

A RESOLUTION APPROVING THE MINOR MODIFICATION TO THE
WINMORE CONDITIONAL USE PERMIT FOR A "DAYCARE FACILITY"
AT 515 EAST WINMORE AVENUE
Resolution No. 53/2009-10

WHEREAS, the Board of Aldermen approved a Conditional Use Permit for Winmore Subdivision on June 10th, 2003; and

WHEREAS, the staff has determined that this would constitute a minor modification to the original Conditional Use Permit; and

WHEREAS, the Board of Aldermen finds that the applicant has satisfied the requirements related to minor modifications contained in the Land Use Ordinance.

NOW, THEREFORE BE IT RESOLVED by the Carrboro Board of Aldermen that the minor modification to the Winmore Conditional Use Permit for a "daycare facility" at 515 East Winmore Avenue be approved with the two following conditions:

1. Per Section 15-291 of the LUO, the Board of Aldermen hereby finds that 40 parking spaces is sufficient to serve the proposed development, based on information submitted by the applicant regarding the necessary parking spaces based on other Goddard School locations.
2. That the applicant shall provide to the Zoning Division, prior to the release of the Certificate of Occupancy or before the release of a bond if some features are not yet in place at the time of wishing to obtain the Certificate of Occupancy, mylar and digital as-builts for the stormwater features of the project. Digital as-builts shall be DXF format and shall include a base map of the whole project and all separate plan sheets. As build DXF files shall include all layers or tables containing storm drainage features. Storm drainage features will be clearly delineated in a data table. The data will be tied to horizontal controls.
3. That the developer shall include detailed stormwater system maintenance plan, specifying responsible entity, schedule and creation of reserve fund for future maintenance needs. The plan shall include scheduled maintenance activities for each unit in the development, (including, bioretention areas, swales, and dry detention basin), performance evaluation protocol, and frequency of self-reporting requirements (including a proposed self-reporting form) on maintenance and performance. The plan and supporting documentation shall be submitted to town engineer and environmental planner for approval prior to construction plan approval. Upon approval, the plans shall be included in the homeowners' association documentation.

This the 17th day of November 2009.

STAFF REPORT

TO: Board of Aldermen

DATE: November 17th, 2009

PROJECT: Minor Modification to Winmore CUP for "Daycare Facility" at 515 East Winmore Avenue

OWNERS: Capkov Ventures, Inc.
PO Box 16815
Chapel Hill, NC 27514

APPLICANTS: Chris and Wendy Mattucci
18 Brush Hill Road
Kinnelon, NJ 07405

PURPOSE: A minor modification to the original Conditional Use Permit for Winmore allowing the construction of a "daycare facility" (use# 22.200) called The Goddard School located at 515 East Winmore Avenue.

EXISTING ZONING: Village-Mixed Use (VMU)

TAX MAP NUMBER: 7.171..1

LOCATION: 515 East Winmore Avenue

TRACT SIZE: 2.956 acres (128,763 sf)

EXISTING LAND USE: vacant site

SURROUNDING LAND USES: North: R-20, single-family residential
South: VMU- Winmore Subdivision Open Space
West: VMU, single-family residential
East: R-20, single-family residential

ZONING HISTORY: Village-Mixed Use (VMU) since 2003

ANALYSIS

Background

Background

Chris and Wendy Mattucci, as represented by Tony Tate Landscape Architectures have submitted an application for a Minor Modification of the original Conditional Use Permit (CUP) for Winmore Village Mixed Use for the construction of a “daycare facility” called The Goddard School located at 515 East Winmore Avenue. The Minor Modification of the Conditional Use Permit, if approved, would allow the creation of a 10,160 square foot “daycare facility” on a vacant tract.

The subject property is in a “Village Mixed Use (VMU)” zoning district, contains 2.956 acres (128,763sf) and is listed on the Orange County Tax Map as numbers 7.171..1.

Preliminary Review to Advisory Boards

Kathryn Mcpherson, Landscape Architect presented the preliminary review of The Goddard School to the Advisory Boards at the February 5th, 2009 meeting. The applicant has submitted responses to those various boards that did submit recommendations per their review of this project in February.

Access, Parking, Traffic and Sidewalk

Access:

The applicant intends to construct the driveway entrance directly off East Winmore Avenue nearest to the eastern side property line. The new entrance/exit will be twenty-four feet in width and consist of one (1) exit and one (1) entrance lane.

Parking:

The entrance leads to two (2) parking areas- one parking area to the south of the building will contain twenty-one (21) standard parking spaces and one (1) van accessible handicap space and the other parking area to the west of the building will contain seventeen (17) parking spaces with five (5) of those spaces being “compact” spaces. In addition, the applicant will be installing a bike-rack that will hold five bikes adjacent to the dumpster/recycling pad.

The applicant will be asking for a reduction in the required number of parking spaces. Per Section 15-291(g) of the Land Use Ordinance, the required number of parking spaces for this use would require 63 spaces. The applicant is requesting from the permit issuing authority (this being the Board of Aldermen) a reduction in the number of parking spaces to 40 spaces (**Attachment D**) per Section 15-291(f) of the Land Use Ordinance. As a result, staff generally agrees with the information found in attachment E and hereby suggests the following condition:

- Per Section 15-291 of the LUO, the Board of Aldermen hereby finds that 40 parking spaces is sufficient to serve the proposed development, based on information submitted by the applicant regarding the necessary parking spaces based on other Goddard School locations.

Traffic:

The applicant has not submitted a traffic study specifically geared toward this development application, but has provided a typical traffic (**Attachment D**) pattern of other Goddard School locations.

In essence, the peak traffic times are in the morning hours (7am to 9am) and afternoon hours (4pm to 6pm) and these times of traffic/parking are usually no longer than 10 minutes in length to where the parent drops the child off or picks them up.

Sidewalk Access:

The applicant is proposing a sidewalk along the western edge of the proposed driveway to East Winmore Avenue and will be providing the appropriate crosswalk striping. There will be a five (5) foot wide sidewalk around the entire building.

Conclusion:

The proposed CUP complies with all provisions of the LUO related to traffic, parking and sidewalks.

Tree Protection, Screening and Shading

Tree Protection:

Section 15-316 of the LUO specifies that all trees greater than 18 inches in diameter or any specimen trees must be preserved, to the extent practicable. There are 32 specimen trees on this property and 17 specimen trees are to be removed.

In essence, the seventeen (17) specimen trees to be removed are where the building, parking and driveway will be constructed. The fifteen (15) trees to remain are located within the stream buffer on the western portion of the property.

Screening

An examination of the screening requirements of Section 15-308 of the LUO reveals the type of screening required for this project. Specifically, a “type B” screen is required along the southern, northern and eastern property lines. The screening along the eastern property line will be a combination of a three foot retaining wall and evergreen landscaping. The screening along the northern property line will a six foot tall fence and existing mature trees while the screening along the southern property line will be combination of existing and proposed landscaping.

It should be noted that there will be a fence placed around the eastern and northern sides of the buildings where the child play areas are.

Shading

Section 15-317 of the LUO requires that 20% of all vehicle accommodation areas be shaded with shade trees complying with the recommendation of Appendix E-10. The applicant is required to provide a minimum of 4,159 square feet of shaded area and is surpassing this with providing 5,935 square feet of shading within the parking lots.

Conclusions:

The proposed CUP complies with all provisions of the LUO related to tree protection, screening and shading.

Drainage, Grading, and Erosion Control

The vacant lot is 128,763 square feet (2.956 acres) in size and the proposed impervious surface will be 32,272 square feet (building = 10,160sq. ft.; sidewalks = 5,306sq. ft.; parking area = 16,806sq. ft.). The impervious surface after construction will be 25.1 percent.

The applicant will be using a combination of one bio-retention basin and underground pipe storage on the site in order to meet the water quality/quantity provisions of the LUO. The applicant will be placing one bio-retention basin in the southern portion of the lot and the underground pipe storage will be placed under the parking area of the southern parking area- the combination of these two devices will treat all storm water prior to release.

In addition, the applicant will be placing a 1500 gallon cistern under the western parking lot and the main objective of the cistern will be for irrigation.

Grading on the site will be minimal due to a majority of the western portion of the property being within a regulated stream buffer. Town staff and the Town Engineer have reviewed the proposed grading plan and find that it meets the requirements of the LUO.

Ren Ivins, of Orange County Erosion Control (OCEC), has indicated to the Zoning Division that the project has received preliminary Erosion Control approval. OCEC also will further examine the project at the construction plan stage.

Conclusions:

The proposed CUP complies with all provisions of the LUO related to drainage, grading and erosion control.

Utilities

OWASA:

The proposed buildings will receive water and sewer service from OWASA by connecting to existing OWASA water and sewer lines. OWASA has reviewed the plans and are satisfied with the plans.

Electric Services:

Duke Power Company will provide electrical services to the proposed building. The service lines to the building will be placed underground in accordance with Section 15-264 of the LUO.

Refuse and Recycling:

The dumpster layout has been reviewed by Public Works and meets their standards. In addition, Orange County Solid Waste has also reviewed the plans and they are satisfied.

Exterior Lighting:

Section 15-242 and Section 15-243 of the LUO deals with exterior lighting requirements. The applicant will be using eight (8) pole type light that will be 100 watts each and not to exceed the 15 foot height limitation. All proposed lights will have night sky shields installed in order to prevent skyward pollution.

All proposed lights will meet the .2 footcandle pollution rate across property lines per Section 15-243 of the LUO.

Conclusions:

The proposed CUP complies with all provisions of the LUO related to utilities and exterior lighting.

Architecture- Exterior Design

Building Material:

Per subsequent meetings with The Planning Board, the revised building will be one-story and not have dormers on the front façade (**Attachment H**). The building will still be constructed entirely of reddish brown brick and a majority of the accents (windows, trim, gutters etc.) will be white.

