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MEMO TO: Stoughton Zoning Board of Appeals (ZBA)
DATE: August 27, 2009
SUBJECT: Pond View Complex - Evaluation of Applicant's Projection for Public School Registered Students

Dear Chairman Epro:

First of all, I would like to point out this communication is not intended to make any recommendations on the ZBA's final decision regarding the Application. It merely provides information your Board must consider in evaluating the impact of the above-captioned project on our town.

Secondly, Stoughton School Committee discussed a draft of this communication during its August 25, 2009 meeting. My esteemed colleagues felt the School Committee need not get involved with the ZBA matters. Therefore, I am submitting this communication as a concerned resident of our town.

In future ZBA activities, I respectfully urge the Board to keep the School Department informed of the relevant issues, and request formal inputs when needed.

I have listened to Attorney Feldman's presentation to the ZBA on June 25, 2009 and subsequently contacted him to find out more about how the applicant arrived at the projection of less than 10 Stoughton Public School registered students from the Pond View Project. Meeting transcript states it was based on 79 units and 0.65 kids per unit. The latter number is possibly a typographical error, because 79 units times 0.65 kids per unit **would actually amount to 53 kids from the Pond View Project.**

Attorney Feldman kindly shared with me a section of a report^[1] prepared by "Connery Associates" for another development in Foxboro, MA. Table 2 of the subject report provides estimates of school aged children by unit type (i.e. number of bedrooms). Connery Associates estimated 0.01 or 0.02 students per one bedroom unit depending upon whether the units are offered at market rate or as affordable, respectively. From our own study of Stoughton Public School registration data, we clearly know that Connery Associates estimates for one bedroom units are not credible in the Stoughton market. In any case, the one bedroom estimates are not relevant to the Pond View project at hand.

Connery Associates also estimated 0.15 students per two bedroom market unit, and 0.40 students per two bedroom affordable unit.

In his email, Attorney Feldman indicated that the Pond View projection relied on the lower two bedroom market unit estimate of 0.15 students per unit from the Connery Associates report, and thus resulted in $(79 * 0.15 =)$ **12 students from the Pond View Project.**

If the higher affordable unit estimate of 0.40 students per unit from the Connery Associates report were to be used, then the projection would increase to $(79 * 0.40 =)$ **32 students from the Pond View Project.**

Connery Associates reportedly made its estimates by examining the August 2003 CHAPA report [2] and a regional US Census related school children generation study. The latter document was not available to me at the time of this writing.

¹ Numbers in square brackets correspond to references cited at the end of this communication.

Upon examination of the CHAPA report, it was not clear to me how much judgment Connery Associates had to exercise to arrive its Foxborough project estimates. However, I could not help but notice one directly relevant example CHAPA report provided (please see page 4.52) for our neighboring town Brockton's Walkover Commons. Just as the proposed Pond View complex, Walkover Commons is comprised of 79 units. The difference is that Pond View is proposed to have all 79 two bedroom units, while the Walkover Commons has 21 one bedroom units and 58 two bedroom units. According to the CHAPA report, **35 children** resided in Walkover Commons at some time before the 2003 publication date. This particular example thus supports an even larger projection for the Pond View project.

Our own Stoughton 40B study, which had been presented to the ZBA last year, suggests that 0.415 students per unit would be more appropriate for Stoughton population in 2008. This figure would result in an estimate of $(79*0.415=)$ **33 students from the Pond View Project.**

I would like to conclude my remarks with a strong word of caution necessary for the tough economic times we are currently experiencing. As you are aware, another ZBA applicant² recently submitted a letter stating his company "has seen a marked increase in the demand for 2-bedroom units as **residents seek more economical living arrangements by splitting housing costs.**" (emphasis added). We are hearing this unfortunate economic reality from other channels, as well. If, in fact, Pond View residents also decided to double up in their households, the estimates discussed herein would also double up. Please note that this double up effect potential is reflected as the upper ranges in the summary table below.

Pond View Impact Projections for Stoughton Public Schools	
Total Number of Students	33 to 66
Number of Students to South School	15 to 30
Number of Students to Middle School	8 to 16
Number of Students to High School	10 to 20
Overall Educational Expense	\$353,700 to \$707,400 per year

In the table above, the allocation of students to different schools is projected by invoking the uniform age distribution assumption. Education expense projection is based on the 2007 per pupil expenditure for Stoughton.

Please do not hesitate to contact me if you have any questions.

