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Edward Devotion School
MSBA
Preliminary Design Program

Brookline, Massachusetts

MARCH 2014

Volume 4 of 5

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Edward Devotion School

Concept Study

Brookline, Massachusetts

November 2012

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Acknowledgements

TOWN OF BROOKLINE

Mel Kleckner	Town Administrator
Sean Cronin	Deputy Town Administrator
Daniel Bennett	Building Commissioner
Michael Shepard	Former Building Commissioner (retired)
Tony Guigli	Building Department
Charlie Simmons	Building Department
Janet Fierman	Building Commission
David Pollak	Building Commission
Nancy Daly	Board of Selectmen
Betsy DeWitt	Board of Selectmen
Jeff Levine	Director of Planning and Community Development
Sergio Modigliani	Planning Board
Harry Bohrs	Advisory Committee
Carla Benka	Advisory Committee

BROOKLINE PUBLIC SCHOOLS

Bill Lupini	Superintendent
Peter Rowe	Deputy Superintendent for Administration and Finance
Jennifer Flewelling	Principal, Devotion School
Steve Silvestri	Interim Principal, Devotion School
Helen Charlupski	School Committee
Allen Morse	School Committee

Acknowledgements

CONSULTANT TEAM

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PM&C Project Management	Peter Bradley

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Section I

Introduction

The Town of Brookline has commissioned HMFH Architects to evaluate the existing conditions and possible options that may be pursued for the betterment of the Edward Devotion School in the Coolidge Corner area of Brookline. The goals for the study as outlined by the Town include elimination of overcrowding at the existing school; modernization of the building systems to increase efficiency; assessment of life safety issues; provision of spaces that can accommodate programs currently offered at other schools in the district; and evaluation of the whole building as each distinct building addition relates to modern programmatic needs.

On site evaluations were conducted by HMFH Architects and their consultants at the beginning of 2012 to review the existing Edward Devotion School. Building evaluations as related to the overall building condition, required ADA and life safety updates, and recommended systems updates are detailed in the first part of this report. The later portion of the report presents the multiple options explored for a renovated or new Edward Devotion School.

In cooperation with the Town of Brookline, a suggested preliminary space summary was compiled to address the anticipated enlarged enrollment of 780 students. All design options were to be measured against this space summary for their completeness in satisfying the programmatic needs of the school. A total of ten separate options were evaluated, ranging from a simple no-build renovation, renovations with minor and major additions, and new construction.

Image courtesy of Bing maps

Aerial of the Edward Devotion School site

Massachusetts School Building Authority

School District Brookline

District Contact William Lupini TEL: (617) 730-2403

Name of School Edward Devotion

Submission Date 11/12/2009

Note

The following Priorities have been included in the Statement of Interest:

1. ☐ Replacement or renovation of a building which is structurally unsound or otherwise in a condition seriously jeopardizing the health and safety of school children, where no alternative exists.
2. ☐ Elimination of existing severe overcrowding.
3. ☐ Prevention of the loss of accreditation.
4. ☑ Prevention of severe overcrowding expected to result from increased enrollments.
5. ☑ Replacement, renovation or modernization of school facility systems, such as roofs, windows, boilers, heating and ventilation systems, to increase energy conservation and decrease energy related costs in a school facility.
6. ☐ Short term enrollment growth.
7. ☑ Replacement of or addition to obsolete buildings in order to provide for a full range of programs consistent with state and approved local requirements.
8. ☐ Transition from court-ordered and approved racial balance school districts to walk-to, so-called, or other school districts.

Potential Project Scope: Renovation/ Addition

Is this SOI the District Priority SOI? YES

The MSBA ID for the District Priority SOI: 2010 Edward Devotion

District Goal for School: Please explain the educational goals of any potential project at this school

The District goals of the Devotion School project are intended to address three (3) areas of concern: 1) To renovate and add to an old building that is in need of update to meet local and national code requirements and to address programmatic needs, 2) to fully replace and modernize the heating system, electrical,and related systems to increase energy efficiency and reduce operating and repair and maintenance costs with a goal of qualifying as a high performing green school and 3) to prevent severe overcrowding expected to result from continued increasing enrollments.

District's Proposed Schedule: What is the District's proposed schedule to achieve the goal(s) stated above?

1990

Is this part of a larger facilities plan? YES

If "YES", please provide the following:

Facilities Plan Date: 2/11/2009

Planning Firm: MGT of America Inc.

Please provide an overview of the plan including as much detail as necessary to describe the plan, its goals and how the school facility that is the subject of this SOI fits into that plan:

The Town of Brookline and the Public Schools of Brookline utilize eight K-8 buildings and a three building High School Campus to serve 6,563 students Pre-School through 12 Grade. The master plan includes a comprehensive assessment of all existing facilities, consideration of district-wide educational programs (both general and special education), a demographic analysis, and a redistricting consideration/recommendations. Proposals within this plan include facility recommendations with for improvements at selected facilities (i.e., Runkle, Devotion, Lynch, Baldwin, Heath, Pierce, etc). The plan includes both short- and long-term options and is consistent with local design traditions while meeting 21st century programmatic and educational needs. The plan includes a projected schedule for implementation, consistent with capital budget projections/options.

Please provide the current student to teacher ratios at the school facility that is the subject of this SOI: 20 students per teacher.

Please provide the originally planned student to teacher ratios at the school facility that is the subject of this SOI: 20 students per teacher.

Is there overcrowding at the school facility? YES

If "YES", please describe in detail, including specific examples of the overcrowding.

Devotion families are pressured to apply to other Pre-K programs in the district because we cannot accommodate beyond one class and because our space is not able to adequately meet the developmental needs of pre-kindergarten children. The room is located adjacent to the grades 7/8 lockers. The square footage of the space cannot allow for the range of learning opportunities these students need.

We struggle to maintain an inclusive program for students in our Therapeutic Learning Center and our Intensive Learning Program (See program descriptions). Currently these spaces are predominantly in the basement. One class is located on the 3rd floor. We do not have adequate time out and therapeutic spaces and the students and teachers are isolated from their general education team.

As per our DESE audit, our school needs to increase the services to beginning and early intermediate English Language Learners. We do not have the space for additional teachers to properly service this sub-group. Currently there are two teachers working out of a kitchen area.

With the introduction of the Elementary World Language program we require additional space for teachers to plan, organize, store materials and deliver instruction. Our EWL teachers are currently using a staircase landing in the 1952 wing. This part of the building is not handicap accessible and the absence of an elevator means that teachers need to carry carts up and down stairs.

Support services such as speech and language and general learning centers have operated in crammed areas with shared space that produces constant interruptions. Divided rooms require students to enter one class in order to get to another.

Has the district had any recent teacher layoffs or reductions YES

If "YES", how many teaching positions were affected? 4
At which schools in the district? High School
Please describe the types of teacher positions that were eliminated(i.e art, math, science, physical education, etc.):

The reduction effected staff in a number of program areas including Career Education, Physical Ed, English, Social Studies Special Education and Guidance

Has the district had any recent staff layoffs or reductions YES

If "YES", how many staff positions were affected? 22
At which schools in the district? All eight Elementary schools and the High School
Please describe the types of staff positions that were eliminated(i.e guidance, administrative, maintenance, etc.):

Special Education Aides 12.6, Library Assistants 5.4, Clerical positions 2.5, Info Tech support 1, METCO Guidance Counselor 1, Student Services Administrator 1

Please provide a description of the program modifications as a consequence of these teacher and/or staff reductions,including the impact on district class sizes and curriculum.

The major impact of the FY10 Budget reductions has been on the Elementary Library program, which has resulted in shorter hours for the Libraries to be open and for reduced service to students during open periods. Other department reductions have been absorbed through the transfer of responsibilities.

Please provide a detailed description of your recent budget approval process including a description of any budget reductionsand the impact of those reductions on te District's school facilities, class sizes and educational program.

FY 2011 BUDGET DEVELOPMENT PROCESS CALENDAR October, 2009 Finance Subcommittee Meeting: Budget Development Calendar October 29, 2009 School Committee vote on Budget Development Calendar October-November, 2009 Prepare initial drafts of Financial Plan/Budget Guidelines/Directives October-November, 2009 Reconciliation of Staffing October 2009-March, 2010 Ongoing review of the financial planning and budget development process for FY11 (2010-2011) and long range projections for 2012-2015 November 17, 2009 Principals Budget Priorities and Options Review November 23, 2009 Curriculum/Program Coordinators Priorities and Options Review December 3, 2009 Presentation of Budget Guidelines and Directives to School Committee (1st reading) December 17, 2009 School Committee vote on Budget Guidelines/Directives (2nd reading) December, 2009-February, 2010 Ongoing review of budget drafts February 11, 2010 Presentation of Superintendent’s Budget Message to the School Committee. On or before February 15, 2010, submission to the Board of Selectmen and Advisory Committee. March 1, 2010 Submission of detailed Superintendent’s Budget to the School Committee, with copies to the Board of Selectmen and Advisory Committee. March 11, 2010 Budget Presentation to the School Committee March 25, 2010 Public Hearing on the budget. April 8, 2010 School Committee vote on the budget April-May, 2010 Advisory Committee review and comment May, 2010 Spring Town Meeting May-September, 2010 Ongoing discussion of long-term budget priorities. May-September, 2010 In consultation with the Capital Projects Subcommittee, develop a priority list for capital; review CIP proposals for FY 2011-2016 Town CIP

Section II

Initial Space Summary

The space summary included in this report was formulated from the MSBA space guidelines as modified by discussions with the Edward Devotion School Working Group. The Working Group's recommendation was to evaluate the spaces necessary for a student body population of 780 K-8 students at four sections each for grades one through eight, five sections for kindergarten, and six classrooms for the Brookline Early Education Program (BEEP). These numbers vary from the MSBA space guidelines that call for a total of 30 classrooms for grades one through eight rather than 32, and four kindergarten classrooms rather than five.