Miscellaneous Issues

Management of Stormwater Specific to Child Daycare Facility

Section 15-263(c)(3) of the LUO deals specifically with daycare facilities within in VMU zoning district and meeting certain Low Impact Development (LID) criteria. This section of the LUO states that the development shall meet these techniques to "the extent practicable." With that being said, the applicant has provided a written description (**Attachment E**) to the development meeting the LID techniques as described in this section of the LUO.

Neighborhood Information Meeting:

A neighborhood meeting at The Carrboro Community Center with all property owners within 500 feet of the property was held on April 11th, 2009.

Recommendation

Staff recommends that the Board of Aldermen review, deliberate, and consider granting the Minor Modification application to the Winmore Conditional Use Permit for a “Daycare Facility “ application at 515 East Winmore Avenue, subject to the following recommendations/conditions:

1. Per Section 15-291 of the LUO, the Board of Aldermen hereby finds that 40 parking spaces is sufficient to serve the proposed development, based on information submitted by the applicant regarding the necessary parking spaces based on other Goddard School locations.
2. That the applicant shall provide to the Zoning Division, prior to the release of the Certificate of Occupancy or before the release of a bond if some features are not yet in place at the time of wishing to obtain the Certificate of Occupancy, mylar and digital as-builts for the stormwater features of the project. Digital as-builts shall be DXF format and shall include a base map of the whole project and all separate plan sheets. As build DXF files shall include all layers or tables containing storm drainage features. Storm drainage features will be clearly delineated in a data table. The data will be tied to horizontal controls.
3. That the developer shall include detailed stormwater system maintenance plan, specifying responsible entity, schedule and creation of reserve fund for future maintenance needs. The plan shall include scheduled maintenance activities for each unit in the development, (including, bioretention areas, swales, and dry detention basin), performance evaluation protocol, and frequency of self-reporting requirements (including a proposed self-reporting form) on maintenance and performance. The plan and supporting documentation shall be submitted to town engineer and environmental planner for approval prior to construction plan approval. Upon approval, the plans shall be included in the homeowners’ association documentation.

Re: Typical Goddard School Parking Patterns

Dear Mr. Thomas:

I am writing in response to questions raised by a resident regarding the capacity of the parking lot proposed for the Goddard School to be located at Indian Trail, NC.

Our drop-off policy details the process by which parents must park their automobiles, shut off their engine and escort their children into the building. They are required to sign their children in and are admitted into the school by the franchisee or school director. Parents escort their children to their classrooms and place them in the care of their teachers. Upon their return, parents pick their children up in their class, sign them out and escort them to their cars.

We have enclosed a spreadsheet detailing anticipated parking lot use by the staff based upon findings of a traffic study of our schools and our experience with over 280 schools currently opened. The number of spaces used by the staff is shown in red while the number of spaces available for parents is detailed in blue. As you can see, the most spaces available for parents are during the peak drop off times of 7am to 9 am and the peak pick up times of 4pm to 6 pm. The only time of the day in which the entire staff is at the building is from 9am to 1:30pm.

The number of staff at the building is a direct ratio of the number of the children at the building. As children start to filter into the building between 7am and 9am the number of staff increase.

The number of staff begins to decrease at 1:30pm as the part-time program, which makes up 30% to 40% of our enrollment, ends at 1pm. The children who are enrolled in our full day program are picked up starting about 4pm and continue to leave through our closing time of 6pm. Parents may stay a little longer in the evening however there are fewer children in attendance and an increasing number of available parking spaces. The available spaces easily accommodate the arriving parents.

Our traffic study has also shown that the average length of stay by a parent dropping their child off in the morning is approximately 10 minutes. This means that each parking space is open 6 times an hour. If you multiply this number by the number of spaces available, as shown on the attached spreadsheet, I think you will feel comfortable with the number of spaces provided for the proposed site.

Parking is an important issue for our schools and Goddard Systems Inc. would not have approved the proposed site if we did not feel there is adequate parking. If you have any questions regarding this matter feel free to contact me at 610-265-8510 ext. 234.

Yours truly,

James R. Scargill
Site Development Manager

DEVELOPMENT CONSULTING SERVICES, INC.

1401 Aversboro Road, Suite 206
Garner, North Carolina 27529
Ph. (919) 329-0051 Fax (919) 772-3437

Tuesday, August 18, 2009

Project Conformance with Section 15-263(c)(3) of The Town of Carrboro LUO

Project Name: The Goddard School

Location: E. Winmore Avenue, approximately 765 feet west of intersection with Homestead Road in Carrboro, North Carolina

Developer: Trademark Construction, Inc.
103 Arch Street
Butler, New Jersey 07405
(973) 332-6116

General Information

This letter is in reference to the proposed Goddard School site plan which is located in Carrboro, North Carolina. The proposed use for this site is a Child Development Center consisting of a 10,000 square foot building, enclosed playground, parking, vehicular, and pedestrian access areas. The site is located on East Winmore Avenue and is part of the Winmore Village Mixed Use Development. The 2.95 acre site is mostly wooded and is within the Bolin Creek Watershed.

The following is a description of how this project meets the intent of Section 15-263(c)(3) of the Town of Carrboro Land Use Ordinance.

15-263(c)(3)(a)

There are no dedicated areas of open space on this project; however, there are areas that will remain undisturbed with the proposed development of the project.

15-263(c)(3)(b)

There will not be any disturbance of existing Primary Conservation Area on this project. All stormwater runoff from the proposed BMPs will be discharged through an appropriately sized level spreader. The proposed level spreader will create diffuse flow for approximately 50 feet before stormwater runoff enters the Primary Conservation Area.

15-263(c)(3)(c)

An underground rainwater cistern is proposed to capture stormwater runoff from the roof of the proposed building. The rainwater captured in this cistern will be used for irrigation of the proposed plantings.

15-263(c)(3)(d)

The Town of Carrboro Land Use Ordinance requires that nutrient loads resulting from this development be limited to 2.2 lbs/acre/year for nitrogen and .82 lbs/acre/year for phosphorus. The pre-development nitrogen and phosphorus loading rates for this site are .43 lbs/acre/year and .06 lbs/acre/year, respectively. The post-development nitrogen and phosphorus loading rates are 3.73 lbs/acre/year and 0.50 lbs/acre/year, respectively.

Therefore, only reduction of the nitrogen loading rate will be required since the post-development loading rate exceeds the 2.2 lbs/acre/year limit. Although the post-development phosphorus loading is below the .82 lbs/acre/year threshold, there will be a reduction resulting from the proposed Best Management Practices (BMPs).

In order to reduce the nitrogen loading rate to meet the Land Use Ordinance, we are proposing three BMPs in series. The stormwater runoff would be treated using the following BMPs: a bioretention pond, a 150' vegetated grassed swale and a level spreader with a vegetated filter strip. The result of these three BMPs will reduce the nitrogen loading by 58.4% and the phosphorus loading rate will be reduced by 71.4%.

The resulting post-development loading rates for nitrogen and phosphorus are 2.18 lbs/acre/year and .19 lbs/acre/year, respectively.

15-263(c)(3)(e)

We have provided details for educational signs for the bio-retention pond and the swale/level spreader that will be bollard style. We also show a detail for a wall mounted sign near the down spouts explaining the rainwater harvesting for landscape irrigation.

15-263(c)(3)(f)

The Land Use Ordinance also requires the use of Low Impact Development (LID) techniques "to the extent practicable" for this site. In order to meet this requirement of the ordinance, we are proposing a bioretention facility, an underground cistern to capture roof drainage, a vegetated filter strip with a level spreader and a grassed swale. All four of these BMPs are considered to be Integrated Management Practices (IMPs) which are techniques used in Low Impact Development according to "Low Impact Development Design Strategies: An Integrated Design Approach".

There are additional techniques involved in Low Impact Development but it would be difficult to apply on this site. There is an existing stream buffer located on the site which we have been advised to avoid impacting or minimize any proposed impacts. Although we are proposing some impacts in the buffer with grading, we are minimizing these impacts by compacting the site layout. This "compaction" of the site plan results in one large bioretention area as opposed to smaller bioretention areas dispersed throughout the site.

The nitrogen loading rate requirement also makes it difficult to apply some of the LID techniques. As stated above, we are proposing three BMPs in series to treat the stormwater runoff. This means that we must treat as much runoff as possible from impervious areas by routing the runoff through these three BMPs. Even if it was possible to place multiple bioretention areas throughout the site, all of them would have to discharge into the 150' vegetated grassed swale to receive nitrogen reduction credit. This means there would still be a need for an underground drainage system, a technique that is not considered to be part of a Low Impact Development.

**SUMMARY SHEET OF STAFF AND ADVISORY BOARD
RECOMMENDATIONS**

**MINOR MODIFICATION TO WINMOR CONDITIONAL USE
PERMIT FOR "DAYCARE FACILITY" AT 515 EAST WINMOR
AVENUE**

Staff Recommendations (If Advisory Board support is not applicable)	Advisory Board Recommendations (If Staff support is not applicable)
Recommended by	Comments/Conditions
Staff, AC, EAB, TB	1. Per Section 15-291 of the LUO, the Board of Aldermen hereby finds that 40 parking spaces is sufficient to serve the proposed development, based on information submitted by the applicant regarding the necessary parking spaces based on other Goddard School locations.
Staff, AC, EAB, TB	2. That the applicant shall provide to the Zoning Division, prior to the release of the Certificate of Occupancy or before the release of a bond if some features are not yet in place at the time of wishing to obtain the Certificate of Occupancy, mylar and digital as-builts for the stormwater features of the project. Digital as-builts shall be DXF format and shall include a base map of the whole project and all separate plan sheets. As built DXF files shall include all layers or tables containing storm drainage features. Storm drainage features will be clearly delineated in a data table. The data will be tied to horizontal controls.

