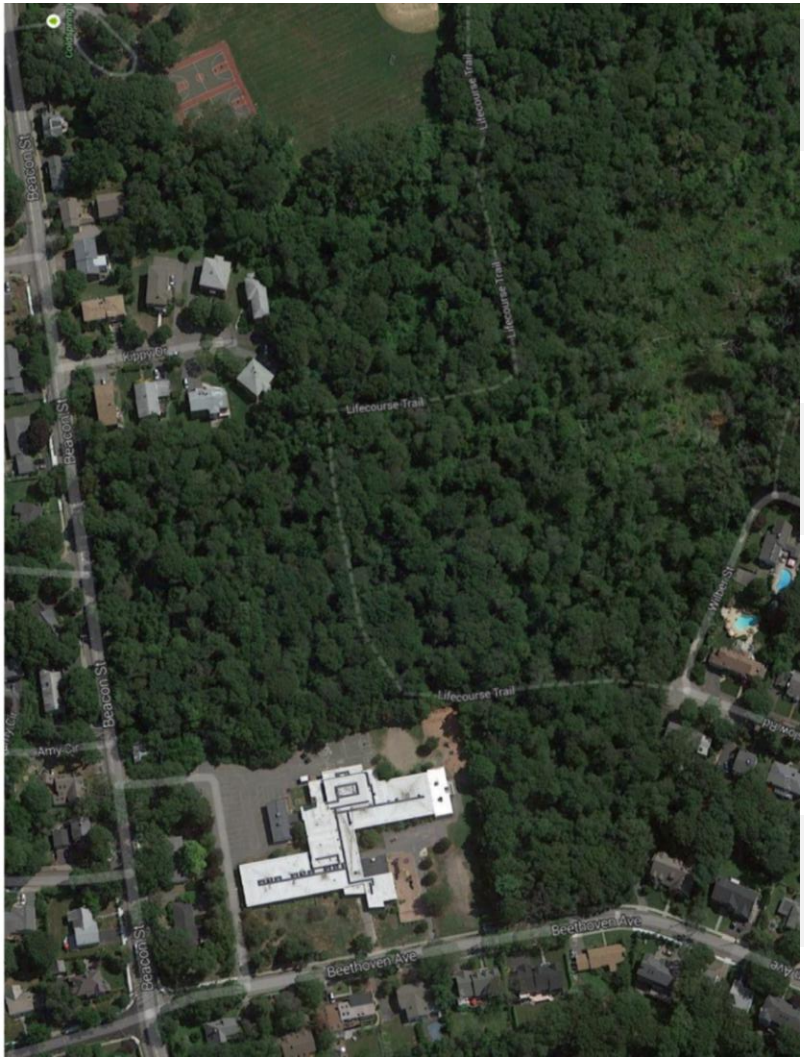


ZERVAS SCHOOL BUILDING COMMITTEE and DESIGN REVIEW COMMITTEE MEETING

Zervas Elementary School – Newton, MA

June 26, 2014

JOSLIN LESSER
Project Management
Designpartnership OF CAMBRIDGE

FEASIBILITY STUDY

Site and General Layout

- Building Location/Orientation
- Site Program

Building Program and Configuration

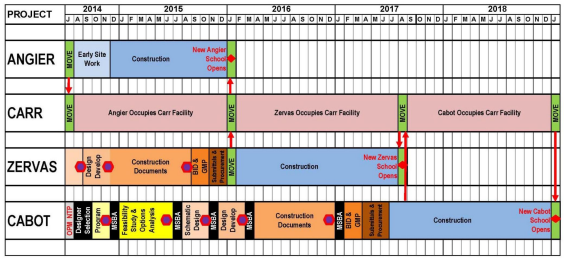
- 3-Story, L-Shaped Plan
- 24 Classrooms
- 78,800 GSF

Budget

- $29 Million Construction/$40 M. Project Cost

Schedule

- Coordinated with Angier and Cabot
- Utilizing Carr for Swing Space



FEASIBILITY STUDY – SCOPES for APPROVAL

Zervas Elementary School – Newton, MA

June 26, 2014

Project Management

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CATEGORIES OF THE BUDGET	BUDGET	CURRENT EXPENDITURES	TOTAL EXPENDITURES	TOTAL ENCUMBRANCES	UNOBLIGATED BUDGET
FEASIBILITY STUDY (Includes A/E, OPM & CM PreCon)	$ 800,000	$ 144,687	$ 344,405	$ 637,195	$ 162,805
PROJECT ADMINISTRATION (Includes OPM)	$ 1,025,000	$ -	$ -	$ -	$ 1,025,000
CONSTRUCTION CLERK OF THE WORKS	INCLUDED IN OPM SERVICES UNDER PROJECT ADMINISTRATION				
BUILDING SYSTEM COMMISSIONING	$ 100,000	$ -	$ -	$ -	$ 100,000
ARCHITECTURE & ENGINEERING	$ 2,800,000	$ -	$ -	$ -	$ 2,800,000
PRE CONSTRUCTION SERVICES	$ 140,000	$ -	$ -	$ -	$ 140,000
CONSTRUCTION	$ 29,000,000	$ -	$ -	$ -	$ 29,000,000
OFF SITE IMPROVEMENTS (Acquisition/Other)	$ 3,000,000	$ -	$ -	$ -	$ 3,000,000
FURNITURE/FIXTURES/COMPUTER EQUIPMENT	$ 1,200,000	$ -	$ -	$ -	$ 1,200,000
OTHER PROJECT COSTS	$ 270,000	$ -	$ -	$ -	$ 270,000
CONSTRUCTION CONTINGENCY	$ 1,365,000	$ -	$ -	$ -	$ 1,365,000
OWNER'S CONTINGENCY (SOFT COSTS)	$ 300,000	$ -	$ -	$ -	$ 300,000
TOTAL PROJECT EXPENDITURE BUDGET	**$ 40,000,000**	**$ 144,687**	**$ 344,405**	**$ 637,195**	**$ 39,362,805**