References:

- [1] "Fiscal Impact Analysis Multi-Family Development Proposal Foxborough, Massachusetts, February 6, 2004, Prepared by Connery Associates, Melrose Massachusetts.
- [2] CHAPA Report "Housing the Commonwealth's School-Age Children - The Implications of Multi-Family Housing Development for Municipal and School Expenditures," August 2003, Prepared for: Citizens' Housing and Planning Association, Prepared by: Community Opportunities Group, Inc. Boston, and Connery Associates, Melrose.

² Please see the second paragraph of the May 5, 2009 letter from Kevin J. Maley of Fairfield Residential to Thomas Kennedy, in your Woodbridge Crossing file.

Fiscal Impact Analysis
Multi-Family Development Proposal
Foxborough, Massachusetts

February 6, 2004

Prepared by
Connery Associates
Melrose Massachusetts

2.0 Summary of Findings

1. The proposed project will generate a positive net annual fiscal return of \$146,100 dollars.
2. The proposed unit mix will generate 26 public school students of which 18 will enter the elementary grades and 8 middle and high school grades.
3. The proposal will generate approximately \$200,000 in associated building permit and construction fees. The fees will be collected over the project build-out period and constitute an additional short-term fiscal benefit.
4. The proposal will generate approximately \$2.5 dollars in additional annual retail sales within the Town of Foxborough.

3.0 General Municipal Expenditure and Service Cost

For the purposes of this study municipal expenditure represents the total municipal expenditures during a particular fiscal year. To estimate the fiscal impact of the proposal the study divides municipal expenditures into two broad categories, i.e. school expenditures by which is meant the incremental cost of adding new school age children to the public school system, and non-school costs which represents all other forms of municipal service costs i.e. public safety, cultural, local government, and other traditional public services.

For the Town of Foxborough, the total operating budget for FY 2004 is \$38,555,512 dollars. For purposes of this study we have subtracted \$3.87 million dollars represented by water, sewer, and solid waste (landfill receipts) enterprise fund fees since they are essentially pay as you go user fees, which will also be paid by the proposed development. Therefore, for fiscal impact analysis purposes we will use \$34.69 million dollars as the base municipal service cost. Using the departmental "cost per land use type method" outlined in The Fiscal Impact Handbook by Burchell and Listokin (see Appendix 1) we determined that approximately \$7 million dollars of all service costs were related to non-residential land use. By subtracting \$7 million dollars of commercial service cost from the base total service cost \$34.69 million generates a total residential service cost of \$27.69 million dollars. Given 6,260 year round housing units within the Town of Foxborough (See appendix 2) the gross municipal service cost is estimated to be \$4,423 dollars per household.

Section 4.0 Additional School Aged Children and Incremental Cost

To determine the estimated average annual number of students generated by the proposed project we examined the August 2003 Citizens Housing and Planning Association (CHAPA) study that examined the school age children and multi-family housing in forty-one communities in the Commonwealth and a regional U.S. Census related school

children generation study (See appendices 3 and 4). A copy of the CHAPA study has been submitted with this report. Considering the proposed unit mix and the student per unit ratios from the studies cited, we have developed the following projection for the proposed project.

Table 2 School Aged Children Estimates by Unit Type

Unit Type	Number of units	Avg. Students per unit	Total
One bedroom , market	133	0.01	1
One bedroom, affordable	45	0.02	1
Two bedroom, Market	90	0.15	14
Two bedroom affordable	30	0.40	12
Total	298	0.094	28
Total with 6% private school	298	0.087	26

In addition to reviewing the regional experience with school aged children and multi-family housing we collected data on two local developments that are comparable in anticipated rental rates, structural quality, and unit mix, i.e. Putnam Village and Walnut Park. Table 3 below provides an overview of results.

Table 3 Local Comparable Development and School Aged Children

Apartment Community	Unit Count	School Aged Children	Elementary	Secondary	Students per Apartment
Putnam Village	128	7	4	3	0.055
Walnut Park	192	18	14	4	0.094
Local Totals	320	25	18	7	0.078
Regional Average					0.087

As indicated by Table 3, the local experience for comparable developments generates fewer school age children in one example and somewhat more in the other. The total sample average is somewhat less than the regional averages i.e. 0.078 versus 0.087.

However, to be conservative this analysis will use the higher regional student per unit generation ratios for projects that are comprised of one and two bedroom units. Therefore, the proposal assumes that the proposed apartment community will generate 26 public school students, of which 18 students (70%) will attend various elementary school grades, and 8 (30%) students will enroll in the middle or high school grades.