Staff, AC, EAB, TB	<p>3. That the developer shall include detailed stormwater system maintenance plan, specifying responsible entity, schedule and creation of reserve fund for future maintenance needs. The plan shall include scheduled maintenance activities for each unit in the development, (including, bioretention areas, swales, and dry detention basin), performance evaluation protocol, and frequency of self-reporting requirements (including a proposed self-reporting form) on maintenance and performance. The plan and supporting documentation shall be submitted to town engineer and environmental planner for approval prior to construction plan approval. Upon approval, the plans shall be included in the homeowners' association documentation.</p>
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ADVISORY BOARD COMMENTS/RECOMMENDATIONS	
Additional Advisory Board Comments & Recommendations	Comments/Recommendations
NTAAC	1. That the Aldermen give consideration to the facility's function with regards to the needs of the larger community; this would include discussing access of its services to various economic groups as well as integrating other community functions into the building.
NTAAC	2. That the applicant perform a more thorough traffic study due to the proposed number of students and the limitations of existing roadway infrastructure.
NTAAC	3. That the applicant provide further written justification for their request for reduced parking.
NTAAC	4. That the applicant explore reducing the number of lighting units for the parking area to further limit light trespass to the surrounding community.

NTAAC	5. That, in general, the Aldermen review creating architectural standards to be applied toward commercial development. The NTAAC however did not have any specific recommendations regarding the Goddard School's proposed architecture.
EAB	6. Recommends that the applicant clarify the inconsistency in Diagram L-3 which indicates fescue seeded groundcover under playground equipment and Detail L7-6 which indicates use of a synthetic impact surface under play equipment. The EAB recommends use of a synthetic impact mat.
EAB	7. Recommends a permit condition that the applicant be required to install covered bicycle storage with a minimum of 10 spaces and adequate space to lock bicycle trailers near the main entrance of the building for use by parents transporting children via bicycle.
EAB	8. Recommends incorporating 40-80% Piedmont native wildflower mix into the 15,000 sq. ft. designated for weeping love grass.
TAB	9. That a bicycle rack be installed at the front of the building to accommodate five bicycles.
TAB	10. That the bicycle rack currently proposed to be installed in the rear of the building to accommodate five bicycles be covered with a roof.
PB	11. The Planning Board does not approve of this project as proposed.
PB	12. The applicant has not responded satisfactorily to the advisory boards' recommendations.
PB	13. The proposed building is not designed for the site. The Planning Board would like to see the applicant use a design that responds to the particular characteristics of the site and the property surrounding the site. The Planning Board also asks that the applicant respond satisfactorily to comments 2 through 4 of its February 19, 2009, recommendations.
PB	14. The proposed building is not of an appropriate scale. The walls amount to one third of the height of the building, and the roof amounts to two thirds of the height of building. This is out of scale in any context.

PB	15. The applicant has not shown attention to appropriate building orientation, building style, location of windows, etc. (see previous Planning Board recommendations to the applicant).
PB	16. More generally, the applicant seems to be intent on placing a pre-designed building on the site that is not appropriate for that location (or for Carrboro).
PB	17. Recommends that the applicant provide covered bicycle parking spaces near the front entrance of the building, instead of or in addition to the uncovered spaces provided near the dumpster at the rear of the property. The town's Comprehensive Bicycle Transportation Plan recommends that employers encourage bicycling by providing bicycle parking. Bicycle parking should be "clearly visible from the entrance it serves" and "should be sheltered when possible."
PB	18. This development was presented as a response to the need for affordable daycare in Carrboro. However, the applicant has not presented information to show that this project would be an affordable option for daycare. The applicant has not responded satisfactorily to the Planning Board's suggestion to provide scholarships or other financial assistance for students, except to note that this decision would be up to the franchisee. However, the franchisee has not provided comments.
PB	19. Recommends that the applicant show on the written plans that the north fence will be placed 40 feet from the property line, as described during the September 3, 2009 meeting.
PB	20. Recommends that the applicant pursue strategies to minimize the environmental impact of the project, including but not limited to the strategies described in the June 27, 2009 memo from the town's environmental planner entitled "Environmental Review Comments."

PB	21. Appreciates the intent of providing the underground rainwater cistern; however, the Planning Board encourages the applicant to increase the size of the cistern for irrigation to have a meaningful impact on water conservation. Carrboro Town Code, Chapter 5, Article III, encourages the use of "harvested rainwater and/or reclaimed water for indoor and outdoor purposes where allowable and practical."
PB	22. Recommends that the applicant use pervious paving for some portion of the parking lot.
PB	23. Concerned that the retaining wall on the eastern property line will cause extensive damage to neighbors' trees.

**Goddard School at Winmore, CUP Minor Modification, Follow up
Items from September 22, 2009 Board of Aldermen Meeting and
Various Emails Subsequent to the Meeting
October 6, 2009***

**For items below not yet answered, staff requests that the Board confirm whether the information is still desired.*

Matters discussed during or after 9/22 meeting:	Staff's and / or Applicant's Response:	Contact person for further discussion:
1. Analyze options related to entrance / exit at Winmore Avenue and Homestead Road	See Memo dated October 3, 2009, from Transportation Planner Jeff Brubaker, titled: <i>Homestead Road Traffic Near the Proposed Goddard School Site</i>	Jeff Brubaker / Trish McGuire
2. Evaluate design of Goddard School as it relates to <i>Winmore Design Code</i> , based on comments from Planning Board.	<i>To be provided at future meeting if necessary.</i>	Marty Roupe / James Thomas & Applicant
3. Clarify whether Goddard School site is in 'storefront & townhouse use area' or 'residential area.'	The Goddard School site is located in a single-family residential use area, as identified on the Winmore VMU Master Plan and CUP plans.	Marty Roupe / James Thomas
4. Clarify whether a mechanism or checklist exists to show how the standards are met.	See email from Mike Brough dated 10/5/9.	Mike Brough / Marty Roupe & Applicant
5. Provide information regarding pitched roofs, fascias, and functional dormers.	See email from Mike Brough dated 10/5/9.	Mike Brough / Marty Roupe & Applicant
6. Provide information regarding new	See email from Mike Brough dated 10/5/9.	Mike Brough / Marty

construction being of similar scale and massing to small-scale, historic buildings in downtown Carrboro.		Roupe & Applicant
7. Provide information about language explicitly integrating the Winmore Design Code into the LUO.	See email from Mike Brough dated 10/5/9.	Mike Brough / Marty Roupe & Applicant
8. Provide information relating to NSA plan and neotraditional design as it relates to the Goddard School location.	<i>To be provided at future meeting if necessary.</i>	Trish McGuire
9. Provide information relating to HPE's traffic study conclusion that Winmore will cause maximum traffic volume of Homestead Rd to be exceeded.	<i>To be provided at future meeting if necessary.</i>	Jeff Brubaker / Trish McGuire
10. Provide information regarding green building standards as they relate to this project (and a possible CUP condition) and the Land Use Ordinance.	See email from Mike Brough dated 10/6/9. The LUO does not currently contain any green building standards per se, except to the degree the topic is referenced in Section 15-263(c)(3). This topic is included in the list of items to consider within the comprehensive review of the LUO.	Mike Brough / Trish McGuire
11. Provide information regarding staff working in	Staff has begun discussions with Mary Lyn Truelove of CHCCS about this topic, but no formal action has taken place yet. <i>Additional information may be provided at future meeting if</i>	Jeff Brubaker

conjunction with NCDOT to study school traffic issues.	<i>necessary.</i>	
12. Share minutes from Winmore Architectural Committee's review of Goddard School	<i>To be provided at future meeting if necessary.</i>	Applicant



TOWN OF CARRBORO

PLANNING BOARD*301 West Main Street, Carrboro, North Carolina 27510*

R E C O M M E N D A T I O N

NOVEMBER 5, 2009

**Goddard School at Winmore CUP Modification – Additional
review of building design**

Clinton moved and Carnahan seconded that the Planning Board recommends approval of the modification to the Winmore VMU conditional use permit with Building Option 1 as shown on the attached sheet, and commends the applicant for its commitment to environmentally conscious building through the items identified on the Winmore Green Builder Worksheet also attached.

VOTE: AYES: (10) Barton, Bell, Carnahan, Clinton, Cook, Fritz, Paulsen, Poulton, Seils, and Warner; NOES: (0); Abstentions: (0); Absent/Excused (1) Shoup.

Matthew Barton, Chair

11/13/09



H.S. ANNIS ARCHITECT, PA
1801 W. 10th Street, Cary, NC 27513
Tel: 919.776.4000
Fax: 919.776.4001
Email: hannis@hannisarchitect.com



DATE	01/18/2018
PROJECT	THE GODDARD SCHOOLS FOR EARLY CHILDHOOD DEVELOPMENT
CLIENT	THE GODDARD SCHOOLS FOR EARLY CHILDHOOD DEVELOPMENT
LOCATION	1 EAST WINMORE, CARRBORO, NC 27513
ARCHITECT	H.S. ANNIS ARCHITECT, PA
SCALE	1/8" = 1'-0"
DATE	01/18/2018
BY	HA
CHECKED BY	HA
DATE	01/18/2018



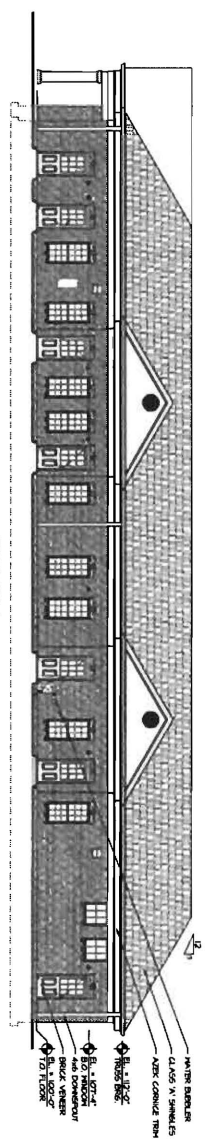
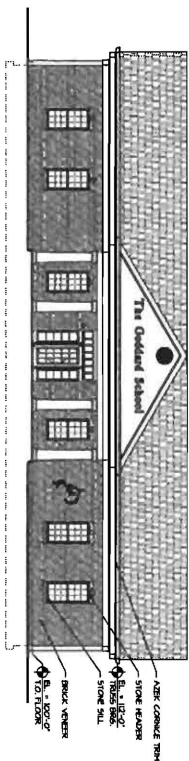
ZIP

THE GODDARD SCHOOLS
FOR EARLY CHILDHOOD DEVELOPMENT
EAST WINMORE
1 EAST WINMORE
CARRBORO, NORTH CAROLINA

EXTERIOR
ELEVATIONS

A2.1

H-2



OPTION 1



November 5, 2009

Sent via Email

Town of Carrboro Planning Board
301 West Main St.
Carrboro, NC 27510

Re: Winmore Green Builder Worksheet – Proposed Goddard School

Dear Board:

Attached is the completed Winmore Green Builder Worksheet for the proposed Goddard School in the Town of Carrboro, NC. This is being submitted, per your request.