Total Value of CM Change Orders Submitted to Date	$ -
Total Number of CM Change Orders Submitted to Date	0

Construction Completion Rate (%)	NA
Projected Construction Start Date	January 2016
Substantial Completion Date	July 2017
Final Project Completion Date	Fall 2017

NOTES:

Expenditures are listed "as submitted" to the City, some expenditures may not yet be processed by the City of Newton

Expenditures and Encumbrances are rounded to the nearest whole dollar

Budget is based on construction of a 78.800 gsf new building with design capacity for 490 students and annual 3% escalation until bid date

As with the Angier project, the potential cost of concrete slab moisture mitigation will be covered under Construction Contingency

FEASIBILITY STUDY – BUDGET

Zervas Elementary School – Newton, MA

June 26, 2014

JOSLIN LESSER Project Management

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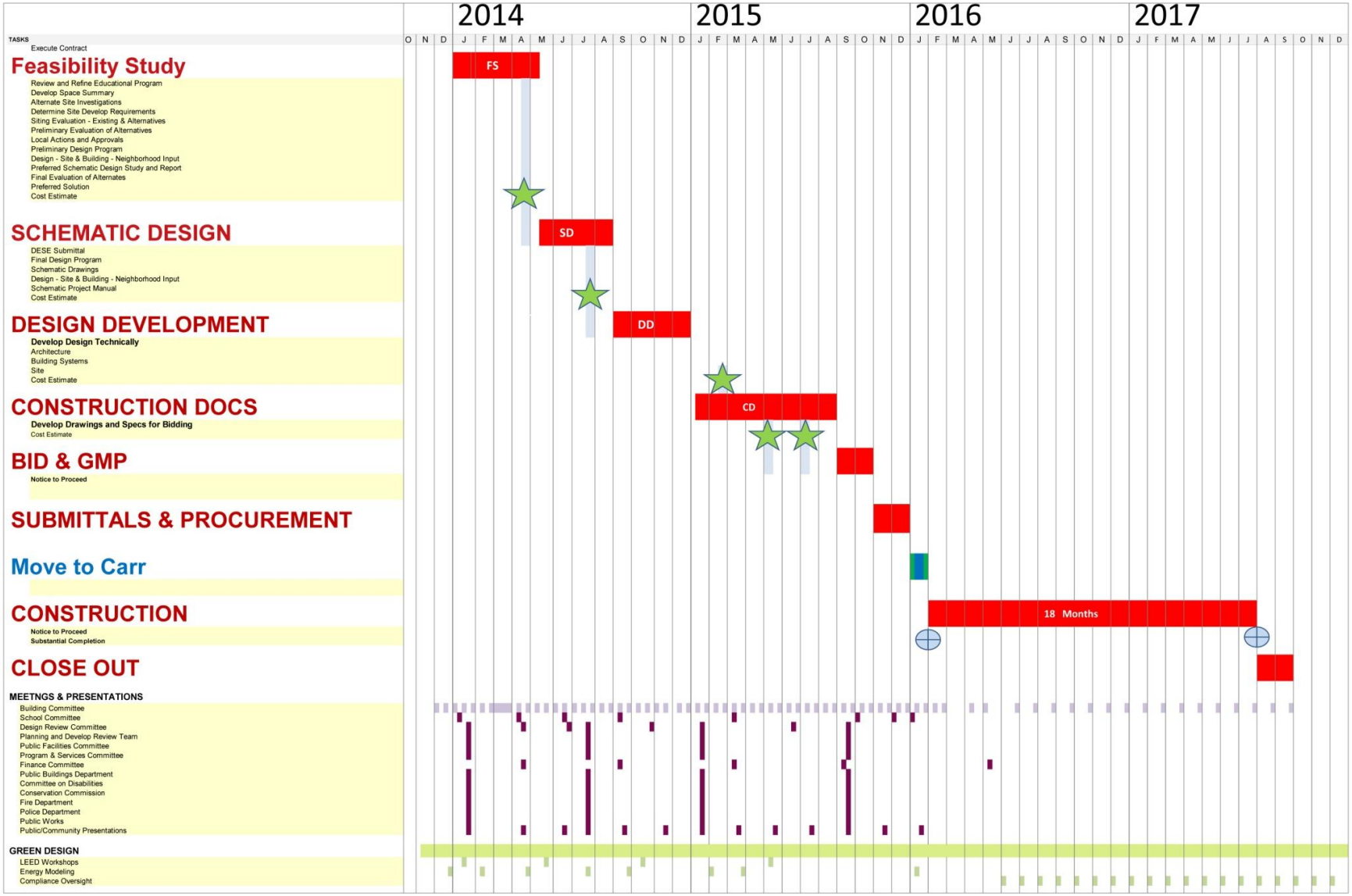