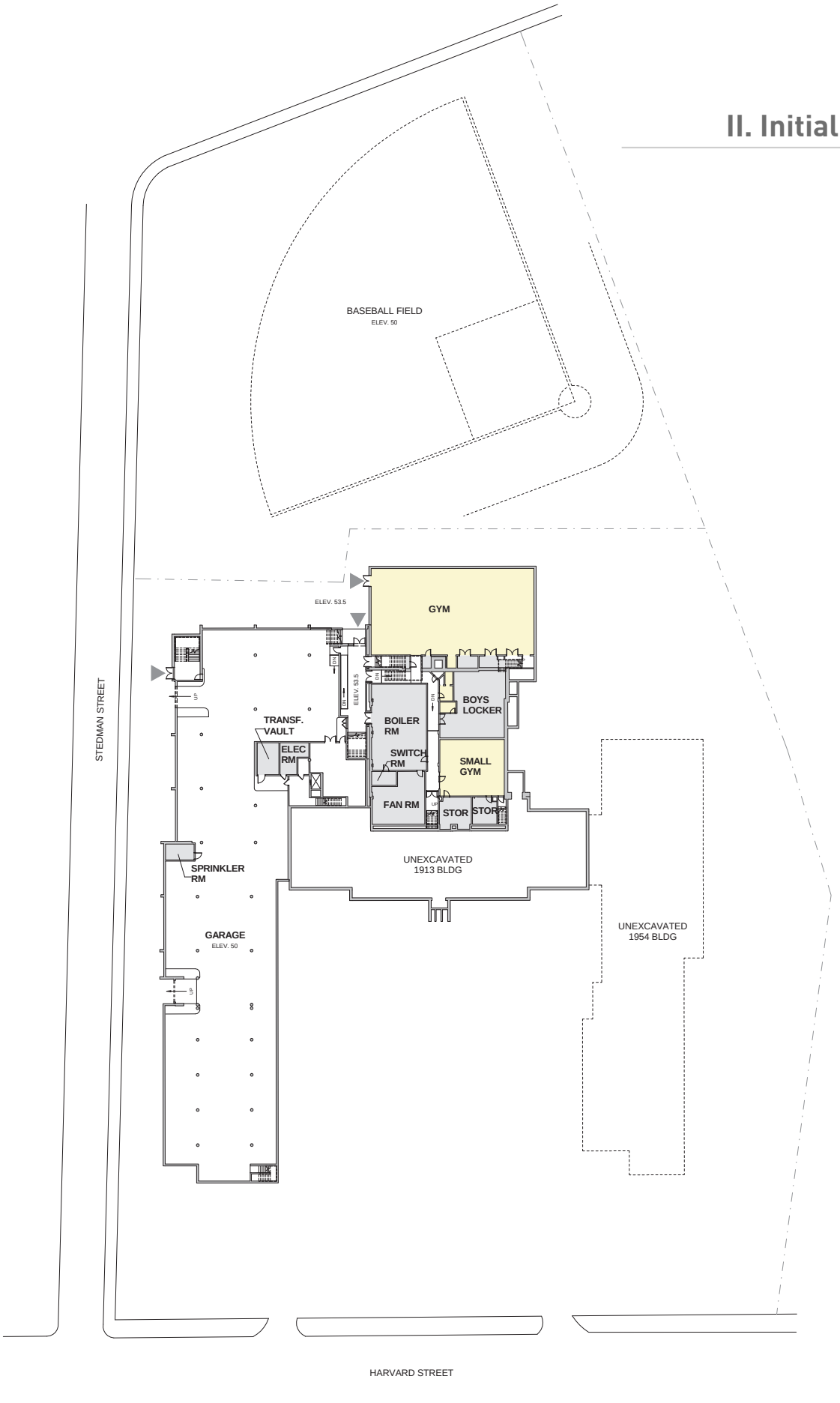
There has been some discussion of a different programmatic configuration for the Devotion School where the BEEP program is left out of the facility in order to allow for a greater K-8 population. A comparable number of total classroom spaces would be required if the school were to be designed for four and a half sections per grade in order to house a larger K-8 population, without the inclusion of BEEP. Therefore, all of the design options in this study are based on the classroom count and configuration described in the paragraph above. Each of these options will accommodate either configuration.

As the Devotion School project moves forward with the MSBA, the final student body population will be finalized. Upon finalizing the enrollment agreement, this spreadsheet will need to be revised to include the correct overall student population number. This number will not only affect the number of classrooms required, but also determine the size of certain other spaces such as the cafeteria and the library.

Currently the space summary sheet includes a number of spaces that the MSBA may not consider as necessary to the school, and therefore may not support reimbursement of these spaces. The MSBA may also not allow the inclusion of them in the project. These spaces include construction of a new auditorium or multi-purpose room (renovation of the existing may be funded); construction of a third gym station (renovation of the existing small gym may be funded); BEEP administration and support spaces; specific extended day spaces; and structured parking. The Town of Brookline will need to reach an understanding with the MSBA on how each of these can be handled.

EDWARD DEVOTION SCHOOL	Existing Conditions			PROPOSED Total			MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES		**38**	**34,630**		**49**	**47,840**		**40**	**37,140**	
(List classrooms of different sizes separately)										
Pre-Kindergarten w/ toilet	760	1	760	1,200	5	6,000	1,200		-	1,100 SF min - 1,300 SF max
" "			0	1,600	1	1,600				
Kindergarten w/ toilet	1,110	4	4,440	1,200	5	6,000	1,200	4	4,800	1,100 SF min - 1,300 SF max
Large Kindergarten (existing)	1,770	1	1,770							
General Classrooms - Grades 1-5	1,040	8	8,320	950	20	19,000	950	19	18,050	900 SF min - 1,000 SF max
" "	830	11	9,130							
General Classrooms - Grades 6-8	820	9	7,380	950	12	11,400	950	11	10,450	
Science Classroom / Lab	1,170	2	2,340	1,200	3	3,600	1,200	3	3,600	1 period / day / student
Prep room	170	2	340	80	3	240	80	3	240	
Enrichment Room (existing)	150	1	150							
SPECIAL EDUCATION			**8,440**			**9,460**			**9,060**	
(List rooms of different sizes separately)										
Self-Contained SPED - Grades 6-8	750	1	750	950	2	1,900	950	2	1,900	8% of pop. in self-contained SPED
Self-Contained SPED - Grades 1-5	750	1	750	950	4	3,800	950	4	3,800	8% of pop. in self-contained SPED
Self-Contained SPED - Grades 1-5 toilet			0	60	4	240	60	4	240	
Self-Contained SPED - Grades 6-8 toilet			0	60	2	120	60	2	120	
Resource Room - Grades 6-8	400	1	400	500	1	500	500	1	500	
Resource Room - Grades 1-5	400	1	400	500	3	1,500	500	3	1,500	
Small Group Room / Reading	320	9	2,880	500	2	1,000	500	2	1,000	1/2 size Genl. Clrm.
Small Group Room / Office (existing)	220	8	1,760							
" "	150	10	1,500							
Pre-Kindergarten OTPT			0	400	1	400				
ART & MUSIC			**9,300**			**12,775**			**6,775**	
Art Classroom - Grades 1-5	1,050	1	1,050	1,000	2	2,000	1,000	2	2,000	assumed schedule 2 times / week / student
Art Classroom - Grades 6-8	1,010	1	1,010	1,200	1	1,200	1,200	1	1,200	assumed use - 50% population 2 times / week
Art Workroom w/ Storage & kiln	350	1	350	150	3	450	150	3	450	
Band / Chorus - 100 seats			0	1,500	1	1,500	1,500	1	1,500	
Music Classroom / Large Group - 25-50 seats	1,100	1	1,100	1,200	1	1,200	1,200	1	1,200	assumed schedule 2 times / week / student
Music Practice / Ensemble - Grades 1-5			0	75	3	225	75	3	225	
Music Practice / Ensemble - Grades 6-8			0	200	1	200	200	1	200	
Music Storage	290	1	290							
Auditorium w/Raised Platform	5,500	1	5,500	6,000	1	6,000				
VOCATIONS & TECHNOLOGY			**7,480**			**3,200**			**3,200**	
Tech Clrm. - (E.G. Drafting, Business)				1,200	1	1,200	1,200	1	1,200	Assumed use - 25% Population - 5 times/week
Tech Shop - (E.G. Consumer, Wood)				2,000	1	2,000	2,000	1	2,000	Assumed use - 25% Population - 5 times/week
HEALTH & PHYSICAL EDUCATION			**7,480**			**10,833**			**8,333**	
Gymnasium	4,340	1	4,340	6,000	1	6,000	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom	250	2	500	150	1	150	150	1	150	
" "	80	3	240							
Health Instructor's Office w/ Shower & Toilet	70	2	140	183	1	183	183	1	183	
Locker Rooms - Boys / Girls w/ Toilets	1,140	1	1,140	1,000	2	2,000	1,000	2	2,000	
Small Gymnasium	1,120	1	1,120	2,500	1	2,500				

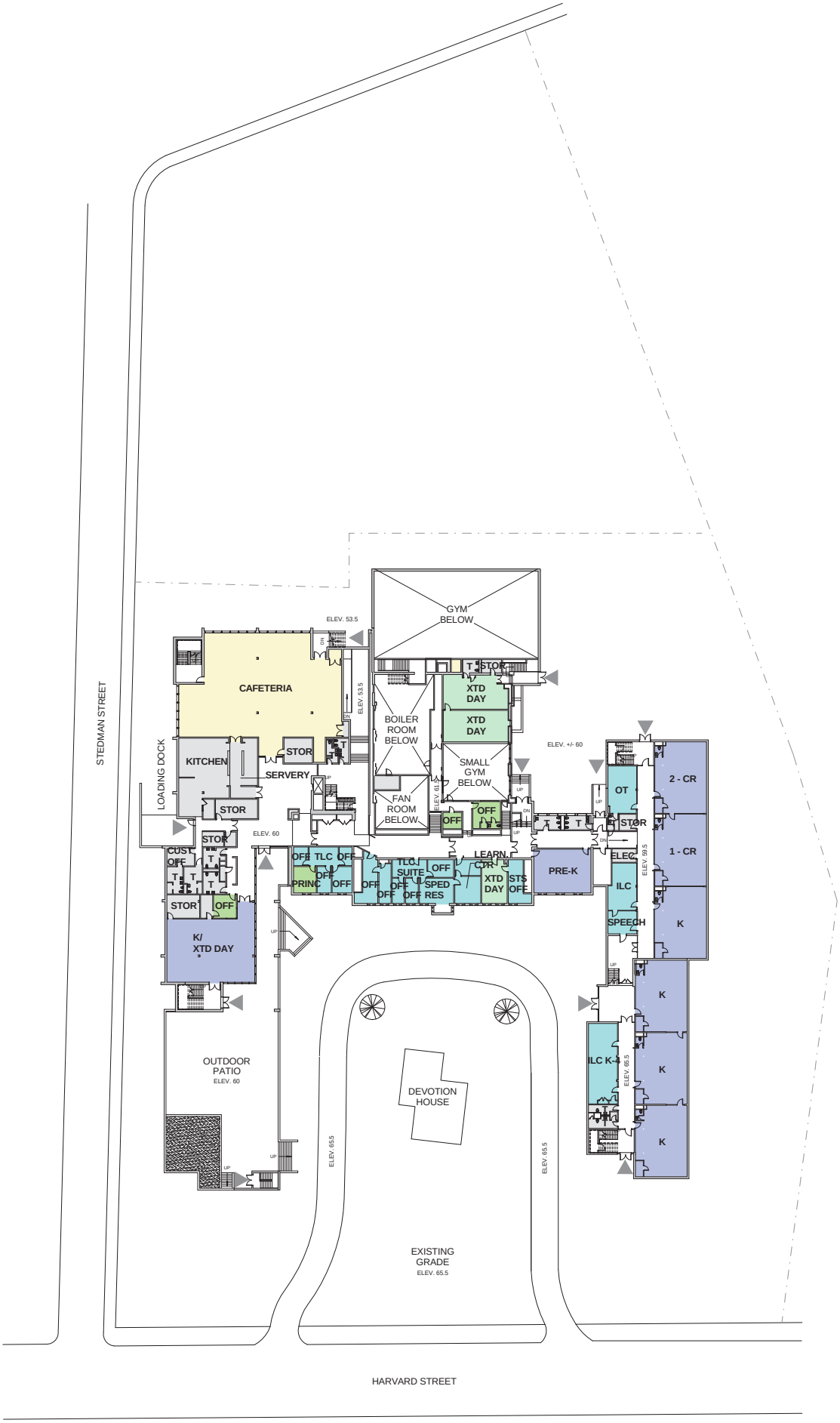
EDWARD DEVOTION SCHOOL	Existing Conditions			PROPOSED Total			MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
MEDIA CENTER			**5,380**			**4,408**			**4,408**	
Media Center/Reading Room	4,720	1	4,720	4,408	1	4,408	4,408	1	4,408	
Computer Lab (existing)	660	1	660							
DINING & FOOD SERVICE			**7,280**			**8,685**			**10,285**	
Cafeteria / Dining	4,740	1	4,740	5,850	1	5,850	5,850	1	5,850	2 seatings - 15SF per seat
Kitchen	1,050	1	1,050	2,080	1	2,080	2,080	1	2,080	1600 SF for first 300 + 1 SF/student Add'l
Chair / Table / Equipment Storage	210	1	210	460	1	460	460	1	460	200 SF for first 300 + .333 SF/student Add'l
Staff Lunch Room	810	1	810	295	1	295	295	1	295	200 SF for first 400 + .25 SF/student Add'l
Stage			0				1,600	1	1,600	
Servery	470	1	470							
MEDICAL			**620**			**710**			**710**	
Medical Suite Toilet	200	1	200	60	1	60	60	1	60	
Nurses' Office / Waiting Room	140	2	280	250	1	250	250	1	250	
Examination Room / Resting	140	1	140	100	4	400	100	4	400	
ADMINISTRATION & GUIDANCE			**1,900**			**6,253**			**3,253**	
Principal's Office w/ Conference Area	270	1	270	375	1	375	375	1	375	
Principal's Secretary / Waiting			0	125	1	125	125	1	125	
Assistant Principal's Office - AP1	180	1	180	130	1	130	130	1	130	
Assistant Principal's Office - AP2			0	130	0	0	130	0	-	
General Office / Waiting Room / Toilet	650	1	650	523	1	523	523	1	523	
Conference room			0	283	1	283	283	1	283	
Teachers' Mail and Time Room			0	100	1	100	100	1	100	
Duplicating Room			0	167	1	167	167	1	167	
Records Room			0	140	1	140	140	1	140	
Supervisory / Spare Office			0	130	1	130	130	1	130	
General Waiting Room			0	100	1	100	100	1	100	
Guidance Office			0	150	4	600	150	4	600	
Guidance Storeroom			0	40	1	40	40	1	40	
Teachers' Work Room	800	1	800	540	1	540	540	1	540	
Pre-Kindergarten Administration			0	3,000	1	3,000				
CUSTODIAL & MAINTENANCE			**850**			**2,338**			**2,338**	
Custodian's Office	150	1	150	150	1	150	150	1	150	
Custodian's Workshop	300	1	300	333	1	333	333	1	333	
Custodian's Storage	250	1	250	375	1	375	375	1	375	
Storeroom	150	1	150	520	1	520	520	1	520	
Recycling Room / Trash				400	1	400	400	1	400	
Receiving and General Supply				360	1	360	360	1	360	
Network / Telecom Room				200	1	200	200	1	200	
OTHER			**21,720**			**20,000**			**0**	
Parking	20,000	1	20,000	20,000	1	20,000				
Extended Day Program Classroom	620	2	1,240							
Extended Day Program Storage	320	1	320							
Extended Day Program Office	160	1	160							
Total Building Net Floor Area (NFA)			**105,080**			**126,503**			**85,503**	
Proposed Student Capacity / Enrollment						780			**780**	Enter grade enrollments to the right
Total Building Gross Floor Area (GFA)[2]			162,051	(Average of proposed Options)		200,000			**128,255**	
Grossing factor (GFA/NFA)			**1.54**			**1.58**			**1.50**	