Please recognize that we surpass the maximum rating in the "building envelope" of 85 maximum points, outlining our ambitious efforts to utilize all available technology and energy efficient resources. Additionally, this worksheet does not grade the efforts we have taken to minimize our footprint on this site to accentuate, protect, and preserve the natural surroundings utilizing methods that will allow us to assist in the education of our children regarding preservation of natural resources.

Yours truly,

Wendy and Chris Mattucci
Applicants

H-4

Winmore Green Builder Worksheet

POSSIBLE SCORE
E POINTS D PROOF

SITE PLAN		
required: site erosion control plan	(3)	site plan
required: workshop on erosion and sediment control	(2)	certificate
excavated topsoil protected from erosion	(5)	
grind stumps and limbs for mulch	(2)	
mill cleared logs	2	
use of redundant mulch, compost, or straw bales for erosion control	(3)	
house certified under NAHB's <i>Building With Trees</i> program	25	confirmation letter
builder may certify that the house meets NAHB's <i>Building With Trees</i> program or score points from individual vegetation protection measures		
individual trees fenced at drip line (1 point per tree, max 5 trees)	1 per tree	
protected vegetation save area (min 25% of development or lot)	(2)	
tree planting	(4)	
tree preservation plan	(5)	tree plan
utilities in tree root zones tunneled or hand dug (1 point per tree, max 5 trees; 1 per tree)		
SITE PLAN TOTAL	(31)	

BUILDING ENVELOPE AND SYSTEMS ENERGY EFFIC		
ENERGY STAR Builder may choose to certify house as ENERGY STAR OR earn a minimum of 75 points from Energy Measures	90	certificate or computer print-out
ENERGY MEASURES Must earn a minimum of 75 points. No more than 85 points under Energy Measures can be applied toward total score. Houses must meet or exceed the North Carolina Energy Code.		
AIR LEAKAGE TEST		
measures	(35)	test results
AIR SEALING MEASURES maximum of 30 points		
airtight IC recessed lights or no recessed lights in insulated ceilings	4	
attic access opening (pulldown stairs / scuttle hole)	2	
attic kneewall doors (weatherstripped with latch)	2	
attic kneewall has sealed exterior sheathing	5	
band joist between conditioned floors sealed	3	
bath tub and shower drain	2	
bottom plate of exterior walls	2	
cantilevered floors sealed above supporting walls	2	
ceiling drywall sealed to top plate	2	
ceiling penetrations sealed between conditioned and unconditioned space	2	
chases sealed and insulated	5	
door rough openings	1	
drywall penetrations in exterior walls	2	
drywall sealed to bottom plate of exterior walls	2	
exterior wall sheathing sealed at plates, seams, and openings	5	
fireplace air sealing package (all units)	2	
floor penetrations between unconditioned and conditioned space	2	
window rough openings	2	
AIR SEALING MEASURES SUBTOTAL (max of 30 applied to Air Sealing)	(35)	

Winmore Green Builder Worksheet

POSSIBLE SCORE
E POINTS D PROOF

INSULATION *Homes with multiple foundation types must use foundation type of greatest area for points		
attic kneewall doors (R10)	1	
attic kneewall doors (R19)	2	
attic kneewall stud cavities (min R19)	3	
attic kneewall with insulated sheathing (R2.5)	3	
attic kneewall with insulated sheathing (R5)	5	
attic kneewall with non-insulated sheathing	1	
attic pull-down or scuttle hole (R19)	(2)	
band joist insulated (R19)	2	
cantilevered floor (R30)	2	
ceiling radiant heat barrier	1	
*concrete or masonry basement walls (continuous floor to ceiling R10)	3	
energy heel trusses or raised top plate	(2)	
exterior wall stud cavities (R15)	(1)	
*framed floor over unconditioned space (R19 in continuous contact with subfl.	1	
flat ceilings (R30)	1	
flat ceilings (R38)	(2)	
insulate fireplace chase	1	
insulated corners	(2)	
insulated headers	(2)	
insulated T-walls (exterior/interior wall intersection)	(2)	
insulated wall sheathing (R 2.5 or greater)	2	
insulated wall sheathing (R 5 or greater)	3	
loose-fill attic insulation card and rulers	1	
*sealed, insulated crawl space walls (R6)	1	
*slab insulation (min R4)	(2)	
spray applied wall insulation	4	
vaulted and tray ceilings (R25)	1	
vaulted and tray ceilings (R30)	2	
INSULATION SUBTOTAL	(15)	
WINDOWS		
certified passive solar design (25% load reduction)	10	formula
east facing glazing less than 3% of floor area	(2)	
inert gas-filled double glazed units (e.g. argon gas filled)	(3)	window label
low emissivity glazing	(5)	window label
NFRC rated windows (max U.56)	(3)	NFRC label
solar heat gain coefficient (max 0.4)	3	window label
solar shade screens	3	
2-foot overhangs over 80% of windows (max 2' above windows)	1	
west facing glazing less than 2% of floor area	(2)	
WINDOWS SUBTOTAL	(15)	

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Winmore Green Builder Worksheet

POSSIBLE SCORE
E POINTS D PROOF

HEATING AND COOLING EQUIPMENT		
cooling equipment has non-CFC and non-HCFC refrigerant	3	product literature
cooling equipment sized within 6000 btu/h of Manual J (all units)	5	load calc + eqmt siz
geothermal heat pump (75% total capacity)	7	
heating equipment output sized within 25,000 btu/h of Manual J (all units)	5	load calc + eqmt siz
HSPF 7.8 heat pump (75% total capacity)	2	product literature
HSPF 8.0 heat pump (75% total capacity)	3	product literature
measured airflow within 15% of manufacturer's specifications	3	test results
90% AFUE furnaces (75% total capacity)	3	energy guide label
outdoor thermostat for heat pump	1	
programmable thermostat (all systems)	1	
radiant floor heating-electric or hydronic using domestic hot water tank	1	
radiant floor heating-gas	2	
radiant floor heating-hydronic using solar heated water	3	
SEER 12 cooling equipment (75% total capacity)	2	energy guide label
SEER 14 cooling equipment (75% total capacity)	3	energy guide label
sensible heat fraction less than or equal to 0.7 (all air conditioners)	2	
zone control - one system services multiple zones	5	
HEATING AND COOLING SUBTOTAL		25
DUCTWORK / AIR HANDLER		
required: all duct runs and air handlers sealed with mastic	10	
air handler located within conditioned space (all units)	5	
airflow for each duct run measured and balanced	3	test results
certify duct leakage less than 5%	20	test results
duct design complies with Manual D	5	sizing calculation
duct/trunk lines outside conditioned space insulated to R8	2	
ducts located within conditioned space (min 90%)	5	
interior doors with 1 inch clearance to finish floor	2	
multiple return ducts (min 1 in each bedroom)	2	
no ducts in exterior walls or vaulted ceilings	3	
no ductwork	50	
rigid supply trunk	2	
transfer grilles	2	
DUCTWORK / AIR HANDLER SUBTOTAL		37
BUILDING ENVELOPE AND SYSTEMS ENERGY EFFICIENCY		85 - 127

ENERGY EFFICIENT LIGHTING AND APPLIANCES		
automatic outdoor lighting controls (e.g. motion sensor)	2	
energy efficient clothes dryer	1	product label
energy efficient dishwasher	1	product label
energy efficient refrigerator	2	product label
high efficiency exterior lighting	2	product literature
indoor fluorescent fixtures (min 200 watts)	2	
no garbage disposal	1	
recessed light fixtures are compact fluorescents	2	
LIGHTING / APPLIANCES ENERGY EFFICIENCIES TOTAL		11

Winmore Green Builder Worksheet

POSSIBLE SCORE
E POINTS D

PROOF

RESOURCE EFFICIENT DESIGN

all wall studs @ 24-in. centers	3
floor joists @ 19.2-in. centers (all floors)	2
floor joists @ 24-in. centers (all floors)	3
floor plan adheres to 2-ft dimensions	2
house smaller than 2100 square feet	2
interior living space adheres to 2-ft dimensions	1
non-load bearing wall studs @ 24-in. centers	2
non-structural headers in non-load bearing walls	(2)
single top plate with stacked framing	3
T-walls with drywall clips or alternative framing	3
2-stud corners with drywall clips or alternative framing	3
window rough openings eliminate jack stud	2

RESOURCE EFFICIENT DESIGN TOTAL

(2)

RESOURCE EFFICIENT BUILDING MATERIALS

RECYCLED AND NATURAL CONTENT MATERIALS

air conditioner condensing unit pad (min 50% recycled)	(1)	
carpet (min 50% recycled)	(2)	product literature
carpet pad (min 50% recycled)	(1)	
concrete with fly ash (min 25% fly ash)	(3)	content print-out
cork or bamboo flooring	2	
insulation (min 25% recycled)	(2)	product literature
outdoor decking and porches (min 40% recycled)	2	
reclaimed wood flooring	1	letter
recycled concrete used as aggregate	1	letter
recycled content tiles (min 30% recycled)	1	product literature