FEASIBILITY STUDY – PROJECT SCHEDULE

Zervas Elementary School – Newton, MA

June 26, 2014

Project Management

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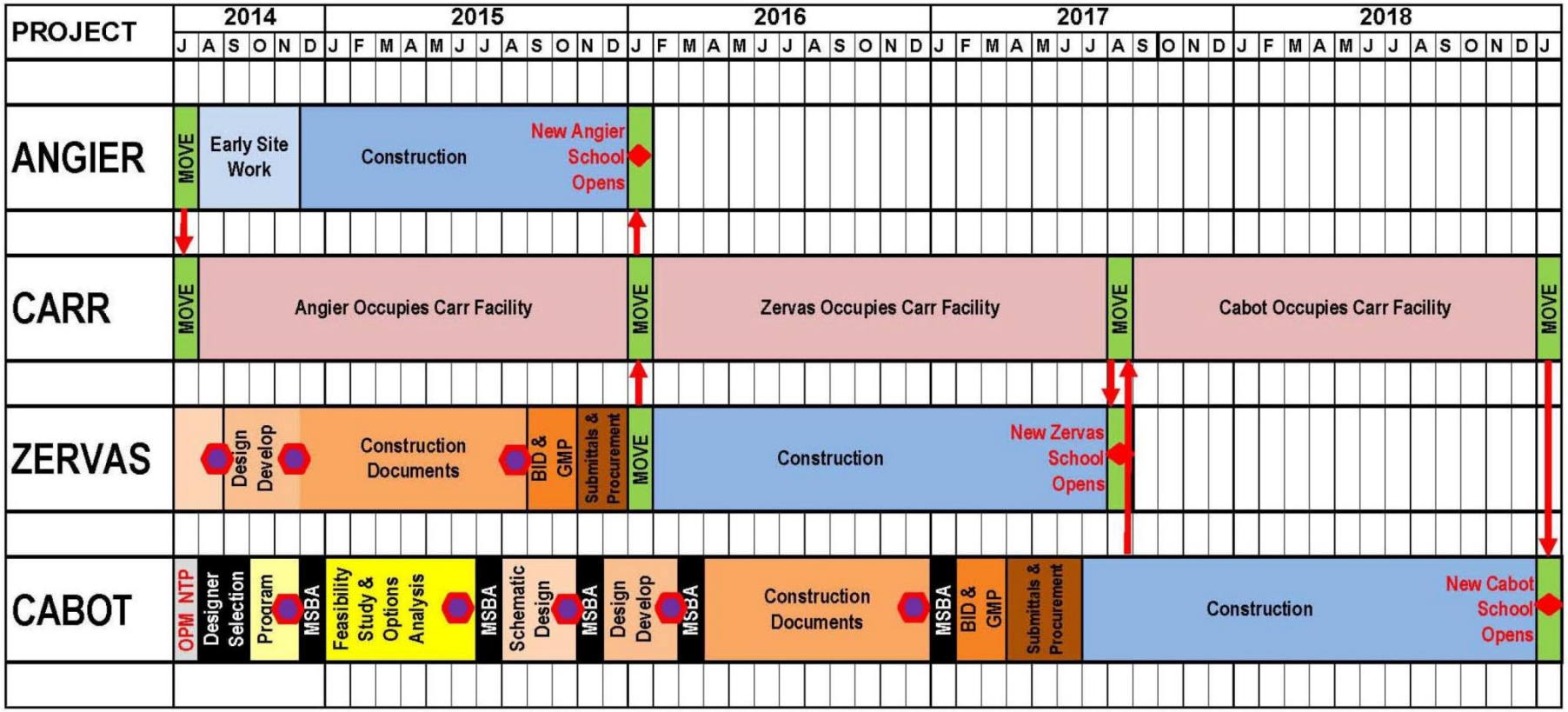