GROUND FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

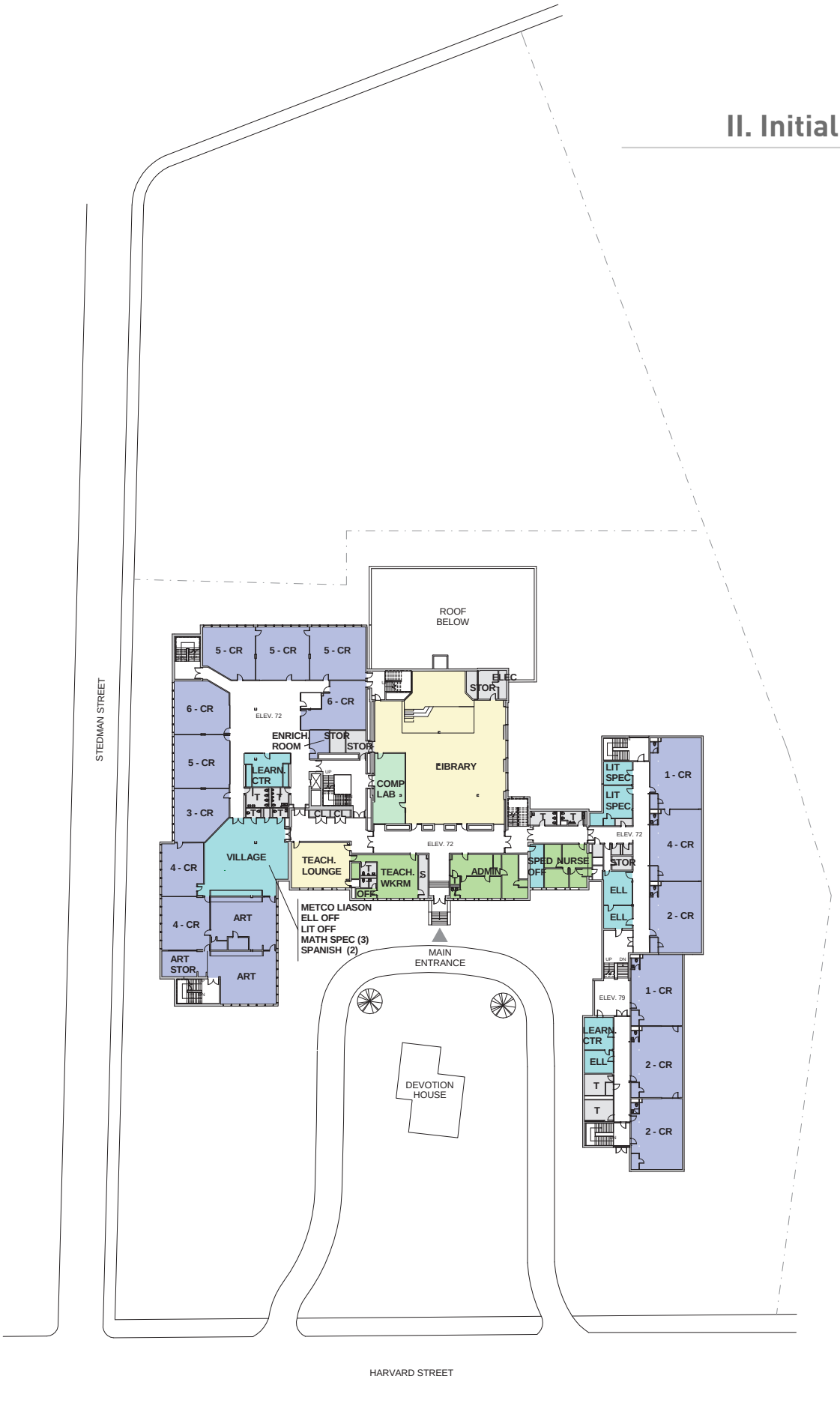
0' 40' 80'



FIRST FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

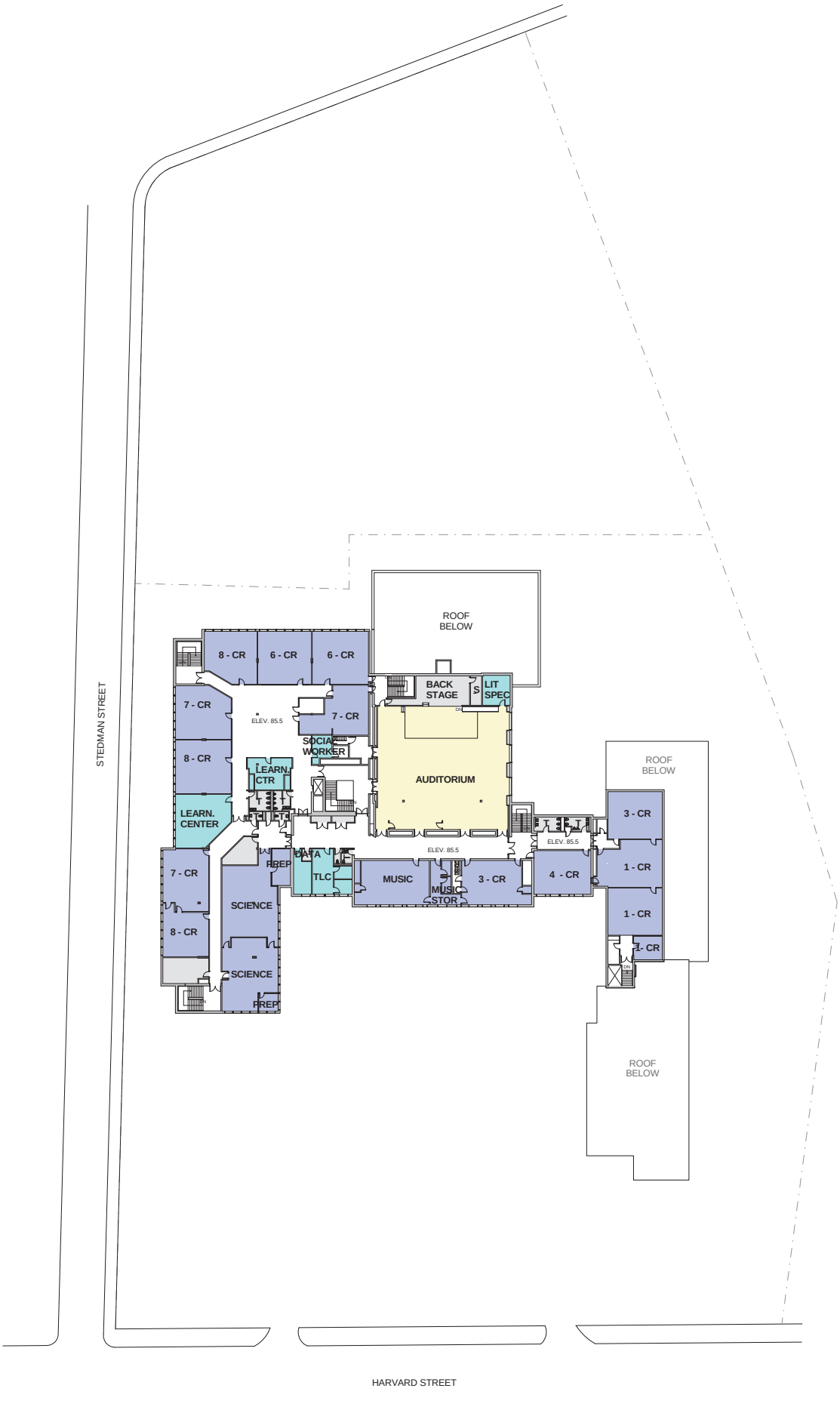
0' 40' 80'



SECOND FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'



THIRD FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

Section III

Evaluation of Existing Conditions

Historic 1913 building

1954 building

1974 building

The original Edward Devotion School was founded in 1894 on land purchased by the Town of Brookline from the Nahum Smith family for the purpose of constructing school buildings. The historic Edward Devotion House, built in the 1700's, is still a permanent fixture on the site located just off of Harvard Street. At the turn of the last century, the Devotion School began to take shape with the construction of three school buildings arranged around the existing Devotion House. These buildings were constructed in 1892, 1898 and 1913, of which the 1913 building is the only one still standing today.