RECYCLED AND NATURAL CONTENT MATERIALS SUBTOTAL

(9)

ADVANCED PRODUCTS

all beams are steel, engineered wood, or trusses	(1)
all headers are steel or engineered wood	1
engineered exterior trim including soffit, fascia, and trim	(1)
engineered floor framing (all floors)	2
engineered interior trim	1
engineered roof framing	(2)
engineered wall framing (25% of studs)	1
engineered wall framing (80% of studs)	2
insulated concrete forms	5
OSB roof decking	(1)
precast autoclaved aerated concrete	5
steel interior wall framing	1
structural insulated panels (exterior walls)	5
structural insulated panels (roof)	3

ADVANCED PRODUCTS SUBTOTAL

(5)

Winmore Green Builder Worksheet

POSSIBLE SCORE
E POINTS D

PROOF

DURABILITY		
required roof gutters that direct water away from foundation	2	
back-primed siding and trim	1	
continuous foundation termite flashing	1	
covered entry ways (all doors)	0	
exterior cladding (min 3 sides with 40-year warranty or masonry)	0	
insulated glazing (min. 10-year warranty)	0	warranty
light roof color (asphalt or fiberglass shingles)	0	
light roof color (tile or metal)	2	
roof drip edge	0	
roofing (min 25-year warranty)	1	warranty
roofing (min 30-year warranty)	2	warranty
roofing (min 40-year warranty)	3	warranty
siding with vented rain screen	2	
walls covered with builder paper or housewrap (drainage plane)	0	
window and door head flashing	0	
window and door pan AND side flashing	0	
DURABILITY SUBTOTAL	(12)	
RESOURCE EFFICIENT BUILDING MATERIALS TOTAL	(24)	

WASTE MANAGEMENT		
WASTE MANAGEMENT PRACTICES		
central cut area	3	
donation of excess materials or re-use (min \$500/job)	1	letter
job site framing plan and cut list	1	frame plan + cut list
job site framing plan with stud locations, joist locations, and roof structure an	10	frame plan + cut list
WASTE MANAGEMENT PRACTICES SUBTOTAL	(10)	
RECYCLE CONSTRUCTION WASTE		
required cardboard	0	
required paint	0	
required wood	0	
drywall (recycle or grind and spread on site)	0	
plastics	1	
posted job site waste management plan - recycle 75% of 3 materials	5	management plan
shingles	1	
RECYCLE CONSTRUCTION WASTE SUBTOTAL	(8)	
WASTE MANAGEMENT TOTAL	(18)	

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Winmore Green Builder Worksheet

POSSIBLE SCORE
E POINTS D

PROOF

INDOOR AIR QUALITY		
Prohibited: No Unvented Combustion Appliances or Space Heaters are permitted.		
COMBUSTION SAFETY		
attached garage - exhaust fan controlled by motion sensor or timer	2	
attached garage - seal bottom plate and penetrations to conditioned space	4	
backdraft depressurization test	4	test results
carbon monoxide detector (one per floor required)	4	
detached garage	5	
direct vent, sealed combustion fireplace (all units)	3	
furnace combustion closet isolated from conditioned area (all units)	4	
water heater combustion closet isolated or power vented	4	
COMBUSTION SAFETY SUBTOTAL		12
MOISTURE CONTROL		
required gravel beneath all below-grade floors	3	
required capillary break	1	
capillary break between foundation and framing	4	
drainage board for below grade walls	2	
foundation drain at outside perimeter edge of footing	1	
foundation drain on top of footing	2	
vapor barrier beneath slab (above gravel) and in crawl space	2	
MOISTURE CONTROL SUBTOTAL		6
VENTILATION		
required: all exhaust fans should be vented to exterior	1	
automatic tub/shower room fan controls (e.g. timer)	1	
ceiling fans (minimum of 3 fans)	1	
controlled house ventilation (0.35 ACH)	4	
dehumidification system	3	
Energy Star bath fans (all units)	3	product literature
no power roof vents	1	
outside air intake with damper	3	
outside air intake without damper	2	
radon test of home prior to occupancy	2	
radon/soil gas vent system	3	
vented garage storage room	1	
whole house fan	2	
VENTILATION SUBTOTAL		10

14-10.

Winmore Green Builder Worksheet

POSSIBLE SCORE
E POINTS D

PROOF

MATERIALS		
all surfaces of particle board in house sealed with water-based sealant	(1)	
alternative termite treatment	2	
central vacuum system	1	
ducts protected until construction is completed	(2)	
filter / air cleaner with minimum 30% dust spot efficiency (e.g. pleated filter)	2	
low VOC carpet certified by the Carpet AND Rug Institute	(1)	product literature
low VOC paints (less than 250 g/L)	(2)	product literature
low VOC sealants and adhesives (less than 250 g/L)	(1)	product literature
low VOC stains and finishes on wood floors	2	product literature
no carpet in house	4	
no urea formaldehyde materials inside conditioned space	2	product literature
outdoor structures made from non-CCA pressure treated lumber	(1)	product literature
urea formaldehyde materials inside conditioned space sealed	1	product literature
MATERIALS SUBTOTAL	(8)	
INDOOR AIR QUALITY TOTAL	(36)	

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Winmore Green Builder Worksheet

POSSIBLE SCORE
E POINTS D

PROOF

WATER - INDOOR		
heat pump water heater	2	
heat recovery water heating	1	
heat traps on water heater	1	
high efficiency bathroom faucets (max 2.25 gal/min)	1	product literature
high efficiency clothes washer	2	product label
high efficiency kitchen faucets (max 2.25 gal/min)	1	product literature
high efficiency showerheads (max 2.25 gal/min)	1	product literature
high efficiency toilets (max 1.45 gal/min)	1	product literature
high efficiency water heater (min Energy Factor: gas 0.62 electric 0.92)	2	energy guide label
hot water demand re-circulation	1	
pressure reducing valve	1	
shower drain heat recovery device	1	
solar domestic water heating	4	
tankless water heater (2 points per tank)	2 per	
water filter (NSF certified)	1	product literature
water heater pipe insulation on first two feet of pipe	1	
water heater tank insulation	1	
WATER - INDOOR TOTAL		9
WATER - OUTDOORS		
drip irrigation system	2	
greywater irrigation	3	
permeable driveway / parking area	2	
rainwater harvest system	3	
rainwater infiltration device	3	
timer on hose bibs or irrigation system	1	
xeriscape guidebook given to homeowner	1	resource
xeriscape installed	15	
xeriscape plan provided to homeowner	4	xeriscape plan
WATER - OUTDOORS TOTAL		4

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Winmore Green Builder Worksheet

POSSIBLE SCORE
E POINTS D

PROOF

HOMEBUYER EDUCATION/OPPORTUNITIES		
required to provide and conduct energy audit		
required to provide and conduct waste reduction		
required to provide energy operation with homeowner		
required to provide system operations with homeowner		
built-in recycling center	(2)	
guaranteed energy bills	15	energy bill guarantee
HOMEBUYER EDUCATION TOTAL		(17)

BONUS POINTS		
innovation points	Varies	
exceeds Energy Star (one bonus point per one Energy Star point)	1 pt	
American Lung Association Health House	5	
accessible house	(5)	
solar electric system (2 pts per 150 watt capacity for max of 25 pts)	25	
BONUS POINTS TOTAL		(5)

Winmore Green Builder Worksheet

	POSSIBLE POINTS	SCORE D	PROOF
	MIN		
WINMORE GREEN BUILDER PROGRAM TOTALS			
SITE PLANNING	10	31	
ENERGY EFFICIENT BUILDING ENVELOPE AND SYSTEMS	75	85 - 127	
ENERGY EFFICIENT LIGHTING / APPLIANCES	0	11	
RESOURCE EFFICIENT DESIGN	0	2	
RESOURCE EFFICIENT BUILDING MATERIALS	2	26	
WASTE MANAGEMENT	0	18	
INDOOR AIR QUALITY	11	36	
WATER - INDOOR	0	9	
WATER - OUTDOORS	0	4	
HOMEBUYER EDUCATION	0	11	
BONUS POINTS	0	5	
GRAND TOTAL	200	238 - 280	

Note: These standards were developed by the Southface Energy Institute and the Atlanta Home Builders Association for their EarthCraft House program. However, neither organization is involved in any way in the Winmore Green Builder Program. The Winmore Green Builder Program gratefully acknowledges the work of the Southface Energy Institute and the Atlanta Home Builders Association.

Capkov Ventures

Developing Homes And Communities Since 1954, In Chapel Hill Since 1972.



Dear Neighbors at Claremont and Winmore Communities,

I wanted to give you all an update on the child care facility that we have been trying to bring to Winmore for the last couple of years. The Goddard School, a five star rated child care, has contracted to purchase a roughly 3 acre site in Winmore. The location of the site is to be on the right side of the road as you enter Winmore, on Winmore Avenue, about half way between Homestead Road and the bridge. It will sit back from the road about 100' and is a traditional design in keeping with the rest of Winmore.

About a year ago the Town of Carrboro Board of Aldermen past a text amendment to the development ordinance that allowed a child care facility to be constructed at Winmore. The Town of Carrboro has a serious shortage of child care seats that needs to be addressed in an effort to provide support services for local employment and limit the unnecessary transportation involved with commuting to other towns for child care.

The Goddard School submitted an application for a conditional use permit to construct the school back in January and while the process has been long, in the end they received unanimous support from the review boards that reviewed their plans. The Goddard School has developed a site plan that exceeds all applicable standards for storm water control, water quality, and environmental sensitivity. The building itself has been designed with a multitude of Green Building features adhering to both the Winmore Design Code and the Winmore Green Building Standards. The proposed school will be a model for the industry.