PRELIMINARY NPS PROJECT SCHEDULES

Zervas Elementary School – Newton, MA

June 26, 2014

Project Management

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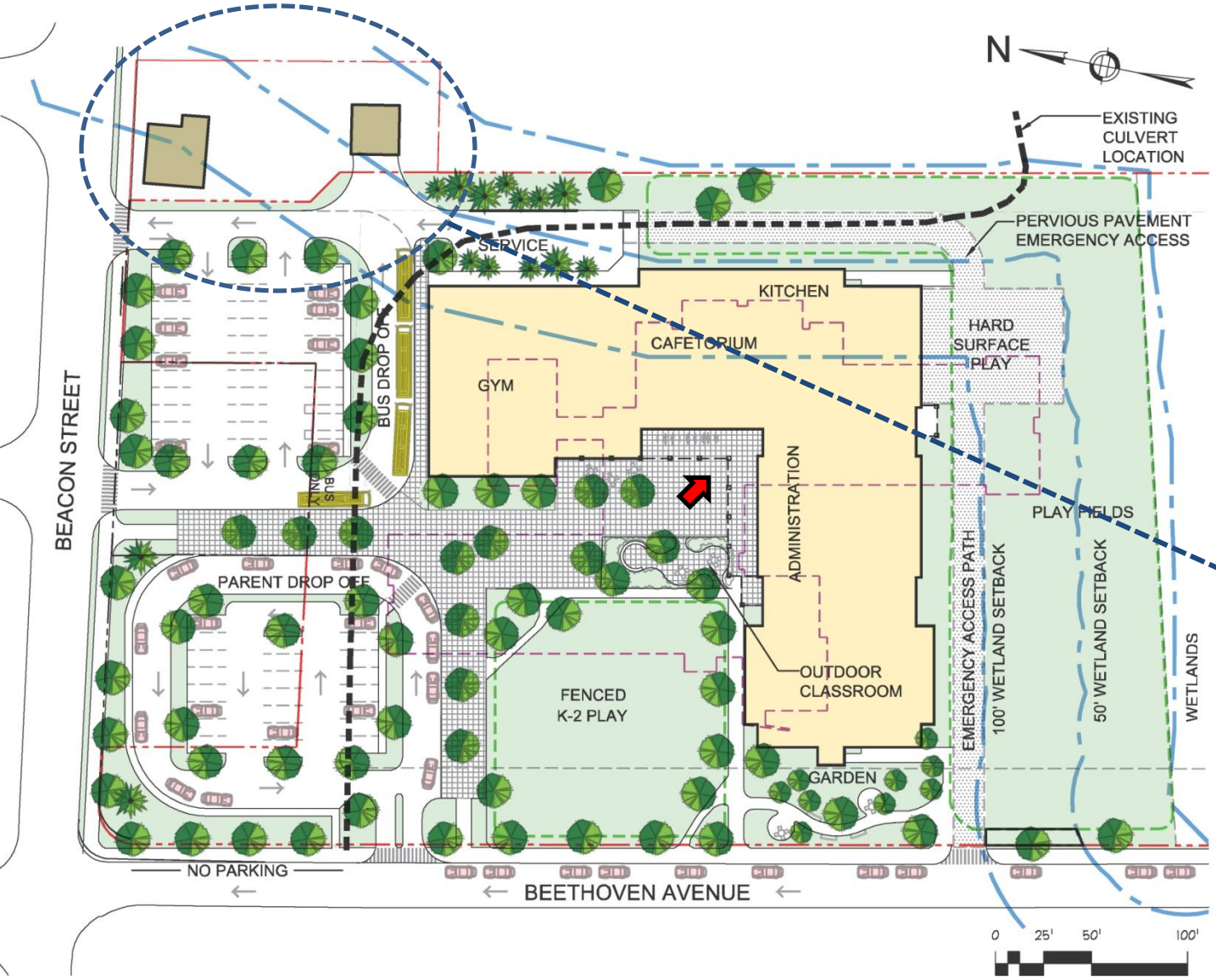


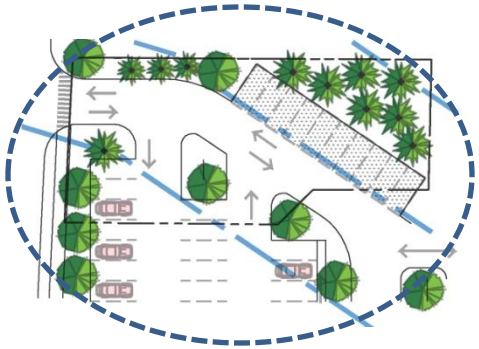
BASE PLAN:

(2 PROPERTY EXPANSION):

Play Areas = **57k SF**
+ Outdoor Classroom
+ Outdoor Gardens
Plaza/Gathering = **14k SF**
Bike Storage = 36+ Bikes
Parking = **55 spaces**
Drop-Off = **4 Busses/20 Cars**
(+ **Beethoven Avenue**)
Dumpsters/Service area

(3rd PROPERTY EXPANSION):

3rd site offers 25 additional parking spaces for 80 total and eased entry/exit road