The historic 1913 structure is the most central portion of the school, located directly behind the Devotion House facing Harvard Street. In 1954, an addition along the eastern side of the site was added over the footprint of the original 1892 building. During this construction period a gymnasium was also added at the rear of the 1913 building. In 1974 a second addition was added off of the western elevation of the 1913 building parallel to Stedman Street. During this construction period the original double height auditorium was divided into two levels to provide the school with a library on the lower level and an auditorium/multi-purpose room above.

Today the 1913, 1954, and 1974 wings of the school all function as one entity. The floor levels of all three buildings are mostly aligned with the exception of the front of the 1954 addition towards Harvard Street. This building is a split level and is set six feet off of the adjacent building floor levels to allow the building to be entered at grade off of the loop road. Currently there is no accessible path connecting the split level floors.

Image courtesy of Brookline Historical Society

School circa 1920's (only the 1913 building remains today)

clockwise
1974 parking deck plaza, Edward Devotion House, Front lawn along Harvard St, View across main 1913 entrance, Access to rear ball field

The Edward Devotion School is one of nine neighborhood elementary schools within the Town of Brookline. Currently it is the largest K-8 school in its district which serves the busy Coolidge Corner neighborhood. Located at 345 Harvard Street within a two-family and attached single-family residential district, the 6.6 acre site is bordered by Harvard Street to the south, Stedman Street to the west, a residence that fronts onto Stedman Street to the north, and a series of commercial and residential buildings along Babcock Street to the east. The site encompasses the play areas to the north of the school building including the ball field, the old Devotion Street pedestrian pathway, and the basketball courts just beyond. The community tennis courts near there are on a separate piece of property. The site, with its green spaces and play areas is a heavily used resource for the school and for the wider Brookline community.

The school sits on a sloped site with the highest point at the southeast corner along Harvard Street and the lowest point on the northwest corner in the baseball field. Its varying terrain, in combination with its proximity to the historic Edward Devotion House, the existing loop road and pedestrian walkways, as well as the multiple existing lower levels of the 1913 building create a very challenging situation in making the site fully accessible.

It is likely that the extent of the renovation will be large enough to require that the entire site and buildings be brought into compliance with the current Massachusetts Architectural Access Board (MAAB) and the Americans with Disabilities Act (ADA) standards. Currently the only accessible entrances are through the 1974 addition. One entrance is accessed via the plaza area above the parking garage which is accessed by ramps to the adjacent sidewalk. Additionally, the rear entrance to the 1974 addition adjacent to the cafeteria is also accessible via ramps to the Stedman Street sidewalk. Diligent site planning along with an accurate survey will be required to ensure that accessible routes are provided for the entire site and all building elements.

Harvard Street is a busy main thoroughfare connecting Commonwealth Avenue and Beacon Street. Harvard Street's zoning is comprised of General and Local Business districts, as well as some apartment buildings. Currently this section of Harvard Street has a mixture of commercial establishments, apartment buildings, and secular buildings. Located in front of the Devotion School along Harvard Street is the Edward Devotion House, a National Historic Landmark dating back to the early 1700's. It is operated by the Brookline Historic Society and has no direct connection to the school.

(reference site plan on page 33)

clockwise
Rear hardtop play area, Ball field behind Devotion School, View of Devotion School from ballfield, View of Devotion School from Stedman Street, Play area adjacent to 1954 bldg

The Devotion House has greatly influenced the layout of the Devotion School over the last two centuries. The original Devotion School buildings, built in the late 1800's formed a U shape ring around the Devotion House in order to preserve the historic structure. Today that layout of school buildings is still present in order to preserve the Devotion House. The existing loop road driveway that provides drive up access to all the buildings is too small to be used safely as a drop off area for the school.

Stedman Street to the west of the Devotion School Complex is a one way street flowing uphill towards Harvard Street. There is an elevation change of over 10 feet from the lowest elevations adjacent to the recreational ball field to the highest near Harvard Street. While the Devotion School is largely a walker's school, vehicle drop off for those parents which do drive typically takes place along Stedman Street where a few parking spaces are available for drop off. The faculty parking structure is also accessed from Stedman. This area of the school also houses the main gas and water line entrances to the building, as these services come off of Stedman Street. While approximately 50 spaces are provided to the faculty in the parking structure, a neighborhood parking plan has been instituted for the balance of the school's faculty parking needs. This plan is reported to be working well.

A recreational ball field for softball and general play is located at the rear of the Devotion School. There are also basketball courts located on the opposite side of the old Devotion Street pedestrian path further to the north. Community tennis courts are located on a separate Town owned site adjacent to the basketball courts. The Devotion Street pathway provides a pedestrian friendly point of travel, allowing for easier pedestrian access from adjacent neighborhoods onto Stedman Street, and ultimately to the school. The ball field is situated at a lower elevation than the Devotion School, and as a result, there is a retaining wall that separates the ball field from the school. Portions of this retaining wall were designed to provide seating for the ball field.

The eastern edge of the site is bound by a number of large apartment buildings including a high rise apartment building along Babcock Street. At the front of the site closest to Harvard Street there is also a mixed-use commercial structure. The remaining sliver of open space between the above mentioned buildings and the school, contain a variety of stepped play areas with play ground equipment and educational gardens. These grounds are open for use by the school and the community at large.

(reference site plan on page 33)

Play areas are an important aspect of any elementary school site. The play areas along the eastern edge of the building extend up to Harvard Street to maximize the area for play for the youngest students. The black top play area along the rear of the building in between the gym, softball field, and the Babcock Street residences provide additional play space for the older students. Along the Stedman Street edge of the property, there is an additional paved area which sits above a portion of the underground parking garage. This plaza is several feet below the elevation of the loop road at the front of the school and is used as a basketball court. Continuing south along Stedman towards Harvard Street is a small grassy urban "park" similar to the lawn area directly in front of the Devotion House.

The historic fabric of the Brookline community plays an important role in the development of this site. Historic structures are abundant with the John F. Kennedy Homestead on Beals Street, the Devotion House in front of the school, and the historic 1913 wing of the Devotion School itself where Kennedy attended grade school. It is evident in the layout of the site, that the historic buildings have played an important role in the development of this site. Dating back as far as 1890, the Devotion House has been the "jewel" on the land around which the school has formed a semi-circle. As future developments are studied for the site, they should consider the impact on and respect for the historic Devotion House in combination with the preservation of the oldest remaining portion of the Devotion School constructed in 1913. Projects that significantly disturb or alter the Edward Devotion House National Historic Site will trigger an extensive and lengthy federal review of the impact on the site.

View from Harvard Street


CROSSING GUARD
PICK-UP/DROP-OFF LIMITED PARKING
ONE WAY TRAFFIC
Stedman St
SEATING AREA
NEW TREES
GARAGE
PATIO
AFTER SCHOOL
PROGRAM
1974
HISTORIC FACADE
SOCCER/BASEBALL
Scheduled by REC.
SIGNIFICANT TREES
COMMUNITY BASKETBALL
DRIVEWAY
NEIGHBORHOOD COMMON
DEVOTION HOUSE
SIGNIFICANT TREES
1910
COMMUNITY TENNIS
DRIVEWAY & PARKING
BENCHES FACE STREET
UPPER PLAYGROUND
YOUNGEST CHILDREN
1954
BLACKTOP PLAY AREA
PEDESTRIAN ACCESS
STAIRS
RAMP
UPPER PLAYGROUND
OLDER CHILDREN
MURALS
PLANTED GARDENS
MAJOR COMMERCIAL AND PEDESTRIAN THOROUGHFARE
Devotion St
Prime Time Promotions
Babcock St
CROSSING GUARD
Dwight Square
Dwight St
Zarrigs Delicatessen
New England Comics
Babcock St
Babcock St
Goldfarb
Bureau of Jewish Education

Due to the property lines, streets, and the existing Devotion House and the driveway loop, plus the sloping nature of the site, it is a challenge to provide accessible routes to all site elements that will be required under MAAB regulations for any major renovation and addition. Since the ball field is adjacent to the school and can be used for play by the school, an accessible route to the field should be included as part of the project.

The MAAB requires that all site elements within the project must be connected with accessible routes. While the street and its sidewalks are exempt from the slope requirements of the accessible route, all other walkways, sidewalks, and paths must be made to be accessible. All elements intended to be used by the students such as playgrounds, exercise stations, and recreational fields will need to be made accessible and connected with accessible paths. This also extends to all entrances to the school complex, which must be accessible to their surrounding grade either by means of re-grading the site, or the installation of ramps.

The final project will need to incorporate a balance between maximizing the available outdoor spaces for play ground and play fields, and allowing for accessible routes utilizing ramps and platforms to navigate the grade changes.

clockwise
1913 Main entry, Exterior of library & auditorium windows, 1913 Interior corridor, 1913 Front elevation

Architectural Building Layout:

Situated behind the historic Edward Devotion House, the oldest portion of the Edward Devotion School was constructed in 1913 with its main entrance facing Harvard Street. The building layout is organized around a main corridor which runs parallel to Harvard Street. Offices, administrative support spaces, and classrooms are accessed off of the Harvard Street side of the corridor. The rear facing rooms in the building consist of two-story mechanical and gym spaces on the first floor, and library and auditorium spaces on the second and third floors.

The majority of the rooms located in the 1913 building are used for other means than your traditional classroom spaces. The main administrative offices are situated on the second floor, and many original classrooms on the first and third floor have been subdivided into smaller spaces for office use.

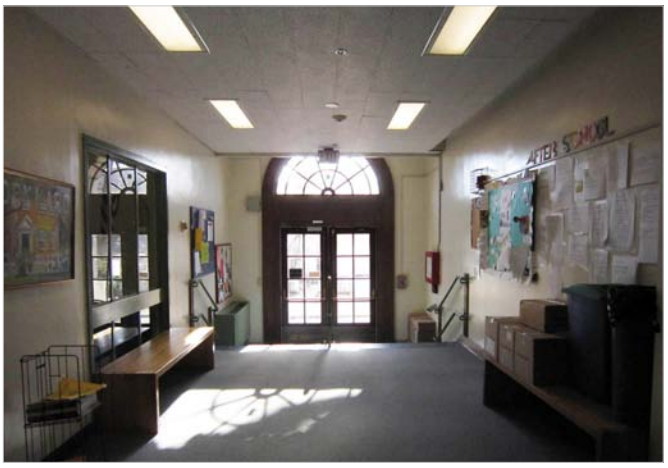
The elevation of the first floor is situated approximately six feet below grade. Therefore, the windows on this level are not full length windows which are typical in the above floors. The small gymnasium space on the first floor was renovated and reduced in size to create locker rooms during the 1954 renovation. The northern part of the room was closed off and split into two levels to create both a boys and girls locker room on the first and second floors respectively. The second floor locker room is accessible only via a dead end corridor and stairs, which is not acceptable by today's building codes.