One of the concerns that have surfaced during the approval process is related to the congestion that occurs on Homestead Road near the intersection of High School Road in the mornings when parents are dropping their children off at high school. The congestion lasts about 20 minutes, starting at about 8:25 and ending about 8:45 when school starts. It is a problem that is specifically related to what NCDOT refers to as the "kiss and drop lane" when parents drop their kids off in front of the school. The concern as it relates to the Goddard School is how many additional trips will be added to the existing problem and how can core problem be addressed.

The town staff was instructed to look into the problem and the Goddard School

representatives had previously completed an investigation that shed some light on the potential impact. The Goddard Schools traffic impact studies revealed that taking an average of 3 similarly situated schools, the number of cars leaving the schools in the time interval when the congestion is experienced is approximately 20. The three schools studied had counts of 12, 17, and 32 respectively. Of these cars leaving the schools, some of them turned left and some of them turned right depending on the location of the school. This is in sharp contrast to what some have speculated as a hundred or more car trips leaving the school during the time that Homestead Road is congested in the morning.

The Town Transportation Planner Jeff Brubaker looked at several factors in responding to the aldermen's request including reviewing the recent traffic impact studies that have been conducted in the area to see how extensive the problem was, and what the most effective ways might be to address the core problem of the "kiss and drop lane". What he found from a March 26th, 2009 study conducted for UNC was that the intersection at High School Road and Homestead Road had ratings of "B" during am peak, "A" during midday peak, and "A" during pm peak. In considering only the north bound traffic, the am peak changed to a "C". The Carrboro Transportation Planner also did some traffic time studies during the peak morning hours between 7:00am and 9:00am and found that the maximum time that one had to wait when entering Homestead Road from Winmore was 85 seconds. All others turning left had to wait less than 40 seconds. In summary, the intersection at High School Road and Homestead Road has a very acceptable level of traffic flow at all peaks throughout the day, and in all directions.

The Transportation Planner also looked at the possibility of requiring a "right turn only" sign as you exit Winmore on to Homestead Road. While not making a specific recommendation to the board, the information contained in his memo indicates that the potential benefits of requiring a "right turn only" sign were limited and that the cost in terms of travel time, fuel cost, and diverting traffic through residential areas should be considered. The limited duration of the traffic congestion being 20 minutes; the relatively short wait times exiting Winmore even during the peak am traffic; that typically signs restricting traffic to "right out only" are only recommended at four way intersections; and the fact that there have been no accidents on Homestead Road resulting from morning drop off traffic at the high school, all point to the conclusion that the "right out only" sign may be unnecessary.

In his summary the Transportation Planner suggest two possible ways to address the problem of the "kiss and drop lane" other than the "right out only" sign.

- 1) Technical assistance from NCDOT is available through the Municipal and School Transportation Assistance (MSTA) program to address traffic and safety issues near schools. The Board should consider collaborating with Chapel Hill-Carrboro City Schools to request MSTTA assistance in addressing traffic management near the intersection.
- 2) The Board should consider working with the Town of Chapel Hill and NCDOT to review signal timing at the Homestead/High School intersection. Staff is in the process of contacting the Town to obtain more information on this signal.

Capkov Ventures, the developer of Winmore, would favor these two potential solutions as they are more direct in addressing the core problem, and they have less negative impact on the adjacent neighborhoods.

We, the developers of Winmore, have always believed that a child care facility is an integral part of a mixed use community. The entire northern area of Carrboro has no child care facilities and the community as a whole is in desperate need of child care seats. This is the type of community based service that will reduce the impacts of transportation by providing child care to those who choose to work in Carrboro, and limiting the commute time for those that can't. We believe that it's location in Winmore is a perfect fit centrally located between several of Carrboro's largest residential communities, set off the major roadway serving Winmore, and set apart from the nearby homes. We hope we have your support and if you have any questions or concerns please don't hesitate to call me at (919)260-7262.

Sincerely, Eric B. Chupp
Capkov Ventures Inc.

Chris & Wendy Mattucci
18 Brush Hill Road
Kinneelon, NJ 07405

October 2, 2009

Board of Alderman
Carrboro, NC

Re: Goddard Daycare
Winmore Subdivision

Hi Everyone,

My wife Wendy and I are to be the owner/operators of the proposed Goddard Daycare School currently under review for its Conditional Use Permit.

We are excited with the opportunity to fulfill the gap that currently exists for quality daycare in Carrboro and Chapel Hill, meeting the needs for those 200-300 children.

With the approval of the initial text amendment allowing childcare for this location, in addition to the research committed to define the need for such care in Carrboro, we felt comfortable investing considerable time and funds in bringing this dream to reality,

We understand the impact of any project on the area and the community. We have been sensitive to the needs of the community and the environment adjusting to multiple requests at each step, at considerable sacrifice and cost.

The cost mentioned by 1 individual at the previous BOA meeting was exorbitant and did not reflect the ratio required for infants versus older students, nor the capacity we will offer. The fee structure for the preschool will be commensurate with any 5 Star Caliber school in order to achieve and maintain the finite teacher: student ratio and level of quality required by the State of North Carolina and Carrboro.

We look forward to contributing to Carrboro on all levels in ways that will be noticeable and valuable to parents and the community.

We also welcome the opportunity to become responsible members within Carrboro and meeting each and every one of you personally.

Sincerely,

Chris/Wendy



TOWN OF CARRBORO

NORTH CAROLINA

MEMORANDUM

DATE: October 3, 2009

TO: Steve Stewart, Town Manager
Mayor and Board of Aldermen

CC: Patricia McGuire, Planning Administrator
Roy Williford, Planning Director
Martin Roupe, Development Review Administrator
James Thomas, Planner/Zoning Development Specialist

FROM: Jeff Brubaker, Transportation Planner

RE: Homestead Road Traffic Near the Proposed Goddard School Site

1 Background

At the September 22, 2009, public hearing on a minor modification of the Conditional Use Permit for the Goddard School at Winmore, the Board discussed the school's potential traffic impacts and directed staff to analyze traffic on Homestead Rd. Specifically, the Board directed staff to assess the impact of a traffic control device prohibiting left turns from Winmore Ave. onto Homestead Rd. during certain peak hours. This memo presents a discussion of the impacts of the prohibited left turn alternative, a review of existing traffic data near the intersection of Homestead Rd. and Winmore Ave., and new traffic data and analysis.

A summary of the information provided in this memo is presented at the end of this memo.

2 Impact of restricting left turns from Winmore Ave. onto Homestead

2.1 Conditions for prohibiting left turns

Improved intersection safety and traffic operation are two primary purposes for prohibiting left turns. A report by the National Cooperative Highway Research Program (NCHRP) suggests prohibiting left turns at unsignalized intersections where there is inadequate storage of left-turning vehicles. NCHRP recommends that the following conditions should influence the decision to install a left-turn restriction at an intersection:

- "Left-turn related delay, conflicts, or crash frequency should be at unacceptable levels.
- An alternative route is available for the redirected left-turn vehicles.
- The alternative route is not expected to add more than a few minutes to the redirected motorist's travel time.

- The intersection is in an urban or suburban area. (Note: in suburban settings, turn restriction is generally not found except where such treatments are part of an areawide circulation plan.)”¹

The report recommends that “all four of the above criteria should be satisfied before turn restriction is given further consideration”. Furthermore,

the potential benefits of turn restriction should be carefully weighed against the increased travel time and trip length that is likely to be incurred by redirected motorists... Turn restrictions at an intersection... can cause traffic to divert to other, local roads.²

The left-turn-related travel delay described in the report refers to delay “resulting from left-turn vehicles queued in a through lane because of nonexistent or inadequate bay storage [i.e. storage in a separate left-turn-only lane]”.³ However, since the Winmore/Homestead intersection is a T-intersection, no possible through vehicle movements exist on Winmore Ave. The speed limit on Winmore Ave. is 25 mph, and traffic must stop to make a turn movement. However, there may be safety issues with vehicles actually making left turns onto Homestead Rd. No intersections on Homestead Rd. were identified as “High Accident Intersections” in Carrboro from August 2001 through July 2004, and no pedestrian or bicycle accidents were reported on the roadway in the *2005 Mobility Report Card*. At the time of writing, staff is currently collecting more recent safety data for Homestead Rd.

2.2 Impact of prohibiting left turns

The advantages to left turn prohibitions of improving safety and traffic operations at intersections are mentioned above. Potential disadvantages include:

- Relocating the problem upstream or downstream of the installation
- Rerouting traffic onto residential streets
- Increased travel distances, travel times, gasoline consumption, and emissions⁴

On Wednesday, September 30, staff conducted a count and delay measurement of left-turning vehicles from Winmore Ave. onto Homestead Rd. between 7:05 a.m. and 9:05 a.m. This time period is similar to the typical AM peak period of 7:00-9:00 a.m., which was used in the *Carolina North Transportation Impact Analysis* and a 2004 traffic signal warrant analysis conducted for NCDOT at the Homestead/High School intersection. It should be noted that the data in Table 1 reflect only one day of AM peak traffic. Delay was measured with a stopwatch and relied on the data collector’s judgment to determine when the delay period started while a vehicle approached the intersection (i.e. when to start the stopwatch). Therefore delay statistics should be considered approximations.

¹ National Cooperative Highway Research Program (NCHRP). (2001). *Report 457: Evaluating Intersection Improvements: An Engineering Study Guide*. <http://onlinepubs.trb.org/onlinepubs/nchrp/esg/esg.pdf>, p. 19.

² Ibid.

³ Ibid.

⁴ Federal Highway Administration. (1981). *Guidelines for Signalized Left-Turn Treatments*. Cited in: Brich, Stephen C., and B.H. Cottrell, Jr. (1994). *Guidelines for the Use of No U-Turn and No-Left Turn Signs*. Virginia Transportation Research Council. http://www.virginiadot.org/vtrc/main/online_reports/pdf/95-r5.pdf, p. 4.

