA A231.2). These product standards require manufacture of high compressive strength concrete averaging 8,000 psi (55 MPa). Pervious concrete has a typical compressive strength of about 2,500 to 4,000 psi (17 to 28 MPa). Unlike pervious concrete and porous asphalt, concrete pavers have freeze-thaw durability test methods and requirements within their product standards to help assure adequate field performance in winter conditions. Freeze-thaw durability and higher strength PICP offers a more durable surface under wheel loads, snow plow abrasion and deicing materials.

PERMEABLE INTERLOCKING CONCRETE PAVEMENT



PERVIOUS CONCRETE



POROUS ASPHALT

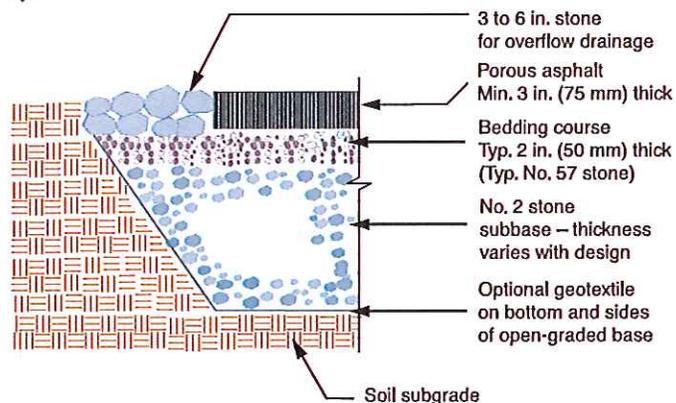


Figure 2. Typical PICP, pervious concrete and porous asphalt pavement sections for vehicular traffic. Surface and base thicknesses vary with traffic. Slower draining soils generally require thicker bases to store and infiltrate water. All can accommodate perforated drain pipes in the base for low infiltration soils.

Surface	Colors	Construction Aspects	Cost	ADA Compliance	Winter Durability
Permeable Interlocking Concrete Pavement 	Wide range available; various shapes and textures fit with surrounding architecture and landscape	Manufactured units provide consistent quality concrete; requires no form work and can be mechanically installed; can be installed in freezing temperatures; immediately ready for traffic upon completion; 8,000 psi (55 MPa) concrete	Competitive with pervious concrete and porous asphalt; life-cycle costs may be lower than pervious concrete or porous asphalt in some markets	Complies; narrower openings and/or regular interlocking pavers can be used if desired	High freeze-thaw and deicing salt resistant concrete; water in base does not freeze and heave; complete saturation when frozen will not damage pavement; snow melts and immediately drains, reducing ice hazards; accepts normal snow plowing equipment; sanding prohibited; less deicing materials needed
Pervious Concrete Pavement 	Limited range of colors and surface textures are available	Cast in place construction may yield varying concrete quality; requires formwork; on-site control of water/cement content critical to lifetime performance; requires min. seven-day cure prior to traffic; 2,500 to 4,000 psi (17 to 18 MPa) concrete	Competitive with permeable interlocking concrete pavement	Complies	Deicing chemicals not recommended; saturation when frozen may damage concrete; snow melts and immediately drains, reducing ice hazards; plastic or rubber tipped snow plow blade recommended; sanding prohibited
Porous Asphalt Pavement 	Black or shades of dark gray	Requires no formwork, maintaining mix temperature on site critical to lifetime performance; requires 24-hour cure prior to traffic	Less expensive than permeable interlocking concrete and pervious concrete pavements	Complies	Resists freeze-thaw; liquid deicing materials recommended; saturation when frozen may damage asphalt; snow melts and immediately drains, reducing hazards; sanding prohibited; less deicing materials needed