Exterior envelope:

The building was constructed with yellow brick, typical for the early 1900's, and accented by a mixture of granite and cast stone sills. Additional stone elements consist of the granite front steps and decorative casted stone elements along the main facade. Overall the exterior walls appear to be in good condition with the exception of their control and movement joints at the building intersections. This is most visible at the lower part of the wall where the 1974 addition meets the 1913 building. The chimney construction appears to be in poor condition, where the mortar has deteriorated to the point of requiring re-pointing of the brick. Some repair will also be required above the main entrance doors where an existing flag pole appears to have been removed.

The main entrance doors facing Harvard Street are the original 1913 wooden construction. The majority of windows throughout the building have been updated with metal frame and insulated glazing units. These metal windows appear to be fully operational and in good condition.

clockwise
Roof, Classroom in basement,
Hallway, Clock tower, 1913
Bldg main entrance interior



Roof:

The roof of the 1913 building which is visible from street level consists of sloped surfaces finished with slate tile and is in very good condition. The rear sloped area of the 1913 building was presumably originally finished with slate tiles which may have been salvaged to repair the front and side areas visible from the street below.

The rear portions of the 1913 sloped roof and roof area over the auditorium wing have been recently re-roofed with an EPDM membrane. Both of these areas appear to be in good condition with minimal to no ponding at the flat roof areas. There are standard flat roof drains installed over the auditorium area.

There are numerous copper items along the entire 1913 building roof area. Some of the copper flashing along the upper roof edge is showing signs of distress and may require replacement in the near future. The gutters and downspouts along all portions of the slate roof area are of copper construction. The gutters are showing some signs of deformation due to ice build-up, and many downspouts at the front of the building appear to be clogged from the signs of water splashing on the main façade.

The roof drain system for the entire school complex connects to underground drain lines.

Interior Spaces & Finishes:

The typical wall finishes throughout the corridors and rooms in the 1913 building are a mixture of the original plaster wall surfaces and retrofitted gypsum wallboard areas. These wall surfaces are in fair to good condition in their current configuration, but with visible wear and denting from student traffic through the corridors.

The typical floor finish throughout the 1913 building is carpet, the condition of which varies from good to poor depending upon location and wear pattern. Typically the heavy use corridor areas are more severely worn down than smaller office areas. Below the carpeting in the 1913 building there is presumed to be the original finished wood floor. On-site sampling would be required to determine the full extent of the original finish wood floor. Over time this floor has warped and shifted, and now causes squeaking when under pressure from foot traffic. This is most noticeable in the main corridor closest to the 1974 addition. Repairs and/or replacement of the floor will be necessary to reduce the floor's fluctuation.

clockwise
Auditorium, Library reading nook, Media Center, Classroom

The typical ceiling throughout the 1913 building as well as throughout the entire school is a 1 x 1 acoustic ceiling tile in a concealed spline system. The condition of the system through the school is fair. While most of the tiles are still in place, over the years numerous areas above the ceiling have required access through this ceiling system. Because of the nature of the concealed spline, once the tiles are in place they are not easily removed in partial sections. When this occurs, the tiles are never able to be replaced seamlessly back into the system. The result is a patchwork effect on the ceiling, where notable "patches" of tiles have been removed and replaced and will never again be able to sit flush within the ceiling system.

Auditorium:

The current auditorium was created via a floor infill installed during the construction period of the 1974 addition. The original 1913 building housed a two-story auditorium space with a balcony that spanned the second and third floors of the building. After the floor infill divided the two story space, the auditorium space was located solely on the third floor. The windows along the western façade of the 1913 building were also boarded up due to the construction of the 1974 wing, allowing natural light to only enter from the eastern wall.

The majority of the room's finishes are typical to the rest of the building, with carpet floors and gypsum wallboard and plaster walls in fair to good condition. The ceiling is a mixture of the typical 1x1 acoustical spline ceiling system, along with gypsum wall board soffit areas over the stage to accommodate the theatrical lighting supports.

There are a number of accordion type movable partitions throughout the space which allow the auditorium to be divided into multiple smaller rooms. These movable partitions do not provide much acoustical isolation due to their low sound transmission class (STC) value. This limits the use of the spaces once divided, as much consideration would need to be given to the acoustical volume of the program taking place in the space.

A raised wooden platform is located along the northern wall of the room as the stage. A curtain divides the front platform area from a "backstage" area where performances can take place. A ramp is located along the eastern side of the platform to allow for wheelchair access.

Library:

Upon completion of the 1974 floor infill, the original auditorium level located on the second floor was renovated into the library space. A raised platform is used as a small, raised reading area at the northern portion of the space. This raised platform was most likely installed to encapsulate the original auditorium stage. Future renovation of this space must either completely remove the raised platform area, or install means to make it handicap accessible.

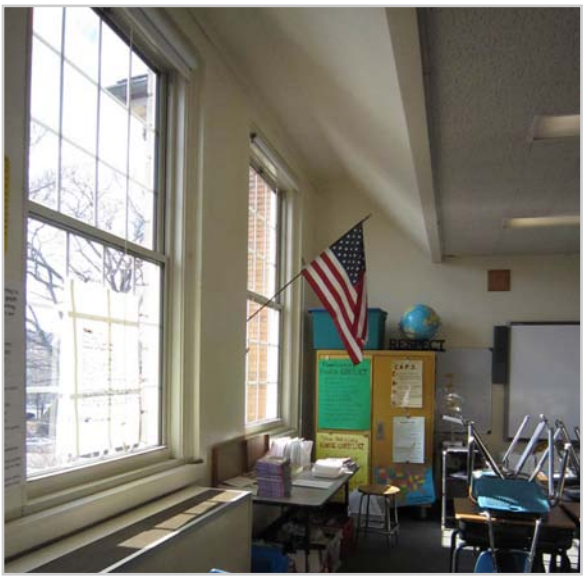
Similar to the auditorium space, the finishes in the library include carpet, plaster and gypsum walls. The ceiling is constructed of the typical 1x1 acoustical spline ceilings and a large number of gypsum wall board soffits. All finishes within this space appear to be in fair to good condition.

Also similar to the auditorium space above, exterior windows and daylight now only enter the room from the eastern wall surface due to the construction of the 1974 wing along the western wall of the space.

Toilet rooms:

Many original toilet rooms were maintained in the 1913 building, where the original stone stall partitions are still in place. All the toilets and fixtures have been upgraded to more modern standards with some including motion sensor flush valves. See accessibility & code deficiencies for information on the accessibility of these toilet rooms.

left to right
Window interior,
Library reading nook



Accessibility & Code Deficiencies:

Under the current building code, the Devotion School is considered a continuous complex lacking any fire separation between the various additions. Any future construction on the school complex that includes renovations to the 1913 building will require that the structure be brought up to current building codes meeting Type IIIA, combustible construction. This will require that all wall and floor construction contain the necessary level of fire proofing to maintain an acceptable fire rating.

The 1913 building is built with load bearing masonry walls, and wooden floor structures. Therefore the wall structures will likely meet the required fire ratings with minimal upgrades, however, the floor slab construction may require more elaborate reconstructing in order to satisfy those requirements. It will also be necessary for the load bearing masonry walls to be brought up to today's lateral load requirements.

Stairs, Corridors & Building Egress:

The Devotion School building must be evaluated as one continuous structure; all egress stairs share the combined occupant loads of the building. There is no delineation between the egress of the occupants through stairs in the 1913, 1954 or 1974 building. Future modifications to the complex must take the egress paths into consideration, as they will be required to conform to today's standards.

Within the 1913 building there are some areas in the rear wing which are currently inaccessible by today's standards. The first is the floor infill installed above the small gymnasium space primarily used as the girls' locker room or extended day facilities, along with a few office spaces. Because this floor is offset from the first floor elevation, and accessible only by stairs and not an elevator, an accessible means of access would have to be installed, unless the level is removed. Second, the small gym on the ground level is accessible primarily by an excessively steep stair, which does not comply with today's building codes. The space is also accessible by a series of sloped walkways from the 1970's rear entrance corridor; however the corridor does not comply with current standards stating that corridor width must be at least 72" wide. Revised or renovated paths of travel may need to be installed or a limitation on the maximum number of occupants may be applied in order to achieve code compliance.

In addition to the inaccessible levels mentioned above, the ground floor of the Devotion School, primarily the lowest level of the 1913 building and the adjacent gymnasium structure built in 1954, have restricted elevator access.

When taking the elevator from any of the above classroom levels to the ground floor level to access the small gym or adjacent full size gymnasium, one must travel through the parking garage where the elevator is located. This configuration does not meet the intentions of ADA regulations and should be corrected in any renovation.

The only original 1913 stairwell construction is located along the eastern side of the auditorium / library area. Current room configurations have required that access to some rooms in the 1913 building is solely from this stairwell. By today's building code standards, occupied spaces with only one means of egress cannot be located directly off of an egress stair. Room access would need to be reconfigured in a renovation to relocate access from outside of the egress stairs.

The construction of the original 1913 stairwell also lacks compliance with today's building codes. The guardrails would need to be updated to current code compliance, handrails would need to be installed, and the nosing of the stair treads would need to be modified to meet the current Massachusetts Architectural Access Board (MAAB) and American with Disability Act regulations (ADA) regulations. This would be in addition to the repair or replacement of the stone treads which have been severely worn down by years of usage.

The egress stairs located at the rear of the auditorium and installed during the 1974 renovation will also require modifications to the handrails and guardrails to comply with today's code requirements.

left to right
Basement corridor,
Small gym

One of the current main entrances to the Devotion School is through the central doorway in the 1913 building. This entrance is not accessible, and would not be allowed to serve as an entrance after a renovation of the school unless an accessible path way is provided. Accessibility through this entrance will present a challenge as the door threshold is located approximately six feet above grade and would require over 60 feet of ramp up to this elevation. Then, once the occupant is through the exterior doors, an interior half flight of stairs to the floor levels of the school still prohibits an accessible path into the building. This will require a chair lift be retrofitted into the area if the stair configuration is to remain in place.

Toilet rooms:

The layouts of all the toilet rooms within the 1913 building are concurrent to the original design, and therefore none of the toilet rooms meet current accessibility regulations. With any major renovation, the toilet rooms will be required to be reconfigured to meet current MAAB and ADA standards. The accessible toilet rooms will require more space than is currently allotted, and therefore careful consideration for the new design will be required to achieve compliance with all necessary regulations.

Structural:

The front portion of the 1913 building facing Harvard Street and supporting the sloped slate roof is constructed from load bearing masonry walls supporting the heavy timber and wood framed roof structure. The library and auditorium rear portion of the building is constructed of a combination of concrete and steel framing.

The wood framed roof structure of the 1913 building also supports a wood framed and copper clad cupola / clock tower. To either side of the building are double sets of masonry chimneys which protrude approximately ten feet past the ridge of the sloped roof.

One method of compliance with today's lateral load building code is to confirm a limited or no increase of load to the existing building. This can be done through the prescriptive method allowed by the International Existing Building Code (IEBC) which is part of the 8th Edition of the Massachusetts State Building Code. However, depending on the programming and final design this may not be achievable. In such a scenario, additional wall clips / bracing may need to be installed to achieve compliance with the code.

For further information, see Appendix B.

clockwise
Main entrance off loop road,
Main stair, Typical classroom,
Exterior facade

Architectural Building Layout:

The 1954 addition to the Edward Devotion School was constructed over the footprint of the 1892 school building on the eastern edge of the site. The addition is a linear building with a double loaded corridor design where the classrooms are all located along the eastern edge of the building, with smaller service and support spaces located on the western edge of the building, facing the Devotion House.