Hour	Left turn count	Total delay (sec)	Average delay
7:05 a.m. – 8:05 a.m.	16	116.1	7.3
8:05 a.m. – 9:05 a.m.	23	322.3	14.0
Total	39	438.4	11.2

Table 1. Count and delay statistics for left-turning vehicles from Winmore Ave. onto Homestead Rd. during the AM peak traffic period.

During the count period, there were 39 vehicles making left turn movements – 16 from 7:05-8:05 a.m. and 23 from 8:05-9:05 a.m. Average delay in the second hour was nearly double that of the first hour. As Figure 1 shows, one left-turning vehicle was delayed for approximately 85 seconds. This delay occurred between 8:25 a.m. and 8:35 a.m. and may be associated with high-school-related traffic on Homestead Rd.

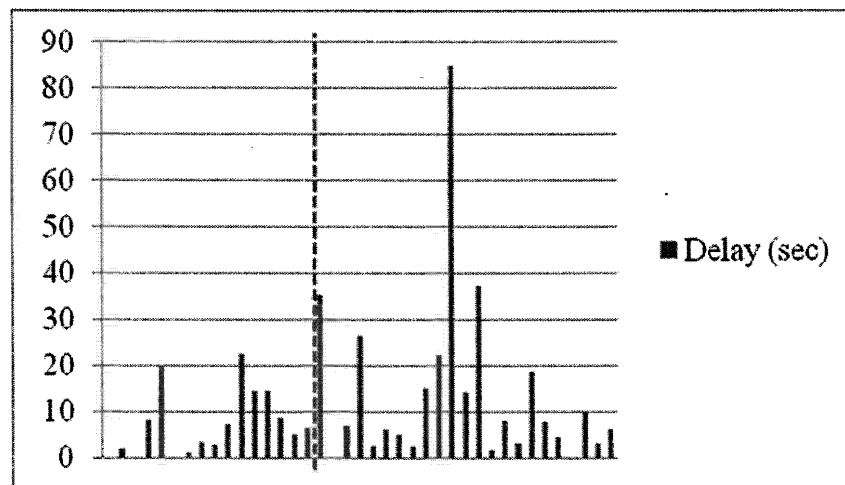


Figure 1. Delay per left-turning vehicle. Each bar represents a vehicle. The dashed line represents 8:05am, the halfway point of the count period.

Insofar as the data reflect current average AM peak hour traffic from Winmore, then a left turn prohibition installed today would affect an average of 39 vehicles per day. However, the number of left-turning vehicles is likely to increase as development of the Winmore subdivision progresses. If complying with the prohibition, these vehicles would be required to take another route.

Since vehicles aiming to enter Homestead Rd. heading eastbound will have different origins within the Winmore development, it is difficult to accurately predict the combined travel time and fuel use impacts of the left turn prohibition. Furthermore, it is uncertain how many motorists would already know about or remember the prohibition – and thus avoid traveling east on Winmore Ave. in the first place – and how many motorists would travel to the intersection and comply with the sign by making an alternative turn movement (such as a right turn followed by a U-turn on Homestead Rd.). It is possible that other motorists may fail to notice the sign or the time period in which it is effective, or choose not to comply with it.

Given these caveats, a basic analysis was conducted to determine the travel distance differences for vehicles turning left onto Homestead Rd. from Winmore Ave. and vehicles choosing an alternative route. Two common origins were selected: the corner of Atterbury St. and Winmore

Ave. (Comparison 1) and the proposed future site of the Goddard School (Comparison 2). It is assumed that motorists desiring to turn left onto Homestead Rd. are desiring to travel eastbound on Homestead Rd.

For Comparison 1, without a left turn prohibition, vehicles are assumed to travel on east on Winmore Ave. and turn left onto Homestead Rd. (Route 1). With a left turn prohibition, vehicles are assumed to take the following route (Route 2): east on Winmore Ave., right on Sharp St., right on Jewell Dr., left on Camellia Dr., left on Claremont Dr., and left onto Homestead Rd.

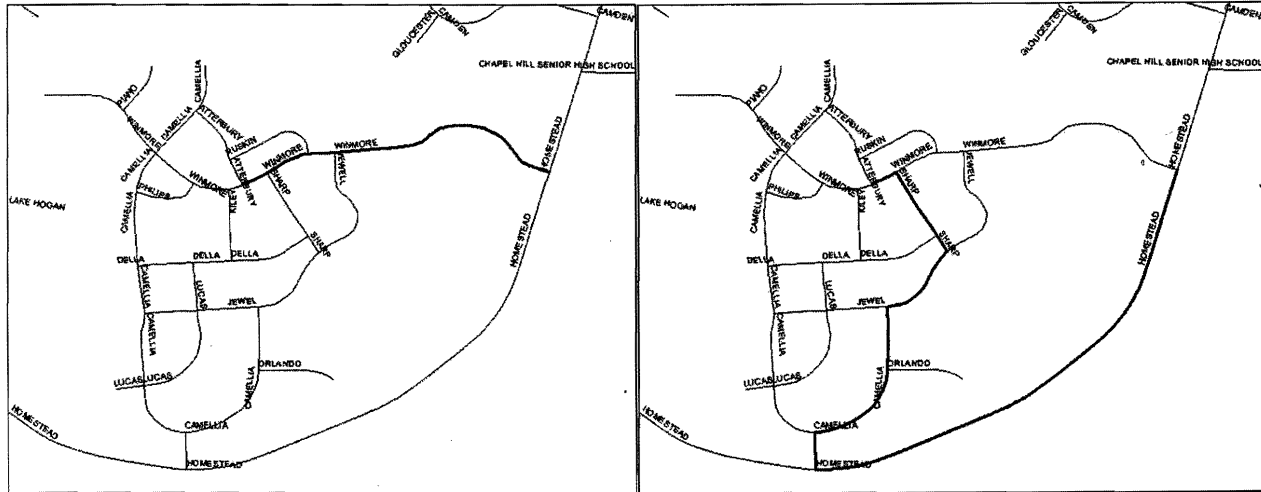


Figure 2. Comparison 1: Route 1 (left), without left turn prohibition. Route 2 (right), with prohibition.

A basic GIS analysis determined the distance difference between the two routes.

Segment name	Length (ft)	Length (mi)	Segment travel time (sec)	Fuel consumed	CO2 (lbs)
<u>Route 1</u>					
<i>Total</i>	1799	0.3	49.1	0.016	0.312
<u>Route 2</u>					
<i>Total</i>	4959	0.9	114.0	0.044	0.860
Difference (Route 2 - Route 1)	3160	0.6	64.9	0.028	0.548

Table 2. Comparison (1) of distance, segment travel time, fuel consumption, and CO2 emissions for Routes 1 and 2 with and without a left turn prohibition. Note: Fuel consumption and CO2 emissions figures based on basic formulas from the U.S. EPA: 0.0465 gal. of gasoline per mile and 0.916 lbs. of CO2 per mile. Since gasoline consumption and CO2 emissions vary based on vehicle fuel efficiency, vehicle type, fuel type, speed, and driving cycle, these figures should be considered rough approximations.

As Table 2 indicates, Route 2 is three times longer than Route 1. The actual travel time is not estimated here because of variations in travel time for turning movements and intersection delay. However, the time it takes to travel Route 2 segments at the speed limit (assuming complete lack of impedance) is 114.0 seconds, longer than the estimated travel time of Route 1 plus the average AM peak period delay measured for left-turning vehicles at Winmore/Homestead. Furthermore, this does not take into account any delay incurred for left-turning vehicles from Claremont Dr. onto Homestead Rd. (which was not measured). Route 2 leads to more fuel consumed – 0.028 gallons per trip – and greater CO₂ emissions – 0.548 lbs. per trip.

For Comparison 2, without a left turn prohibition, vehicles are assumed to travel east on Winmore Ave. and turn left onto Homestead Rd. (Route 3). With a left turn prohibition, vehicles are assumed to take the following route (Route 4): west on Winmore Ave., left on Jewell Dr., left on Camellia Dr., left on Claremont Dr., and left on Homestead Rd.

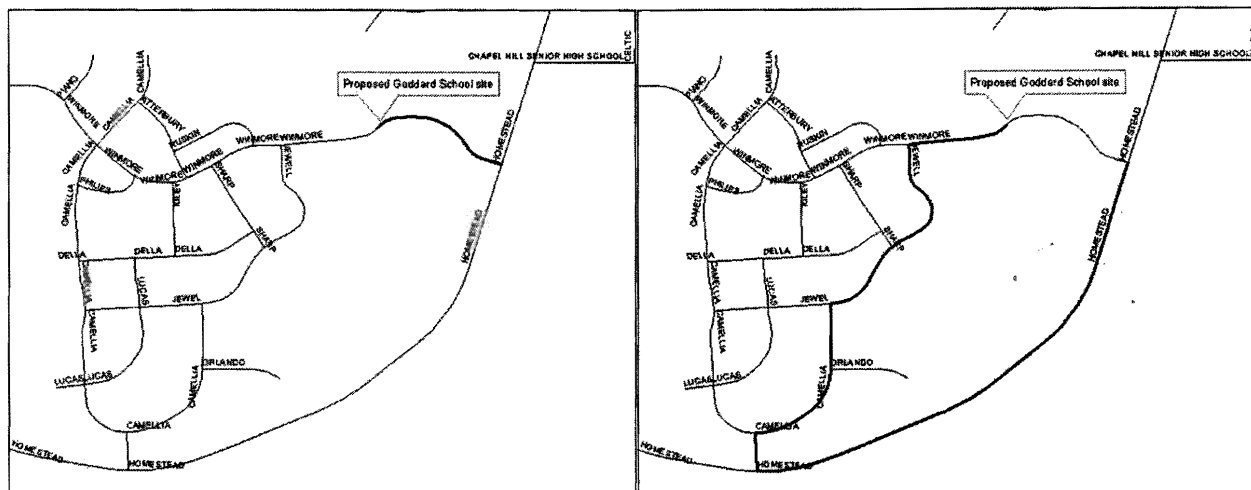


Figure 3. Comparison 2: Route 3 (left), without left turn prohibition. Route 4 (right), with prohibition.