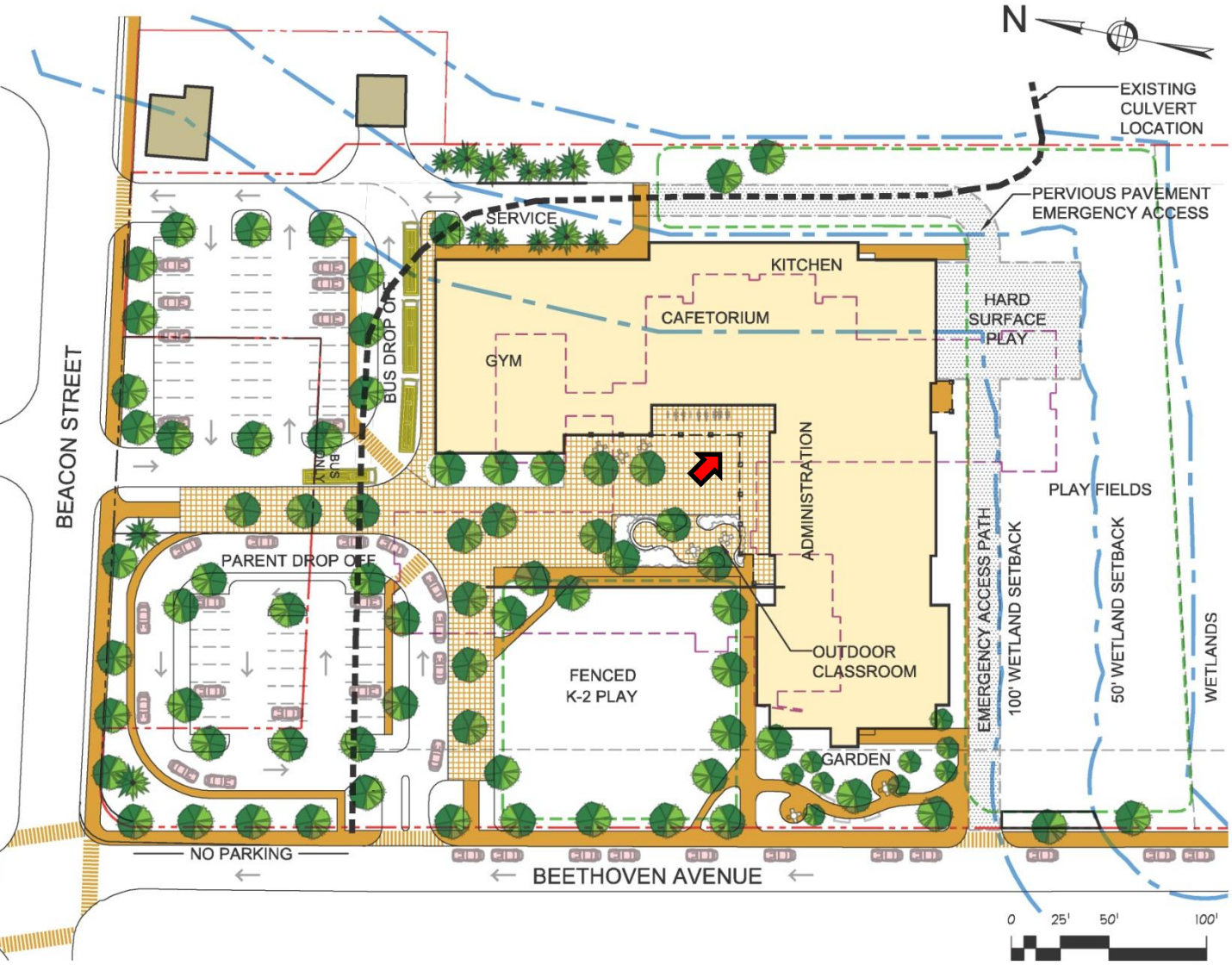


FEASIBILITY CONCEPT – SITE PLAN

Zervas Elementary School – Newton, MA

June 26, 2014

Designpartnership OF CAMBRIDGE
BIRCHWOOD DESIGN GROUP



BASE PLAN:

(2 PROPERTY EXPANSION)

Play Areas = **57k SF**
+ Outdoor Classroom
+ Outdoor Gardens
Plaza/Gathering = **14k SF**
Bike Storage = 36+ Bikes
Parking = **55 spaces**
Drop-Offs = **20 Car/4 Bus**
(+ **Beethoven Avenue**)
Dumpsters/Service area

PEDESTRIAN / CIRCULATION

+ 8' Wide Major Pathways
+ No Walkers Required to Cross Car or Bus Loops
+ Single School Entry and Gathering
+ Drop-off Loop Entry/Exit Occurs After Blue Zone
- Walkers from Beacon East Cross Bus Entry/Exits
- North West Entry

FEASIBILITY CONCEPT – PEDESTRIAN PATHWAYS

Zervas Elementary School – Newton, MA

June 26, 2014

Designpartnership OF CAMBRIDGE
BIRCHWOOD DESIGN GROUP

FEASIBILITY CONCEPT – FLOOR PLANS

Zervas Elementary School – Newton, MA

June 26, 2014

Designpartnership OF CAMBRIDGE

BIRCHWOOD DESIGN GROUP

Overview

The Feasibility Study Report (Combined Preliminary Design Program and Preferred Schematic Report) is based on the Feasibility Study findings and precedes the work of Schematic Design. The work of the Feasibility Study and Schematic Design phases may be summarized as follows;

Feasibility Study

- Establish Goals
- Assess Existing Site and Building Conditions
- Establish Program and Scope
- Identify and Test Alternatives
- Select Preferred Concept (called Preferred Schematic)

Schematic Design

- Confirm and Refine Program
- Develop Preferred Concept (site, plans, elevations and sections)
- Study Refinements and Options (room layouts, materials, systems, etc.)
- Conduct Preliminary Reviews for Approvability
- Reconcile Scope and Budget

Site Selection

The Preliminary Options included a broad exploration and assessment of potential alternative sites and multiple studies/configurations on the existing site, including an addition/renovation study.