Surface Cleaning	Repairs	Water Quantity Reduction/Water & Air Quality Improvement*	Urban Heat Island Reduction*	Recycled Content & Reuse*
Surface should be vacuum swept to remove sediment and debris; aggregate in drainage openings trap most sediments at surface; aggregate can be removed and replenished if deeply clogged	Units and aggregate can be removed and reinstated if surface or base is damaged or to install in-service utility lines; no ugly patches, repair surface matches surrounding surface	High initial surface infiltration; can receive design storms; runoff storage capacity dependent on base reservoir design and soil subgrade infiltration rate; reduces TSS, nutrients and metals; does not release oils or cement into runoff; surface can be coated with titanium dioxide to reduce smog	Medium to high, can achieve Solar Reflectance Index (SRI) > 29 with selected aggregate colors and cements	Manufactured concrete units can accommodate cement substitutes (e.g. flyash, slag, silica fume, etc.); pavers can be crushed and recycled
Surface should be vacuumed and pressure washed to remove sediment and debris; difficult to open and restore deeply clogged surface	Damaged or highly clogged areas can be cut out and replaced with pervious concrete; repaired area needs to cure with no traffic; will not match surrounding surface	High initial surface infiltration; can receive most design storms; reduces TSS, nutrients and metals; does not release oils into runoff; can initially release high pH flows; surface cannot be coated with titanium dioxide to reduce smog	Medium to high, can achieve SRI > 29 with selected aggregate color and cement	Generally not manufactured with recycled aggregate or cement substitutes; concrete can be crushed and recycled
Surface should be power washed or vacuum swept to remove sediment and debris; difficult to open and restore deeply clogged surface	Limited repair potential; patch with impervious (conventional) asphalt up to 10% of pervious area; pavement cuts weaken pavement; repaired area will not match surrounding surface	High initial surface infiltration; can receive most design storms; initially releases oils into runoff; reduces TSS, nutrients and metals surface cannot be coated with titanium dioxide to reduce smog	Low; cannot achieve minimum SRI > 29	Generally not manufactured with recycled asphalt or recycled aggregate; pavement can be recycled

*These attributes can earn LEED® points under Sustainable Sites and Materials & Resources credits. Such attributes may apply to other sustainable building/site evaluation systems. See *ICPI Tech Spec 16—Achieving LEED® Credits with Segmental Concrete Pavement* for additional information on PICP's advantages in earning LEED® points.

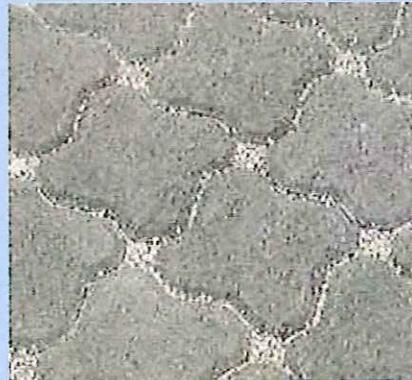


Figure 3. Left to right: After excavation, PICP construction begins with placing and compacting a clear, crushed stone open-graded subbase and base as shown in the first two photos. The next photo shows mechanical installation of the concrete pavers on a screeded bedding layer of small, clear crushed stone. The rightmost photo illustrates small aggregate in the openings and joints that enable high surface infiltration. The pavers and aggregate are compacted to create an interlocking pavement.



Figure 4. Many PICP projects are mechanically installed thereby decreasing construction time and labor costs because many pavers are placed at the same time.



Figure 5. PICP color and texture compliments the architecture of a Hilton Garden Inn in Calabasas, California while communicating the sustainable nature of the site.



Figure 6. Like all permeable pavements, PICP can extend tree life by sending air and water to the roots. An additional sustainable aspect is paving units can be made with cement substitutes and recycled concrete.

Because PICP is ready to install, there is no curing time making it ready for traffic when placed. PICP is typically mechanically installed with a machine that can place more than 5,000 sf (500 m²) per machine per day thereby accelerating construction time. Figure 4 shows this paving method where pavers are manufactured and delivered to the job site in the final laying pattern. Unlike PICP, traffic must be kept from porous asphalt for 24 hours after installation and seven days for pervious concrete so that it can cure. Pervious concrete must also be completely covered during this time to maintain moisture essential for curing.