The addition connects through to the 1913 building at common floor heights on the second and third floors. At the first floor, the 1954 building is a few inches below the first floor of 1913 building and transitions this difference via a sloped walkway. However the levels within the 1954 structure are not continuous. The building is a split level structure where the front half of the building closest to Harvard Street has floor elevations set a half level off from the floors of the main building. This was done to allow the main entrance of the 1954 building to be even with the grade of the loop road's sidewalk. There are two entrances at this elevation; one is at the end of the building facing Harvard Street, the second is near the building's connection with the 1913 building.

Exterior envelope:

The overall brick masonry structure appears to be in good condition. There are no signs of significant settlement or stress on the building. Some brick veneer areas will require repointing or repair where the veneer has spalled.

The exterior windows and doors of the building appear to be in various conditions. The windows at the eastern elevation, which are all of the classroom windows that face the playgrounds, have been replaced with insulated glazing units. All the windows along the western façade facing the Devotion House, where all the support or non-classroom spaces are located, remain as the original single pane glazing. In addition to the windows, the exterior doors remain to be of single pane construction, with some attempts at modification to aid in accessibility, although these modifications have not brought the doors up to current requirements.

Roof:

The roof condition consists of a fairly recent EPDM roof installation. This is a consistent feature throughout the entire school complex with the exception of some slate roof areas at the 1913 building. Walkway pads have been provided around various access points to the roof, and there is minimal evidence of ponding.

clockwise
Exterior facade, Basement corridor, Playground, "Moveable" partition with fixed tiems

Interior Spaces & Finishes:

The typical corridor wall finish is a light green glazed terra cotta masonry unit. These units appear to be in fair to good condition throughout the corridor areas. In addition to the glazed block in the corridors, the remaining walls are often covered with built in cubbies for students to hang their belongings. While these units are still functioning with hooks in place, the wood shows signs of significant wear and is in fair to poor condition.

A majority of the walls between classroom spaces are moveable partitions. In the original construction of the building this would have been installed to allow for flexibility of classroom spaces, and create larger rooms for assemblies when needed. The programmatic needs of the school have changed since the construction of the building, and these rooms are now used solely as individual classrooms. Electrical, heating and tel-data equipment have been permanently affixed to these "moveable" partitions rendering them unmovable.

The greatest disadvantage of moveable partitions used as permanent room separation walls is their poor acoustical qualities. The moveable partitions installed within the 1950's were not equipped with any means of acoustical seals around the panels. There are gaps which can be seen at the bottoms of these panels to the floor, which made for easier movement of the panels in opening and closing the system. The gaps, along with the minimal material thickness of the panels, allow a much higher passage of sound between the rooms than would a traditional stud wall. This can greatly compromise the room as an effective space for learning.

The teaching surfaces within the 1954 addition vary greatly. Writeable surfaces range from whiteboards to chalkboards, which can create some concern as many school districts have moved away from the use of chalk in the classroom amidst concerns of allergens caused by the chalk dust. The tackable surfaces range from traditional tackboards to the moveable partition panels which are doubling as tackboards. A concern with the multitude of different surfaces is that equivalencies between classrooms are lost, and one classroom might be more sought after by teaching staff than another one, due to "extra" writable or tackable surfaces in the room.

The floor finishes consist mostly of carpeted floors within the classrooms and corridors. The carpets appear to be a low pile, indoor/outdoor grade carpet in fair to poor condition. Carpeted floors can again cause some concerns with allergies amongst the students and therefore is not typically installed within classroom and corridor spaces in new school construction. There are

clockwise
Playground, Typical classroom cubbies, Main gym interior, Exterior of gym, View from Harvard Street

some exceptions to the carpeted areas, small ~10' x 10' spaces within the first and second floor classrooms have received VCT. The southern stairwell closest to Harvard Street is also VCT, while the central stair which connects the split levels has a stone veneer finish on the stairwell floors as well as the stair treads.

The typical ceiling throughout the 1954 addition as well as throughout the entire school is a 1 x 1 acoustic ceiling tile in a concealed spline system. The condition of the system through the school is fair. While most of the tiles are still in place, over the years numerous areas above the ceiling have required access through this ceiling system. Because of the nature of the concealed spline, once the tiles are in place, they are not easily removed in partial sections. When this occurs, the tiles are never able to be replaced seamlessly back into the system. The result is a patchwork effect on the ceiling, where notable "patches" of tiles have been removed and replaced and will never again be able to sit flush within the ceiling system.

Gymnasium:

During the construction of the 1954 addition, a new gymnasium space was constructed adjacent to the 1913 building along its most northern façade. The gym construction is of steel framing with a CMU back-up and brick veneer. The uppermost portion of the gymnasium is of translucent Kalwall-like panels that aid in the amount of daylight that enters the space.

The current gymnasium is approximately 4,300 sf with interior dimensions of 48' wide by 90' in length. These dimensions do not support the MSBA recommended gym size of 6,000 sf to accommodate a minimum of a 42'x74' junior high sized basketball court with an additional room for overrun and bleacher areas.

The exterior of the gymnasium is showing significant signs of rust. Because this can indicate possible deterioration in the window system, the flashing and drip edges of the system would need to be evaluated for replacement.

Accessibility & Code Deficiencies:

With any major renovation, full compliance of the Massachusetts Architectural Access Board (MAAB) regulation would be required. In addition, all new systems installed must meet the current building code.

Full compliance with MAAB regulation would translate to a fully accessible building. All entrances must be accessible and all spaces open to students must be on an accessible route connected with elevators, ramp, or chair lift. In addition, all other elements such as stairs, toilets, hardware, etc. must meet the requirement for the current building code and MAAB.

The existing building is a split level with the southern half at mid floor level of the northern half of the building. An accessible route must be provided to offer wheelchair access to all levels. This would require either the installation of a new elevator with stops at all the levels or multiple chair lifts to connect the different elements of the accessible route. Both options will result in reduction in usable space and loss of classrooms with the current configuration. In addition to the split level, the first floor is not at the same level as the rest of the complex. The first floor is a few inches below the 1913 building's first floor. A proper ramp or chair lift must be installed to address the difference of the floor levels.

The third floor classrooms of the 1954 building include difficulties in egress compliance as they do not have the proper two means of egress. In order to reach the second means of egress from some of the spaces, one must pass through another occupiable space, which is not allowed by today's building codes. Additionally, an accessible means of egress for a person in either of the two southern classrooms in this wing cannot be reached without traveling through the adjacent classroom. This configuration does not meet ADA regulations and should be corrected in any renovation.

Stairs, Corridors & Building Egress:

The existing entrances have a pair of 30" doors in a 5'0" frame. While some of the doors have automatic openers to assist the opening of the door, this still only allows for a less than 30" clear opening for the occupants passing through. This is less than the 32" clear opening required by MAAB. In a renovation it would be possible to replace the two equal doors with one large leaf door at a minimum of a 36" width and a smaller inactive leaf to provide the necessary opening width.

The existing 1954 stair construction in all three stairwells includes stair nosing and guard rails which do not meet current code requirement for opening size and the shape of the nosing. The existing stair treads/risers and guard rails must be modified to meet current MAAB regulation.

Toilet rooms:

The layouts of all the toilet rooms within the 1954 building are contemporary to the original design, and therefore none of the toilet rooms meet current accessibility regulations. With any major renovation, the toilet rooms will be required to be reconfigured to meet current MAAB and ADA standards. The accessible toilet rooms will require more space than is currently allotted, and therefore careful consideration for the new design will be required to achieve compliance with all necessary regulations.

Structural Review:

The 1954 eastern wing is built with steel framed column and beam construction. The roof slabs and upper floor slabs are concrete, with the exception of the third floor clerestory roof which is a steel deck. The building is set upon a slab on grade crawl space towards Harvard Street, and upon a conventional spread footing to the rear of the building.

Due to the age of the building, the structure has not been adequately designed to meet lateral load or gravity load requirements of today's codes. There are multiple paths by which the structure could be evaluated and achieve compliance with the International Existing Building Code (IEBC) by prescriptive measures. The IEBC governs the renovations of existing buildings as a part of the current Massachusetts Building Code. IEBC allows for different methods of compliance; however these methods will have additional affects on the architectural building upgrades required.

A full structural review will be required to determine the best method to be used for this project. The outcome of which could possibly require the addition of a lateral bracing system by means of the installation of restraints at the tops of all masonry walls.

For further information, see Appendix B.

clockwise
Typical classroom, Rear facade of 1974 bldg, Harvard St plaza deck, Loading dock

Architectural Building Layout:

The 1974 addition to the Edward Devotion School was constructed after a fire damaged part of the original west wing constructed in 1898. This addition consists of three levels of school program including classrooms and the kitchen/cafeteria. Below the first floor is a garage level which is accessible at grade along Stedman Street, and is below grade along the Devotion House side of the site. Access to this wing can be gained from Stedman Street by traversing up the inclining hill of the site, onto the plaza area above the parking garage, and into a set of main entry doors located outside the cafeteria lobby. There is also a secondary entrance at the rear of the addition facing the ball field behind the building.

Connecting to the western side of the 1913 historic portion of the Devotion School, the first through third levels of the 1974 addition have been constructed level with the existing 1913 floors. The parking garage floor is set only 10 feet below the first floor. This floor to floor height is adequate for a parking/ mechanical space, but would be inadequate for any other programmatic functions.

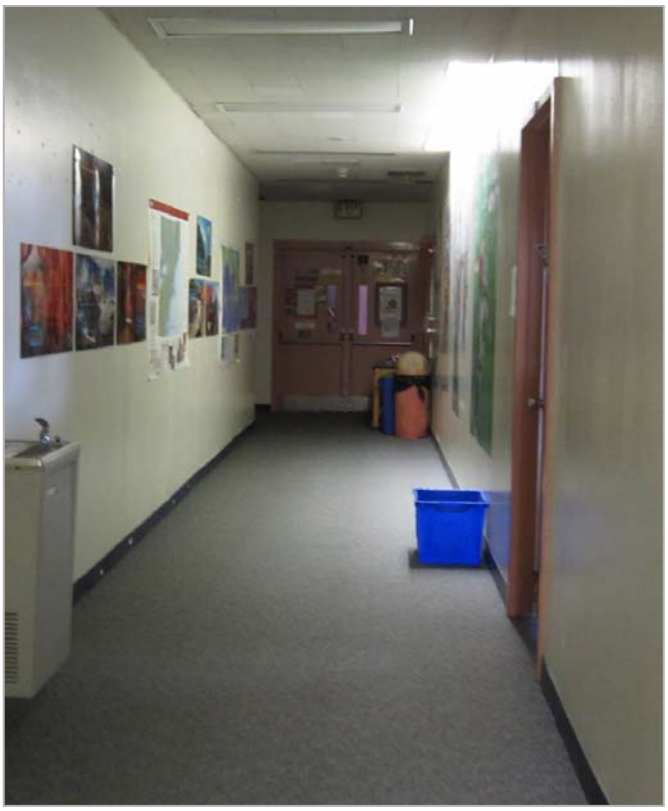
During the 1974 addition period, renovations were also completed to the existing 1913 structure. A large part of this renovation was the division of the existing two-story auditorium into two separate levels. The second floor was renovated to become the main library for the school. The new third floor was constructed as a multi-purpose space and is now used as an auditorium and performance/music space.