15 sites within the City of Newton were evaluated as possible locations for a new school. Most of which, were quickly determined as not viable, due to the sites being too small, not adjacent to the Zervas district, or not available. Specifically;

7 sites exist well outside the Zervas district and not desirable (sites I through O)

5 sites were within or adjacent to the district, but were either too small (3 acres or less), unavailable, playgrounds and/or any combination (sites C through G).

3 sites that were thought to have possible merit for a new school were evaluated more closely for potential fit and suitability (sites A, B and H). Sites H (DPW site) and B (Cold Spring Park) were determined ultimately not to be suitable.

Site A (the existing Zervas School site) remains the preferred and only viable option. The location, within a neighborhood setting and bordering adjacent wetlands provides an appropriate environment, remains walk-able and provides opportunities to use nature and adjoining trails as a teaching tool. The site, at 3.5 useable acres, may impose some restrictions on the area available for on-site cars and traffic. The potential of expanding the site by acquiring several adjacent properties was explored and proved to be desirable to accommodate the full exterior program on-site.

Swing Space

The only readily available swing space for educational purposes in the Newton Public Schools is the Carr School building which has been designated to serve as swing space for multiple school projects throughout implementation of Districts Long-Range Master Plan.

Considerations for keeping the School operating on-site during construction (phased) were weighed against temporarily relocating Zervas off-site. It was determined, despite the 1 to 2 year duration and adjustment for parents, teachers and students, that temporarily relocating off-site to the Carr swing space is most desirable, given the limited site size, traffic conditions and to maintain a safer school environment.

Existing Site and Soils

The existing site consists of layers of fill material over existing grade, which brings the site surface to 4 to 7 feet above the original level. Drainage issues will be addressed by replacing poorly draining fill with new materials. Storm water will be addressed with a combination of a piped storm water system and natural drainage strategies such as rain gardens and bio-swales. At the feasibility level, the structural engineer has advised, and is carrying, a deep footing foundation system with a structural slab at ground level.

Traffic and Safety

Traffic congestion on Beethoven Avenue and nearby streets related to student pickup and drop-off by parents is a recognized concern. An Initial traffic assessment and discussions with City officials suggest that the problem is better addressed by allowing at least some cars to drop off and pick up on-site. Some relief can be gained by moving bus traffic to Beacon Street. However, it was recommended that parent traffic not exit the site to Beacon Street unless there is willingness to consider another traffic signal on Beacon at the point of discharge from the site.

The Traffic Consultant further suggests that significant improvements to traffic flow on Beethoven during pickup and drop-off hours, both now and with increased enrollment, may be achievable by rectifying defects in the operation of the current traffic signal. This will be explored in the Schematic Design Phase.

Educational and Site Program

***Educational Program*:** An educational program was developed that takes the Angier program as the basis but makes modifications suitable to Zervas. The program is based on providing 4 rooms per grade for a total of 24 Classrooms (including KG). Other minor program adjustments were made to suit the particular requirements of Zervas, recognizing that there is room in the Zervas program for minor deviations from MSBA standard requirements. The total Gross building area corresponding to the program is targeted at 78,800 GSF.

See attached space summary program.

***Site Program*:** A program of site requirements was developed and used as the basis for comparisons of the site options described below. It was found that the expanded site options can more effectively address the site program needs than the unexpanded site.

Program/Area Types	Zervas Program (490 Students)	Zervas Existing (320 Students)	New Angier (465 Students)
Classrooms	**24**	**16**	**22**
Parking Spaces	**80** [1]	**57**	**66** [5]
Car Drop-Off	**count TBD**	**on street** [2]	**8**
Bus Drop-Off (separate)	**4**	**2 on street**	**3**
Entry Plaza/Gathering [3]	**size TBD**	**front lawn**	**front plaza**
Playground/Field Areas [4]	**50-60k SF**	**43k SF**	**60k SF**
Student Gardens	**1,000 SF**	**1,000 SF**	**in plaza**
Outdoor Classroom	**1,500 SF**	**1,500 SF**	**in plaza**
Bike Storage (1 per 10 pkg min.)	**36+ bikes**	**16-20 bikes**	**32 bikes**
Service/Dumpster Areas	**flat loading 2 dumpster**	**flat loading 2 dumpster**	**flat loading 2 dumpster**

[1] 75 total staff are estimated for 490 students; parking would also include 3 handicap + 2 visitors = 80 spaces required. Zervas currently has 320 students; if prorated for 490, the count would be 88 spaces + 4 HCP + 3 visitors = 95 total.

[2] Car drop-off currently occurs along Beethoven Ave, which functions as a one-way road during drop-off and pick-up times. The project seeks to improve circulation in and around the site. A formal traffic study is underway to fully assess conditions and determine needs, but likely requires continued use of Beethoven as a Blue Zone.