As Table 3 indicates, Route 4 is 7.5 times longer than Route 3. The time it takes to travel Route 4 segments at the speed limit (assuming complete lack of impedance) is 129.4 seconds, significantly longer than the estimated travel time of Route 3 plus the average AM peak period delay (11.2 seconds) measured for left-turning vehicles at Winmore Ave. Route 4 leads to more fuel consumed and greater CO₂ emissions per trip.

Segment name	Length (ft)	Length (mi)	Segment travel time (sec)	Fuel consumed	CO ₂ (lbs)
<u>Route 3</u>					
<i>Total</i>	737	0.1	20.1	0.006	0.128
<u>Route 4</u>					
<i>Total</i>	5524	1.0	129.4	0.049	0.958
Difference (Route 4 - Route 3)	4787	0.9	109.3	0.042	0.831

Table 3. Comparison of distance, segment travel time, fuel consumption, and CO₂ emissions for Routes 3 and 4 with and without a left turn prohibition. Note: Fuel consumption and CO₂ emissions figures based on basic formulas from the U.S. EPA: 0.0465 gal. of gasoline per mile and 0.916 lbs. of CO₂ per mile. Since gasoline consumption and CO₂ emissions vary based on vehicle fuel efficiency, vehicle type, fuel type, speed, and driving cycle, these figures should be considered rough approximations.

3 Existing traffic data

3.1 NCDOT 2007 AADT counts

NCDOT has conducted annual average daily traffic (AADT) counts in the Chapel Hill-Carrboro area every odd year from 1997-2007. Figure 4 shows how traffic has changed for selected

locations near the present day location of the Winmore/Homestead intersection. Traffic on the Winmore-HS segment of Homestead has increased nearly consistently from 1997-2007, with the exception of a small decrease from 2003-2005. Overall, traffic on this segment has increased 55% from 1997 to 2007.

Nearby counts on Seawell School Rd. and High School Rd. show overall increases (52% and 35%, respectively), but with year-to-year variations. The significant increase in traffic from 1999-2003 for the three segments mentioned above may be attributed in part to the opening of Smith Middle School in August 2001. The decrease in traffic for all segments from 2003 to 2005 may be attributed in part to the introduction by Chapel Hill Transit of the HS route serving the schools between 2003 and 2004.

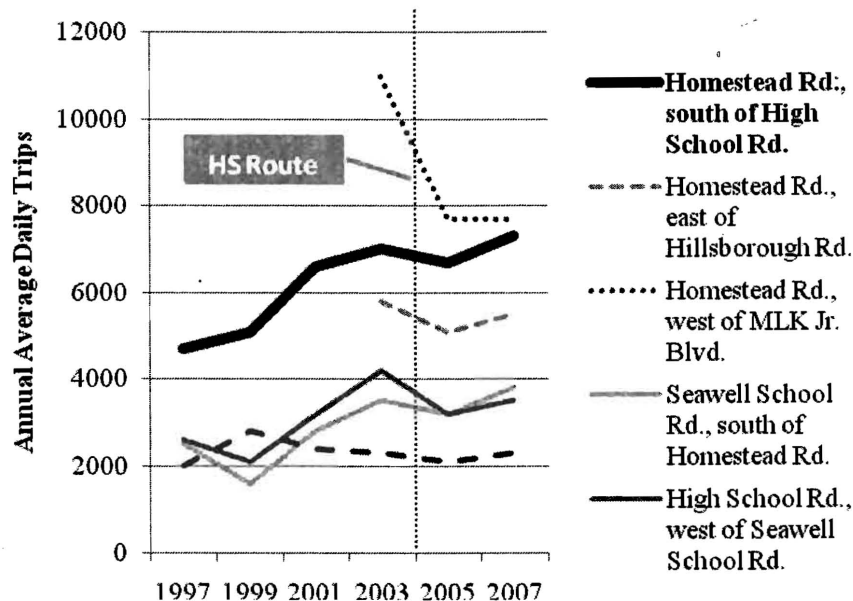


Figure 4. Annual average daily traffic on segments near the intersection of Homestead Rd. and Winmore Ave., 1997-2007. Source: NCDOT Traffic Survey Unit.

3.2 Carolina North Transportation Impact Analysis

The *Transportation Impact Analysis for the Carolina North Development* ("Carolina North TIA")⁵, submitted to the Town of Chapel Hill on May 1, 2009, provides level-of-service (LOS) and volume-to-capacity (v/c) data and projections for the Homestead/High School intersection.⁶ The data from this intersection were collected through traffic counts taken during peak hours on March 26, 2009. LOS and v/c analysis was conducted by the consultant using traffic analysis software.

Intersection	AM peak LOS	Midday peak LOS	PM peak LOS
Homestead Rd./High School Rd.	B	A	A
• Northbound approach	C	A	A

⁵ University of North Carolina at Chapel Hill. (2009). *Transportation Impact Analysis for the Carolina North Development*. May 1, 2009. http://research.unc.edu/cn/TIA2009_ch1.pdf.

⁶ LOS has a grade scale from A-F, much like school grades, where A represents free flow traffic and F represents significant congestion. For an explanation of each LOS grade, see the Carolina North TIA, Ch. 2, p. 2-8. A v/c ratio of 1.0 is considered the threshold between more congested conditions (>1.0) and more free-flow conditions (<1.0).

Homestead Rd./Rogers Rd.	C	B	E
Homestead Rd./Seawell School Rd.	E	A	A

Table 4. 2009 LOS at selected Homestead Rd. intersections. Source: Carolina North TIA.

The existing conditions (2009) analysis found adequate levels of service (C or better) for all peak periods and all approaches at the Homestead/High School intersection. Average delay was longest at the AM peak hour at 19.9 seconds.

Nearby intersections were found to operate at lower levels of service. In the AM peak hour, the Homestead/Seawell School signalized intersection was estimated to operate at an overall LOS E. Specifically, the eastbound approach lane was estimated at LOS F. V/C ratios on Seawell School Rd. exceeded 1.0 for both the AM and PM peak periods.

3.3 Additional information

Several other studies present information on Homestead Rd. traffic in the vicinity of Winmore Ave. In 2004, a consulting firm conducted a traffic signal warrant analysis for the intersection of Homestead Rd. and High School Rd. The study found that a traffic signal would be warranted in 2005 and beyond due to “increases in background traffic and to the addition of Winmore project trips”.⁷ A traffic signal was subsequently installed.

The Board should consider two additional options for addressing traffic at the Homestead/High School intersection:

1. Technical assistance from NCDOT is available through the Municipal and School Transportation Assistance (MSTA) program to address traffic and safety issues near schools. The Board should consider collaborating with Chapel Hill-Carrboro City Schools to request MSTa assistance in addressing traffic management near the intersection.
2. The Board should consider working with the Town of Chapel Hill and NCDOT to review signal timing at the Homestead/High School intersection. Staff is in the process of contacting the Town to obtain more information on this signal.

Town staff discussed a potential left-turn prohibition with NCDOT staff, who had no specific recommendation, but felt that prohibiting left turns would have limited effects on Homestead Rd. traffic reduction. The owner of the Winmore development has expressed a willingness to install a left-turn control sign at Winmore/Homestead.

Summary of key points and recommendations

1. At least four conditions influence the decision to install a left turn prohibition at Winmore Ave. and Homestead Rd.: left-turn-related safety and traffic flow concerns; the presence of an alternative route; the travel time impact of that alternative route; and whether the intersection is in an urban or suburban area.
2. A traffic count on September 30, 2009, found that 39 vehicles turned left from Winmore Ave. onto Homestead Rd. during a two-hour AM peak period. With a left turn prohibition during these hours, these vehicles would be required to travel on an alternative route. Two alternative routes were analyzed for vehicles desiring to travel

⁷ Hall Planning and Engineering. (2004). Winmore Traffic Signal Warrant Analysis. Submitted to Robert Chapman, III, Winmore Land Management, LLC. March 3.

eastbound on Homestead Rd. from two different locations in the Winmore development. These routes were found to be 3 and 7.5 times longer in distance than the Winmore Ave. route that would likely be taken if left turns were not prohibited. Consequently, travel times, fuel use, and CO₂ emissions are estimated to be higher for these routes.

3. There is currently adequate capacity and level of service at the intersection of Homestead Rd. and High School Rd.
4. In considering whether to control left turns at the Winmore/Homestead intersection, the Board should consider the overall impacts on driving behavior in the Winmore subdivision and nearby streets.
5. **Recommended actions.**

- a. If a left turn restriction is desired, then the Board should consider adding the following condition to the Winmore Conditional Use Permit:

“That, prior to the acceptance of E. Winmore Ave., a sign will be installed prohibiting left turns from E. Winmore Ave. onto Homestead Rd. from Monday to Friday during 8:30 a.m. to 8:45 a.m. At the time E. Winmore Ave. is accepted by the Town, this prohibition will be reevaluated.”

This time period is proposed due to peak traffic occurring on Homestead Rd. between 8:00 a.m. and 9:00 a.m., as noted in the 2004 traffic signal warrant study⁸, and the Chapel Hill High School morning start time of 8:45 a.m.

In general, the Board should consider the following options for addressing traffic at the Homestead/High School Rd. intersection:

- b. Technical assistance from NCDOT is available through the Municipal and School Transportation Assistance (MSTA) program to address traffic and safety issues near schools. The Board should consider collaborating with Chapel Hill-Carrboro City Schools to request MSTA assistance in addressing traffic management near the intersection.
- c. The Board should consider working with the Town of Chapel Hill and NCDOT to review signal timing at the Homestead/High School Rd. intersection. Staff is in the process of contacting the Town to obtain more information on this signal.

⁸ Hall Planning and Engineering. (2004). Winmore Traffic Signal Warrant Analysis. Submitted to Robert Chapman, III, Winmore Land Management, LLC. March 3, Attachment B.