Exterior envelope:

All of the exterior windows, doors, and curtain wall glazing are from the original 1974 construction. Therefore all glazing throughout the wing is single pane, resulting in major inefficiencies in thermal transmission through the structure.

The condition of the exterior brick veneer is in fair condition over most of the structure. Some exterior surfaces, including the area around the loading dock, will require localized repointing of the masonry. The flashing around the exterior hoods for the HVAC system at each classroom bay will need to be evaluated, as there is evidence of water entering into the system through this area which may be the result of deteriorated flashing around the hoods.

clockwise
Interior corridor, Cafeteria, Media area, Interior small classroom, Science lab



Roof:

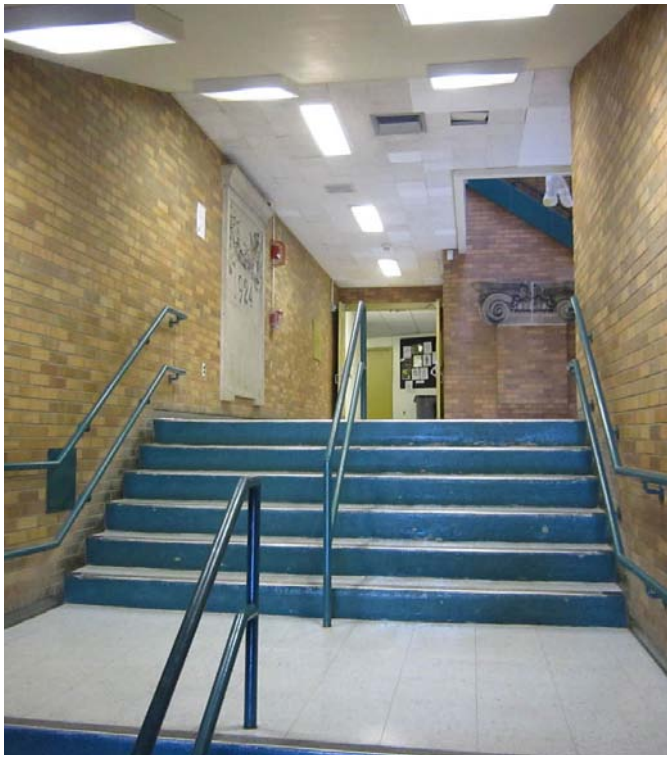
The roof condition consists of a fairly recent EPDM roof installation. This is a consistent feature throughout the entire school complex with the exception of some slate roof areas at the 1913 building. Walkway pads have been provided around various access points to the roof, and there is minimal evidence of ponding.

Interior Spaces & Finishes:

The typical layout of the classroom spaces on the second and third floors, when constructed in 1974, was based on an open concept plan. Per the original 1974 drawings, the majority of walls within the addition were operable partitions. Many of these operable partitions have been replaced with interior glass curtainwall systems and the remaining operable partitions have been fixed in place to divide the open plan space into individual classrooms.

The curtainwall has been installed to separate the classrooms from the interior corridors. Separations between classrooms are typically the original moveable panel partitions, now permanently in the closed position. As noted with the 1954 building existing conditions, operable partitions provide poor acoustic separation due to the lack of sealants around the paneling to completely seal off one space from the other. The interior curtainwall system would also be inferior in acoustic separation to a typical classroom wall construction due to its single layer of glazing construction.

The typical flooring and ceiling finishes throughout the classrooms on the second and third floors are carpeting and a 1 x 1 concealed spline ACT. These finishes are in fair condition, with minimal areas of disrupted ACT on the upper levels. The main entry lobby of the 1974 addition, which also serves as the lobby area into the cafeteria space is finished with a terra cotta quarry tile in fair condition. The flooring within the cafeteria and kitchen space is a VCT in poor condition showing significant signs of wear, possibly due to the continual wetting of the tile. Most tiles are curling up at the edges, and should be considered at the end of their usable lifespan. The ceiling within these two areas is also the 1 x 1 concealed spline, in poor condition. There are many areas that have been accessed through removed ceiling tiles, and the replacement of these tiles is not flush with the surrounding system.



clockwise
Inaccessible rear stair entrance, Main stairwell, Classroom "moveable" partition, Classroom

Accessibility & Code Deficiencies:

Currently the 1974 building houses the one elevator which provides accessible handicap access to all areas of the Devotion School. The first floor entrance off the loop road from Harvard Street is the main accessible entrance for the school. All areas of the school are accessible to the elevator with the exception of the front split levels of the 1954 east wing, and the mezzanine above the small gym.

The second floor art rooms present concerns over a secondary means of egress. Currently the southernmost art and kiln room egress directly into one adjacent stairwell. However the secondary egress path traverses an occupied space which is not acceptable by today's building codes.

Toilet rooms:

The layouts of all the toilet rooms within the 1974 building are contemporary to the original design, and therefore none of the toilet rooms meet current accessibility regulations. Some single occupant toilet rooms have been retrofitted with handrails in an attempt to provide some measure of assistance to a handicapped occupant, however they are still not in full compliance with today's standards in terms of room clearance.

With any major renovation, the toilet rooms will need to be reconfigured to meet current MAAB and ADA standards. The accessible toilet rooms will require more space than is currently allotted, and therefore careful consideration for the new design will be required to achieve compliance with all necessary regulations.

Stairs, Corridors & Building Egress:

The existing 1974 stair construction in all stairwells includes hand rails and guard rails which do not meet the current code height requirements. The existing stair rails must be modified to meet current MAAB regulation. The existing stair nosings in the 1974 building are compliant with today's codes, unlike the stairs within the rest of the building.

The rear entrance of the 1974 building is accessible at grade, but not directly accessible to the interior first floor cafeteria level. Upon entering the building an occupant must travel through the parking garage to where the elevator is located in order to bypass the stairs at this entrance. This configuration does not meet the intentions of ADA regulations and should be corrected in any renovation.

Structural:

The 1974 western wing addition is built of concrete and steel construction, with a typical 3" concrete floor slab supported by steel joists. The exterior walls are constructed of unreinforced CMU with a brick masonry veneer.

Due to the age of the building, the structure has not been adequately designed to meet lateral load or gravity load requirements of today's codes. There are multiple paths by which the structure could be evaluated and possibly achieve compliance with the International Existing Building Code (IEBC) by prescriptive measures. The IEBC governs the renovations of existing buildings as a part of the current Massachusetts Building Code. IEBC allows for different methods of compliance; however these methods will have additional affects on the architectural building upgrades required.

A full structural review will be required to determine the best method to be used for this project, the outcome of which could possibly require the addition of a lateral bracing system by means of the installation of restraints at the tops of all masonry walls.

For further information, see Appendix B.

Mechanical:

The main boiler room for the Edward Devotion School is located on the ground floor of the 1913 building and currently operates two low pressure steam boilers, which were installed in 1992. The 1954 building is heated via the steam produced from these boilers, while the 1913 and 1974 buildings are heated via air handlers located in the mechanical penthouse above the 1974 building, also installed during the 1974 construction. An air handling unit also located in the mechanical penthouse serves the rear gymnasium space.

The current building systems have been maintained adequately over their life span, but have all surpassed their anticipated service life. Future construction at the school should include a major replacement of all systems and controls with newer, more energy efficient, and better controlled equipment.

Electrical:

The main electrical room for the Edward Devotion School is located on the ground floor of the 1974 building adjacent to the parking garage. The school is served by a 3000 Amp, 208Y/120V, 3-phase, 4-wire Main Switchboard.

The majority of the panel boards throughout the school were installed during the 1974 renovation, if not older, and are difficult to provide replacement breakers for. Therefore the replacement of all breaker boards throughout the school is recommended in any future renovation.

The lighting systems throughout the entire school complex were primarily installed prior to 1979 and are recommended for replacement. There have been numerous advancements in energy efficient lighting design since the current fixtures were installed. New fixtures along with the installation of a lighting control system will contribute to an energy savings for the school along with achieving compliance with today's current energy codes.

Plumbing:

The Edward Devotion School is currently supplied by both city water service and natural gas which enter the building through the 1974 building on the parking garage level. There is a designated water service room within the parking garage, through which the domestic water line is accessed, and adjacent to which the natural gas line enters the building. Both systems are adequately servicing the current building requirements.

The toilet rooms and fixtures throughout the Devotion School include a range of various updates. Approximately half of the toilet rooms have been upgraded with motion sensor operated flush valves and faucet controls. The majority of the remaining fixtures are no longer code compliant and require replacement. It is likely that all these fixtures would need to be replaced. In addition, a sufficient number of drinking fountains would need to be added to meet current plumbing code.

Fire Protection:

The Edward Devotion School currently has a wet sprinkler system throughout the occupied spaces, as well as two dry systems, one within the parking garage, and one within the 1913 roof cavity. The main supply lines are also fed from the city water system and enter the building within the water service room in the 1974 building parking garage.

The major item of note is that the existing 1913 building currently contains limited sprinkler coverage through the main egress areas. The main areas of assembly contain some sidewall head coverage, but the majority of spaces throughout the 1913 building do not meet today's building code standards and need to be upgraded.

For further information please reference the full MEP FP Existing Conditions report in Appendix C.

Section IV

Evaluation of Alternatives

Option	Renovation	Demolition	New Construction	Const. in Adj. Field	Play Field Area
A	All buildings	--	--	--	Similar to Existing
B B1	All buildings	--	Minor Addition	--	Reduced
C C1	1913 / 1974	1954	Addition	--	Reduced
D D1	1913	1954 / 1974	Major Addition	--	Similar to Existing
E E1	1913	1954 / 1974	Major Addition	X --	Reduced Increased
F	--	All buildings	All buildings	X	Increased

As requested by the Town of Brookline, HMFH Architects has reviewed various options for the Edward Devotion School project. These options were compiled in an effort to determine the most cost-effective and educationally-appropriate solution for Brookline Public Schools. Options that have been reviewed at the existing school site and adjacent ball field include code compliance renovations, renovation/additions, and new construction.

Option A: Base Repair Option

Renovate the existing Edward Devotion School to comply with today's current code requirements. Upgrades will include accessibility modifications, life safety requirements including the installation of a full sprinkler system, and replacement of the majority of the MEP systems which have reached the end of their life cycle. The existing rooms will be reorganized to include as much program as possible.

Option B: Renovation and Minor Addition

Renovate the existing Edward Devotion School to include upgrades specified in the base repair option. Construct a new 3-story addition west of the 1974 building and a new 2-story addition east of the 1954 building to provide the number of classrooms required for MSBA compliance.

Option B1: Renovation and Minor Addition

Renovate the existing Edward Devotion School to include upgrades specified in the base repair option. Construct three new additions: a 3-story addition west of the 1974 building, a 2-story addition east of the 1954 building (both to house the remaining classrooms and a new library), and a new gym. Restore the existing small gym and auditorium to their original larger size and height.