[3] Plaza Areas are for informal gathering, including parents waiting, and may overlap other open space

[4] New, Existing & Program Play Areas include 20k SF playground/hard surface. Angier utilizes adjacent park land for fields

[5] 75 Parking Spaces were Programmed for Angier, but modified for site constraints

Preliminary and Final Evaluation of Options

The Preliminary Evaluation of Options: A number of options were explored that involve using the existing site in its current configuration. These included both new building and renovations & additions options. It was concluded that the additions and renovations option is not viable and cannot adequately meet the program needs for the future Zervas School.

At the preliminary level, new building options were explored that make use of an expanded site. The site expansion can be achieved by acquisition of the two most Northwestern properties or of all three properties abutting the site on the Beacon Street side.

Leading up to the Final Evaluation process, options were considered with both 2-story and 3-story classroom wings and it was concluded, for both programmatic and sustainability reasons, that the 3-story approach is most suitable to meet program needs and the desired educational planning objectives.

***Final Evaluation of Options**:* All options considered in the final evaluation are based on the same compact L-shaped plan. This plan effectively organizes the classrooms on three floors to provide each grade with its own cluster or "neighborhood", arranged so that groups walking from one grade cluster do not have to pass through other clusters. The plan also provides ready access to the larger spaces so that they are easily accessible for public events and makes it possible to close off the classroom areas from the publicly accessed parts of the building.

Discussions during the Final Evaluation process focused primarily on finding a satisfactory site circulation plan that addresses issues of auto pickup and drop-off, bus pickup and drop-off, and walk-ability. A number of site plan options with a south-facing main entry were considered.

At the June 9 meeting of the Zervas Working Group, an option was also considered that flips the building plan to provide a north-facing entry. This approach eliminates the need for student entries on two opposite sides of the entry lobby.

A version of this North-entry plan has been developed that keeps bus access on Beacon Street, parent pickup and drop-off on a loop accessed from Beethoven, and provides a substantial walkway to the school between the two, thereby eliminating most issues of walkers crossing vehicle routes. This has been developed as the recommended plan to proceed into Schematic Design.

High Performance and Energy Efficiency

Although it is too early in the process to undertake energy model analyses of the respective performances and cost benefits of building systems and components, energy modeling has been used in the Feasibility Study phase to help inform some basic decisions on building configuration and orientation. In all schemes, classrooms face North & South rather than East & West, to provide better day-lighting and minimize problems of glare control.

It was determined on the basis of energy modeling that the 3-story classroom wing scheme is significantly more energy efficient than the 2-story scheme. It was also determined, through energy modeling, that there is no significant difference in energy performance between north-facing and south-facing versions of our base 3-story classroom wing building plan.

Initial Costs and Reconciliation

The construction budget for the project has been established at $29.0 million. The project team will manage the design to the budget.