PICP presents a much friendlier, human-scale appearance that cannot be achieved with porous asphalt or pervious concrete (see Figure 5). It comes in a variety of colors and textures to fit any architecture and building character. Because they are monolithic materials, porous asphalt and pervious concrete provide a narrow range of colors and textures. In most cases, they appear similar to conventional concrete and asphalt but with a coarser texture. In contrast, PICP makes a visually strong statement about where stormwater is going and the sustainable nature of the site in which it is placed.

Other Sustainable Aspects

Besides reduction of stormwater runoff and water pollution, PICP paving units can be made in light colors to increase surface reflection or albedo, thereby reducing temperatures and heat typical to impervious pavements. Light colored units can reduce also the need for nighttime lighting, thereby conserving electricity.

All permeable pavements promote cooling through evaporation and facilitate tree growth by allowing water and oxygen better access to adjacent tree roots (see Figure 6). However, PICP sustainability goes further. PICP units can be made with cement substitutes. This helps reduce the carbon footprint and subsequent global warming. Unlike porous asphalt, concrete materials do not use oil-based products for their binders.

Design for the Disabled

The Americans with Disabilities Act (ADA) design guidelines require that surfaces in pedestrian access routes be firm, stable and slip resistant. In addition, surface openings in these areas should not exceed ½ in. (13 mm) to promote comfortable travel for disabled persons using wheeled

mobility devices such as wheelchairs. When designed and constructed properly, all permeable pavements can meet these requirements. PICP units can be colored (or painted) to indicate pedestrian access routes as well as parking stalls and lanes for vehicles. Traditional concrete pavers can be combined with PICP to help mark pedestrian access routes for disabled persons as well as vehicular travel lanes as a means to increase safety for pedestrians and drivers. In addition, some unit designs provide an exceptionally smooth surface for environments with shopping carts and strollers.

Maintenance

All permeable pavements infiltrate melted snow, thereby reducing snow plowing and the risk of hazardous ice patches (Figure 8). Deicing salts should be used sparingly on all permeable pavements and salts typically don't remain on the pavement surface. Should deicing materials accumulate on the surface, PICP can better resist deterioration because it consists of high-quality concrete. PICP is plowed like any other pavement (Figure 9). No special plows or blades are required. Should it receive damage, individual



Figure 7. PICP combined with solid interlocking concrete pavers accommodates accessible parking and pedestrian areas.

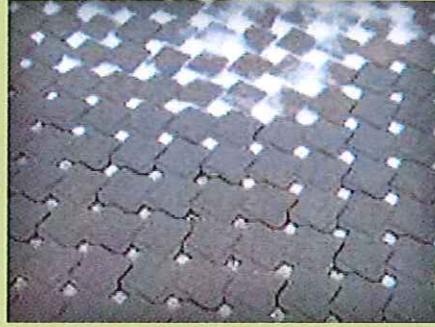


Figure 8. PICP surface openings promote faster snow melting thereby reducing hazardous ice in winter.



Figure 9. PICP is snow plowed like any other pavement.

paver units can be easily removed and reinstated. Surface repair is much more difficult on pervious concrete or porous asphalt. Because they are monolithic materials, their original structural capacity is likely reduced after repairing cut pavement.

All permeable pavements require regular inspection and periodic removal of accumulated sediment from the surface. For PICP, this is achieved with a vacuum-sweeper. Vacuuming and sweeping is recommended at least once or twice a year. There are many PICP projects in service for years with no vacuuming, and have maintained adequate stormwater surface infiltration. Should there be an accidental spill of dirt, PICP units and stone jointing materials can be removed by a strong vacuum if needed, then cleaned and replaced. This isn't possible with porous asphalt and pervious concrete.