To determine the costs associated with the additional students we have employed the following cost estimates in the preparation of Table 3 below. For each additional teacher we have allotted a cost of \$50,000 dollars for salary and all benefits. To cover the service, supply, and equipment component of school costs for the 2,833 students enrolled in FY03 (see appendix 6) we estimated that up to \$4 million dollars was expended for said items in FY2003 or approximately \$1,400 dollars per student. Further, to address potential special needs cost, we have assigned a cost of \$18,000 per student and assumed that up to fifteen percent of all students could be special needs students, or four special needs students.

Table 4 Estimated Total and Incremental School Costs

Number of Students	Number of Teachers	Cost of Instruction	Service and Supply (1)	Special Needs Cost (2)	Bus Route Cost	Total Cost	Incremental Cost per student
26	1	\$50,000	\$30,800	\$72,000	\$40,000	\$192,800	\$7,415

(1) The service and supply costs are calculated for the non-special needs students i.e. 22 students. Special needs costs are calculated and added into the total cost separately.

(2) Estimated that up to four (4) special needs students of the total 26 new students, and used an 18,000 per student cost that is higher than current average in Foxborough to cover contingencies with special education cost. Source Mass Dept. of Education Office of School Finance December 2003 web page.

Based on the total cost we can determine that the education cost per apartment is \$647 dollars; or \$192,800 in additional school costs divided by 298 apartments. Further, the estimated incremental or marginal cost per student is estimated at \$7,415 dollars per student i.e. \$192,800 divided by 26 additional students. The Foxborough School Department in an analysis associated with the redevelopment of the Foxborough State Hospital estimated a FY2002 cost per student \$7,249 dollars (See Appendix 4).

5.0 Measuring Non-Education Costs

To understand the total municipal service costs associated with the proposed project, we need to review the constituent elements of the current \$4,423 average municipal service costs per household and to assign an appropriate non-education service cost to each apartment units. The non-education portion of the municipal costs per household is derived by subtracting the education cost per household (i.e. \$21.48 million dollars

On the Impact of Existing and Future Apartment Complexes on the Stoughton Public School District

By
Erdem A. Ural, Ph.D.

Slide 1

Purpose of this Study

- Reliable data necessary to project how many students each new apartment complex will add to Stoughton student population are not available
- Prevalent community perception that developer projections are generally inaccurate
- Reliable data are needed to prepare Stoughton schools for anticipated student population growth.

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Approach

- Select Stoughton's four largest apartment complexes housing school aged children
- Find out how many 1, 2, 3 and 4 bedroom units each complex possesses
- Determine how many students from each apartment complex are registered to Stoughton Public Schools (#SRS)

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Compiled Data

Complex Name	# of Bedrooms				Total Number of Units	Registered Students (October 2008)
	1 BR	2 BR	3 BR	4 BR		
North Stoughton Village	69	22	9	0	100	
Presidential Courts						
Wentworth Manor						
Quail Run						
OVERALL						

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Compiled Data

Complex Name	# of Bedrooms				Total Number of Units	Registered Students (October 2008)
	1 BR	2 BR	3 BR	4 BR		
North Stoughton Village	69	22	9	0	100	
Presidential Courts	16	53	27	8	104	
Wentworth Manor	36	33	33	0	102	
Quail Run	24	72	36	0	132	
OVERALL	145	180	105	8	438	

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Compiled Data

Complex Name	# of Bedrooms				Total Number of Units	Registered Students (October 2008)
	1 BR	2 BR	3 BR	4 BR		
North Stoughton Village						41
Presidential Courts						50
Wentworth Manor						45
Quail Run						58
OVERALL						194

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Compiled Data

Complex Name	# of Bedrooms				Total Number of Units	Registered Students (October 2008)
	1 BR	2 BR	3 BR	4 BR		
North Stoughton Village	69	22	9	0	100	41
Presidential Courts	16	53	27	8	104	50
Wentworth Manor	36	33	33	0	102	45
Quail Run	24	72	36	0	132	58
OVERALL	145	180	105	8	438	194

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Tax Revenue from Existing Stock

(Residential Tax Rate: \$11.01 per K\$, Commercial Rate: \$19.77)

Complex Name	2009 Assessment	2009 Tax		
North Stoughton Village	\$7,896,700	\$86,943		
Presidential Courts	\$3,598,500	\$39,619		
Wentworth Manor	\$6,408,800	\$70,561		
Quail Run	\$10,500,000	\$115,605		
OVERALL	\$28,404,000	\$312,728		

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Education Exp. for Existing Stock

(Per Pupil Spending: Stoughton: \$10,718, State avg.: \$12,808)