Zervas Elementary	PROGRAM COMPARISON										
	ANGIER SCHEMATC 465 STUDENTS			ZERVAS SC Approved 490 STUDENTS			ZERVAS SCHEMATC 490 STUDENTS			Difference FEB-MAY	
ROOM TYPE	NFA	QTY	TOTAL	NFA	QTY	TOTAL	NFA	QTY	TOTAL	TOTAL	Comments
CORE ACADEMIC SPACES			**21,450**			**23,300**			**23,300**	**0**	
Pre-Kindergarten w/ toilet	0	0	0	0	0	0	0	0	0	0	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet	1,200	4	4,800	1,200	4	4,800	1,200	4	4,800	0	1,100 SF min - 1,300 SF max
General Classrooms - Gr. 1-6	925	18	16,650	925	20	18,500	925	20	18,500	0	25 SF/CR shared project space in GSF
SPECIAL EDUCATION			**5,800**			**5,825**			**5,650**	**-175**	
Self-Contained SPED			0			0			0	0	8% of pop. in self-contained SPED
Self-Contained SPED - toilet			0			0			0	0	
Resource Room			0			0			0	0	1/2 size Genl. Clrm.
Small Group Room / Reading			0			0			0	0	1/2 size Genl. Clrm.
Substantially Separate Classroom	925	1	925	925	1	925	900	1	900	-25	2 preferred; subdivide for K-2 and 3-5
Learning Centers (K-2 & 3-5)	433	2	866	450	2	900	450	2	900	0	
Breakout Rooms (1 for each grade)	125.3	6	752	125	6	750	125	6	750	0	
ELL Program	240	1	240	250	1	250	150	1	150	-100	office with meeting for 5-6
OT/PT	450	1	450	450	1	450	450	1	450	0	
Quiet Room (1 per academic floor)	105	2	210	100	2	200	100	2	200	0	3rd space considered
Speech & Language	240	1	240	250	1	250	150	2	300	50	(2) offices with meeting for 5-6
Reading/Literacy Classroom	925	1	925	925	1	925	900	1	900	-25	divide for book room & PLC/Prof Dev.
Inclusion Facilitators	207	1	207	200	1	200	150	1	150	-50	same as Speech/Lang. (share extra SF)
Literacy Specialist	140	1	140	150	1	150	125	1	125	-25	office with a few seats
Math Coach	127	1	127	125	1	125	125	1	125	0	office with a few seats
IEP Conference Rooms	420	1	420	400	1	400	400	1	400	0	split into conf + small office
Psychologist (office, testing, therapy & storage)	149	1	149	150	1	150	150	1	150	0	office with meeting for 5-6
Social Worker (office, testing & conference)	149	1	149	150	1	150	150	1	150	0	office with meeting for 5-6
Intervention Office								0	0	0	considered; not provided
ART & MUSIC			**2,575**			**2,725**			**2,725**	**0**	
Art Classroom - 25 seats	1,000	1	1,000	1,000	1	1,000	1,000	1	1,000	0	assumed schedule 2 times / week / stude
Art Workroom w/ Storage & kiln	150	1	150	150	1	150	150	1	150	0	
Music Classroom / Large Group - 25-50 seats	1,200	1	1,200	1,200	1	1,200	1,200	1	1,200	0	assumed schedule 2 times / week / stude
Music Practice / Ensemble	155	1	155	150	2	300	150	2	300	0	additional practice room required
Music Storage	70	1	70	75	1	75	75	1	75	0	
HEALTH & PHYSICAL EDUCATION			**6,300**			**6,300**			**6,300**	**0**	
Gymnasium	5,997	1	5,997	6,000	1	6,000	6,000	1	6,000	0	6000 SF Min. Size
Gym Storeroom	198	1	198	200	1	200	200	1	200	0	
Health Instructor's Office w/ Shower & Toilet	105	1	105	100	1	100	100	1	100	0	
MEDIA CENTER			**2,763**			**2,875**			**2,875**	**0**	
Media Center / Reading Room	2,763	1	2,763	2,875	1	2,875	2,875	1	2,875	0	2,020 sf for first 300 stu. plus 4.5sf/stu. ov
DINING & FOOD SERVICE			**6,366**			**7,328**			**6,663**	**-665**	
Cafeteria / Dining	3,025	1	3,025	3,675	1	3,675	3,200	1	3,200	-475	tested for 2 seatings
Stage	996	1	996	1,000	1	1,000	1,000	1	1,000	0	
Chair / Table / Equipment Storage	355	1	355	363	1	363	363	1	363	0	200 SF for first 400 plus .333 SF/stu. Ove
Kitchen	1,470	1	1,470	1,790	1	1,790	1,600	1	1,600	-190	typ 1600 SF for first 300 +1 SF/stu. Add'l
Staff Lunch Room	260	2	520	250	2	500	250	2	500	0	20 SF/Occupant
MEDICAL			**510**			**510**			**510**	**0**	
Medical Suite Toilet	51	1	51	60	1	60	60	1	60	0	sep. HCP toilet w/ lift located at nurse
Nurses' Office / Waiting Room	234	1	234	250	1	250	250	1	250	0	
Examination Room / Resting	112.5	2	225	100	2	200	100	2	200	0	
ADMINISTRATION & GUIDANCE			**2,318**			**2,790**			**2,515**	**-275**	
General Office / Waiting Room / Toilet	681	1	681	680	1	680	680	1	680	0	
Teachers' Mail and Time Room	included in General Office			included in General Office			included in General Office			0	
Duplicating Room	included in General Office			included in General Office			included in General Office			0	
Records Room	62	1	62	60	1	60	60	1	60	0	
Principal's Office w/ Conference Area	300	1	300	300	1	300	300	1	300	0	
Principal's Secretary / Waiting	included in General Office			included in General Office			included in General Office			0	
Assistant Principal's Office	125	1	125	125	1	125	125	1	125	0	
Supervisory/Spare Office +After School Pgm	450	1	450	925	1	925	650	1	650	-275	full size CR required for After School
Conference Room	200	1	200	200	1	200	200	1	200	0	
Guidance Office	0	0	0	0	0	0	0	0	0	0	
Guidance Storeroom	0	0	0	0	0	0	0	0	0	0	
Teachers' Work Room	250	2	500	250	2	500	250	2	500	0	
CUSTODIAL & MAINTENANCE			**1,861**			**1,865**			**1,865**	**0**	
Custodian's Office	130	1	130	125	1	125	125	1	125	0	
Custodian's Workshop	0	0	0	0	0	0	0	0	0	0	
Custodian's Storage	141	2	282	120	2	240	120	2	240	0	
Custodian's Storage	185	1	185	200	1	200	200	1	200	0	
Recycling Room / Trash	655	1	655	650	1	650	650	1	650	0	
Receiving and General Supply	included in Recycling Room			included in Recycling Room			included in Recycling Room			0	
Storeroom	176	2	352	200	2	400	200	2	400	0	
Network / Telecom Room	257	1	257	250	1	250	250	1	250	0	
Total Building Net Floor Area (NFA)			**49,943**			**53,518**			**52,403**	**-1,115**	
Total Building Gross Floor Area (GFA)[2]			**74,960**			**80,277**			**78,800**	**-1,477**	
Grossing factor (GFA/NFA)			**1.50**			**1.50**			**1.50**		