A significant advantage of PICP is its modular nature. Units can be removed and reinstated if there is a need for base or underground utility repairs, or installation of new pipes or lines. There are no unattractive patches since the same removed pavers are reinstated. This also conserves materials. Small areas of porous asphalt and pervious concrete can be removed and

replaced, but there will be an unattractive patch. Moreover, it can be difficult to obtain small quantities of pervious asphalt and porous concrete for patch and repair work, especially during cold winters. This is not the case with PICP because the same units can be re-used after an underground repair. Also, unlike pervious concrete and porous asphalt, PICP will not crack.

Cost and Longevity

Porous asphalt is typically the least expensive, with pervious concrete and PICP having similar prices. Local materials, pavement area and contractor experience influence job pricing. Experienced PICP contractors that follow the Interlocking Concrete Pavement Institute's construction guidelines should be sought for proposals.

Permeable pavement systems can last more than 20 years while providing an initial high level of surface infiltration even as the surface takes in moderate amounts of sediment. While cleaning frequency depends on the extent of use and deposited dirt, regular surface cleaning of all permeable pavements helps restore and maintain higher infiltration rates. Lifetime infiltration

rates on maintained PICP surfaces can typically average 4 to 9 in. (10 to 23 cm) per hour thereby infiltrating the most intense rainstorms. Among the pavements, PICP, however, provides the best looking, easiest to maintain pavement choice with high in-service durability in a range of climates.

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CASE STUDY

Morton Arboretum



Late in the 1990s Morton Arboretum, located in Lisle (DuPage County), IL, as part of a 20-year master plan decided to undertake a large-scale redevelopment. The redevelopment included a new visitor center and gardens, and a much larger parking area to accommodate more visitors. The designers for the project, Andrew J. Sikich, P.E. and Patrick D. Kelsey, CPSSc/SC of Christopher Burke Engineering West, Ltd., St. Charles, IL, decided to design the parking lot incorporating a number of best management practices (BMPs).



Morton Arboretum PICP Parking Lot Proves to be an Innovative Stormwater BMP

The parking lot project was adjacent to Meadow Lake, a retention area incorporated into a regional watershed. Morton Arboretum received a grant from the Illinois Environmental Protection Agency's (IEPA) Clean Lakes Program for a complete renovation of Meadow Lake. The lake was drained and dredged, re-benched for continued use

as a retention pond as an aesthetic feature for the arboretum. An expanded impervious asphalt parking lot was considered inappropriate for the "low impact" design parameters of this project. An asphalt lot would produce significant stormwater runoff, increase thermal loads in the lake and degrade the water quality.

and construction of the new visitor parking lot. Sikich and Kelsey had to consider the BMPs available to them and decide on those most suitable for the project. Project goals included a reduction in overall stormwater runoff and improvement in downstream water quality.

The first BMP selected was bioswales. Long linear medians and existing permeable soils made bioswales an obvious choice. The bioswale's function is to absorb stormwater and filter it, using plants and permeable soils to trap metals and other pollutants, keeping them from entering the groundwater.

The second and most significant BMP selected was the permeable interlocking concrete pavement (PICP) parking lot. The



The parking lot was adjacent to Meadow Lake, part of a regional watershed.

Project Size	173,000 sq ft
General Contractor	V3 Construction Corp Woodbridge, IL
Engineer	Christopher Burke Engineering St. Charles, IL
Landscape Architect	Conservation Design Forum Elmhurst, IL
Contractor/Installer	LPS Pavement Company Oswego, IL
Paver Type:	Permeable Interlocking Concrete Pavement —3 1/8 in (80mm) thick

The Arboretum applied for and received an IEPA 319 Grant to construct BMPs within the parking area. The matching grant gave the Arboretum up to \$1.2 million for the design



Base and Subbase construction for parking lot



Maintenance workshop at Morton Arboretum demonstrates equipment that effectively cleans PICP openings

pavement surface needed to be durable and plowable. In addition, the location of the bus parking area and visitor center truck dock required that a significant portion of the parking lot be designed structurally to withstand heavy truck and bus loads. PICP is extremely durable and very high strength. The interlocking nature gives PICP the ability to withstand heavy traffic, and the high-strength concrete (over 8,000 psi) gives it durability and the ability to withstand heavy loads. The pavers were designed over a permeable base to capture and treat stormwater runoff, then transfer water to the bio-retention swales that would then be conveyed to a level spreader at the shore line edge of Meadow Lake where a wetland was established to apply final treatment prior to release to Meadow Lake.