Complex Name			# of Students	Associated Education Expense
EXCLUDES EXPENSES FOR OTHER MUNICIPAL SERVICES			41	\$439,438
			50	\$535,900
			45	\$482,310
			58	\$621,644
			194	\$2,079,292
Manor			45	\$482,310
Quail Run			58	\$621,644
OVERALL			194	\$2,079,292

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Financial Impact of Existing Stock

(Residential Tax Rate: \$11.01 per K\$, Per Pupil Spending: \$10,718)

Complex Name	2009 Assessment	2009 Tax	# of Students	Associated Education Expense
North Stoughton Village	\$7,896,700	\$86,943	41	\$439,438
Presidential Courts	\$3,598,500	\$39,619	50	\$535,900
Wentworth Manor	\$6,408,800	\$70,561	45	\$482,310
Quail Run	\$10,500,000	\$115,605	58	\$621,644
OVERALL	\$28,404,000	\$312,728	194	\$2,079,292

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#SRS Estimation Methodology

(SRS = Stoughton PS Registered Students)

- Assume a complex has N_1 one-bedroom units, N_2 two-bedroom units, N_3 three-bedroom units, and N_4 four-bedroom units
- Assume an average of X_1 SRS (Stoughton PS Registered Students) reside in each one-bedroom unit, while X_2 , X_3 , and X_4 SRS reside in 2, 3, and 4 bedroom units respectively
- Then, the total SRS for the complex is:

$$\#SRS = N_1 * X_1 + N_2 * X_2 + N_3 * X_3 + N_4 * X_4$$

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Selecting Appropriate X values

- Obvious first choice is the Census Data
- 1990 Census results for Southeastern Massachusetts (Source: UMASS Donahue Institute):

$$X_1 = 0.0335$$

$$X_2 = 0.2978$$

$$X_3 = 1.2234$$

$$X_4 = 1.0929$$

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SRS Estimates based on 1990 Census Data

Complex Name	Bedrooms				Total Number of Units	Registered Students (October 2008)	Census'90 Estimate of #SRS
	1 BR	2 BR	3 BR	4 BR			
North Stoughton Village	69	22	9	0	100	41	19.9
Presidential Courts	16	53	27	8	104	50	58.1
Wentworth Manor	36	33	33	0	102	45	51.4
Quail Run	24	72	36	0	132	58	66.3

Conclusion: Census'90 data underestimates SRS occupancy rate in smaller units (and vice versa).

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Improved X Values for Stoughton

- Calculate the X vector to match the #SRS estimate to actual (2009) SRS occupancy at each of the four apartment complexes examined.
- Four linear equations to solve four unknowns.
- Coefficient matrix determinant is finite.
- There is one and **only one** set of X values

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X Values for Stoughton

	Census'90 (SE Mass.)	This Study (Stoughton SRS Data)
X1	0.0335	0.3943
X2	0.2978	0.4147
X3	1.2234	0.5187
X4	1.0929	0.9629

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SRS Estimates based on Stoughton X Values

Complex Name	Bedrooms				Total Number of Units	Registered Students (October 2008)	Stoughton Estimate of #SRS
	1 BR	2 BR	3 BR	4 BR			
North Stoughton Village	69	22	9	0	100	41	41.0
Presidential Courts	16	53	27	8	104	50	50.0
Wentworth Manor	36	33	33	0	102	45	45.0
Quail Run	24	72	36	0	132	58	58.0

**As intended, SRS predictions made using
Stoughton X values match Stoughton SRS data**

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SRS Estimate for Woodbridge Crossing

- Total number of units: 208
- No 3-bedroom and 4-bedroom units, hence $N_3 = N_4 = 0$
- All 1-bedroom and 2-bedroom units, but ZBA does not know N_1 and N_2 yet (for now assume $N_1 = N_2 = 104$)
- Thus, our best estimate for the number of Woodbridge students is:

$$0.3943 \cdot 104 + 0.4148 \cdot 104 = \underline{\underline{\mathbf{84 \text{ Students}}}}$$

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Estimated Distribution of Additional Students (Assuming uniform age distribution)

	Additional Students	Explanation
Elementary School	39	$=84.1 \cdot 6/13$
Middle School	19	$=84.1 \cdot 3/13$
High School	26	$=84.1 \cdot 4/13$

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Conclusions

- Stoughton's rental apartment complex experience reveals a strong impact on the School District.
- Data compiled and the estimation methodology described in this work forecast that Woodbridge apartments will add 84 students to the District.
- This would translate into \$900,000 of additional education expense per year (using the 2007 figure for per pupil expenditure).
- Additional capital improvements and redistricting are likely to be needed to accommodate the additional students.

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