Project Issues

Dupage County officials would not accept storage in the voids of the aggregate sub-base of the PICP system because they could not inspect these areas nor could they clean these areas should they get clogged. In addition, they would not give a National Pollutant Discharge Elimination System (NPDES) Phase II permit for the parking lot as a pervious surface and would only allow this to be built and designated as an asphalt parking lot. If it failed, the surface could be paved over and the lot could continue to be used. Despite such doubts, the PICP parking

lot is still in place over eight years later, performing as designed. In 2010, North Carolina State University conducted a maintenance workshop that provided forensic proof that the sediment does not travel into the subbase and any sediment causing clogged voids at the surface can be removed and replaced with new chips that will reinstate infiltration rates.

Other information

An analysis comparing PICP with heavy duty standard asphalt performed by Hanscomb, Faithful & Gould, the project construction manager, provided key information about life-cycle cost. While PICP costs more to initially install, in the 23rd year costs for maintaining an asphalt parking lot would surpass maintenance costs for the permeable parking lot installed. This analysis helped convince the Arboretum to use PICP.

The Morton Arboretum

Year	Permeable Interlocking Concrete Pavement			Heavy Duty / Standard Asphalt Pavement		
	Maintenance Item	Per Year Expenditure	Accumulated Expenditure	Maintenance Item	Per Year Expenditure	Accumulated Expenditure
1	Initial Install	\$980,000			\$650,000	
3	Striping	\$2,625	\$932,625	Crack Filler, Seal Coating and Striping	\$24,375	\$674,375
5	Striping & Cleaning	\$6,625	\$939,250	Minor Patch, Crack Filler & Seal Coating	\$30,500	\$704,875
7	Striping	\$2,625	\$991,875	Crack Filler, Seal Coating and Striping	\$24,375	\$729,250
9	Striping & Cleaning	\$6,625	\$998,500	Minor Patch, Crack Filler & Seal Coating	\$36,625	\$765,875
19	Striping	\$2,625	\$1,019,625	Minor Patch, Crack Filler & Seal Coating	\$30,500	\$997,250
21	Striping & Cleaning	\$6,625	\$1,026,250	Crack Filler, Seal Coating and Striping	\$24,375	\$1,021,625
23	Striping	\$2,625	\$1,028,875	Minor Patch, Crack Filler & Seal Coating	\$36,625	\$1,058,250
25	Striping & Cleaning	\$6,625	\$1,035,500	Crack Filler, Seal Coating and Striping	\$24,375	\$1,082,625
27	Striping	\$2,625	\$1,038,125	Minor Patch, Crack Filler & Seal Coating	\$42,750	\$1,125,375
29	Striping & Cleaning	\$6,625	\$1,044,750	Mill & Overlay, Patching and Striping	\$109,375	\$1,234,750
45	Striping & Cleaning	\$6,625	\$1,081,750	Crack Filler, Seal Coating and Striping	\$24,375	\$1,551,500
47	Striping	\$2,625	\$1,084,375	Minor Patch, Crack Filler & Seal Coating	\$30,500	\$1,582,000
49	Striping & Cleaning	\$6,625	\$1,091,000	Crack Filler, Seal Coating and Striping	\$24,375	\$1,606,375
51	Striping	\$2,625	\$1,093,625	Minor Patch, Crack Filler & Seal Coating	\$36,625	\$1,643,000

Life-cycle cost comparison

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Hilton Garden Inn, Calabasas, California

The Hilton Garden Inn designers chose PICP to satisfy the City of Calabasas storm-water management requirements. These mandated at least 30% pervious cover to control the quantity and quality of runoff from the site, specifically by containing the "first flush" or the initial 1/4 in. (6 mm) of rain water within a 24-hour period. The site meets this requirement with PICP that filters runoff into an open-graded base, temporarily detaining water before passing it to the storm drain system.

A color blend of cream/brown, cream/charcoal and solid brown was selected for the 12,000 sf (1,110 m²) project completed in June 2002. This maintains some reflectivity without blinding pedestrians on sunny days. The pavers were placed in a random color pattern to yield mottled tones throughout the pavement surface. The pavement covers the hotel driveway, entry area and parking lot.

The position of the pavers changed over the design stages of the project. Instead of laying the pavers at the lower side, away from the building, they were installed on the uphill side next to the hotel. Placement of pavers next to the hotel entry provided area a visually pleasing appearance, but reduced the total amount of water infiltrated by the pavement's surface. Other measures were implemented to treat runoff which included a grassy swale to filter runoff next to the asphalt pavement and a filter in the catch basin.



PICPs at this hotel in Southern California capture and treat the first flush from the parking lot. The curbs are recessed to allow overflows to run into an adjacent grass swale.

PICPs accommodate markings for parking spaces and an access route for disabled persons.



Design:

Hewitt-Zollars Engineering
Irvine, California

General Contractor:

RD Olson
Irvine, California

Typical Cross-section:

3 1/8 in. (80 mm) thick
permeable pavers
2 in. (50 mm) 1/4 by No. 10
(6 to 1 mm) crushed stone
bedding layer
10 in. (250 mm) 3/4 to 1/2 in.
(20 to 13 mm) crushed
stone base
Geotextile

Subgrade:

Clay

Robson Center, Gainesville, Georgia

Formerly known as the Southern Heritage Building, the Robson Center's 8,200 sf (760 m²) parking lot represents one of the first pavements of its type in Gainesville, a city of 25,000 on the shores of Lake Lanier in north-east Georgia. "The Robson Center pavement was installed (in 2003) in order to meet a new municipal limitation on impervious cover, while getting full economic development from the site's acreage," according to Bruce Ferguson, FASLA, Professor and Director, School of Environmental Design, University of Georgia and author of the book, *Porous Pavements* (2). The pavement surface located in the development's entry lanes used brick color to match the building.

"The base course or 'base reservoir' is made with open-graded No. 57 crushed granite rock, which has void space of 30%+ and very high permeability," said Ferguson. "The bedding layer and joint fill is similar but smaller No. 89 aggregate, which also has high porosity and permeability. The combination gives the pavement high permeability and water storage capacity."

Since the soil was largely clay fill that had to be compacted, very little infiltration into the soil is expected, explained Ferguson. "Instead, a perforated pipe at the bottom of the base reservoir drains to the city's storm sewer system. A previously installed stormwater detention basin had been designed for impervious surfaces throughout the development. This pavement's permeability and in-pavement storage are expected to make the project's stormwater performance exceed the design expectations. In the unlikely event the pavement should generate surface runoff due to an extremely intense storm or clogging occur somewhere in the system, the runoff will drain to grate inlets at the side of the pavement, then into the conventional storm sewer system."

Typical Cross-section:

3¹/₈ in. (80 mm) thick permeable pavers
3 in. (75 mm) ASTM No. 89 bedding layer
8 in. (200 mm) ASTM No. 57 crushed stone base
Geotextile

Subgrade:

Clay soil

Designer:

Bruce Ferguson, FASLA,
Athens, Georgia

General Contractor:

U.S. General Construction,
Alpharetta, Georgia



Runoff from the impervious asphalt surfaces is infiltrated into the PICP. The runoff is detained, filtered and infiltrated into the soil subgrade. Excess water is drained to storm sewers through perforated drain pipes in the base.



Even with low infiltration clay soil, permeable pavements manage runoff from typical rainstorms that fall on the parking lot at the Southern Heritage Building.