Option A: Base Repair Option

Pros
- All SPED and Pre-K classrooms provided

Cons
- 12 classrooms short of the 32 required
- Only 4 kindergarten classrooms provided
- No science labs or vocational technology rooms
- Many teaching spaces smaller than MSBA guidelines due to the reuse of existing spaces
- Only half of required main admin space provided
- Only half of the requested Pre-K admin space provided
- Existing gym smaller than MSBA guidelines
- No locker rooms
- Existing library and auditorium to remain

Option B: Renovation and Minor Addition

Pros
- All general, SPED and Pre-K classrooms provided
- Science labs and vocational technology rooms provided

Cons
- Many teaching spaces smaller than MSBA guidelines due to the reuse of existing spaces
- Existing gym smaller than MSBA guidelines
- No locker rooms
- Existing library and auditorium to remain

Option B1: Renovation and Minor Addition

Pros
- All general, SPED and Pre-K classrooms provided
- Science labs and vocational technology rooms provided
- New library and gymnasium
- Auditorium and small gym renovated and restored to original larger sizes

Cons
- Size of some teaching spaces smaller than MSBA guidelines due to reuse of existing spaces
- No locker rooms
- Temporary gymnasium space needed during construction

Option C: Demolition, Reno. and Addition

Pros
- All general, SPED and Pre-K classrooms provided
- Majority of teaching spaces are appropriately sized
- Science labs and vocational technology rooms provided
- New library and gymnasium
- Auditorium and small gym renovated and restored to original, larger sizes

Cons
- Some teaching spaces smaller than MSBA guidelines due to reuse of existing spaces
- Reduced outdoor playground spaces
- Temporary facilities needed for approximately half of the classroom spaces and gymnasium space during construction

Option C1: Demolition, Reno. and Addition

Pros
- All general, SPED and Pre-K classrooms provided
- Majority of teaching spaces are appropriately sized
- Science labs and vocational technology rooms provided
- New library and gymnasium
- Auditorium and small gym renovated and restored to original larger sizes

Cons
- Some teaching spaces smaller than MSBA guidelines due to reuse of existing spaces
- Reduced outdoor playground spaces
- Temporary gymnasium space needed during construction

Option C: Demolition, Renovation and Addition

Renovate the existing 1913 and 1974 building to comply with accessibility and life safety requirements. Restore the existing small gym and auditorium to their original larger size and height. Demolish the 1954 wing and construct a new 3-story wing containing classrooms, library, gym, and BEEP program spaces.

Option C1: Demolition, Renovation and Addition

Renovate the existing 1913 and 1974 building to comply with accessibility and life safety requirements. Restore the existing small gym and auditorium to their original larger size and height. Demolish the 1954 wing and construct a new 3-story wing containing classrooms, library, gym, and BEEP program spaces. The new addition will connect to both the 1913 and 1974 buildings to provide improved circulation around the building interior.

Option D: Demolition, Renovation and Major Addition

Demolish the existing 1954 and 1974 buildings. Build a new three-story addition around the footprint of the existing 1913 building. The new construction will contain the majority of the school's programmatic spaces. Renovate the existing 1913 building to comply with accessibility and life safety requirements. Restore the existing small gym and auditorium to their original larger size and height.

Option D1: Demolition, Renovation and Major Addition

Demolish the existing 1954 and 1974 buildings. Build a new four-story addition around the footprint of the existing 1913 building. The new construction will contain the majority of the school's programmatic spaces. Renovate the existing 1913 building to comply with accessibility and life safety requirements. Restore the existing small gym and auditorium to their original larger size and height.

Option D: Demolition, Reno. and Major Add.

Pros
- All general, SPED and Pre-K classrooms provided
- All teaching spaces are appropriately sized
- Classrooms are "clustered" in groups of four rooms per grade
- Science labs and vocational technology rooms provided
- New library and gymnasium
- Auditorium and small gym renovated and restored to original, larger sizes

Cons
- Temporary facilities needed for at least half of the classroom spaces and gymnasium space during construction
- Reduced outdoor playground spaces

Option D1: Demolition, Reno. and Major Add.

Pros
- All general, SPED and Pre-K classrooms provided
- All teaching spaces are appropriately sized
- Classrooms are "clustered" in groups of four rooms per grade
- Science labs and vocational technology rooms provided
- New library and gymnasium
- Auditorium and small gym renovated and restored to original larger sizes
- Large Pre-K outdoor play area provided

Cons
- Temporary facilities needed for at least half of the classroom spaces and gymnasium space during construction

Option E: Demolition, Reno. and Major Add.

Pros
- All general, SPED and Pre-K classrooms provided
- All teaching spaces are appropriately sized
- Classrooms are "clustered" in groups of four rooms per grade
- Science labs and vocational technology rooms provided
- New library and gymnasium
- Auditorium and small gym renovated and restored to original larger sizes
- Large Pre-K outdoor play area provided
- Temporary classroom space not required during constr.

Cons
- New construction on adjacent baseball field property
- No baseball field provided
- Temporary gymnasium space needed during construction

Option E1: Demolition, Reno. and Major Add.

Pros
- All general, SPED and Pre-K classrooms provided
- All teaching spaces are appropriately sized
- Classrooms are "clustered" in groups of four rooms per grade
- Science labs and vocational technology rooms provided
- New library and gymnasium
- Auditorium and small gym renovated and restored to original larger sizes
- Large Pre-K outdoor play area provided
- Temporary classroom space not required during construction
- Baseball field provided

Cons
- New construction on portion of adjacent baseball field property
- Potential need for classroom swing space and gym in Phasing Option 2

Option F: Demolition, New Construction

Pros
- All general, SPED and Pre-K classrooms provided¬
- All teaching spaces are appropriately sized
- Classrooms are "clustered" in groups of four rooms per grade
- Science labs and vocational technology rooms provided
- New library and gymnasium
- Auditorium and small gym renovated and restored to original larger sizes
- Possibility for large play field area (baseball and/or soccer field)

Cons
- New construction on adjacent baseball field property
- Demolition of existing historical 1913 building

Option E: Demolition, Renovation and New Construction

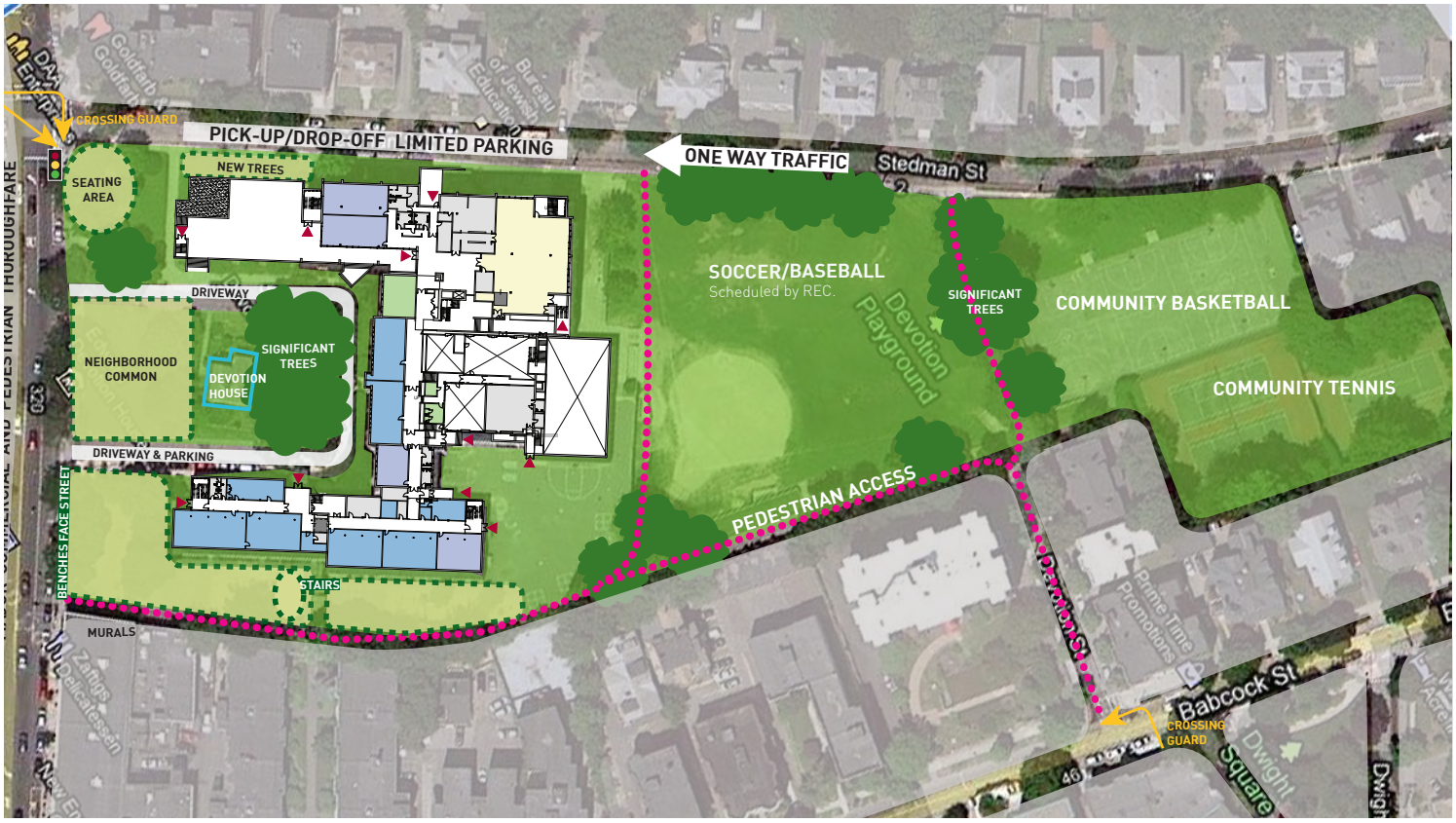
Demolish the existing 1954 and 1974 buildings. Build a new four-story addition at the rear of the existing 1913 building on the adjacent ball field. The new construction will contain the majority of the school's programmatic spaces. Renovate the existing 1913 building to comply with accessibility and life safety requirements. Restore the existing small gym and auditorium to their original larger size and height.

Option E1: Demolition, Renovation and New Construction

Demolish the existing 1954 and 1974 buildings. Build a new six-story addition connected to the rear of the existing 1913 building on a portion of the adjacent ball field. A new ball field will be relocated on the current ball field property. The new construction will contain the majority of the school's programmatic spaces. Renovate the existing 1913 building to comply with accessibility and life safety requirements. Restore the existing small gym and auditorium to their original larger size and height.

Option F: Demolition, New Construction

Construct the new school in the adjacent baseball field behind existing school. Demolish the existing Edward Devotion School buildings and re-grade the site for the installation of a new ball field and/or soccer field between the Devotion House and new Devotion School.


CROSSING GUARD
PICK-UP/DROP-OFF LIMITED PARKING
ONE WAY TRAFFIC
Stedman St
SEATING AREA
NEW TREES
DRIVEWAY
NEIGHBORHOOD COMMON
DEVOTION HOUSE
SIGNIFICANT TREES
DRIVEWAY & PARKING
BENCHES FACE STREET
STAIRS
MURALS
SOCCER/BASEBALL
Scheduled by REC.
Devotion Playground
SIGNIFICANT TREES
COMMUNITY BASKETBALL
COMMUNITY TENNIS
PEDESTRIAN ACCESS
Babcock St
CROSSING GUARD
Dwight Square

Site plan

Option A evaluates the feasibility of a straight renovation to the existing Edward Devotion School buildings. This renovation would consist of the replacement of the majority of the building's systems which have reached the end of their usable life cycle, as well as required accessibility and life safety updates. These updates would require all levels of the building to be accessible via elevator or chair lift access, all bathrooms to have accessible toilets, and a sprinkler system would need to be installed through the entire complex.

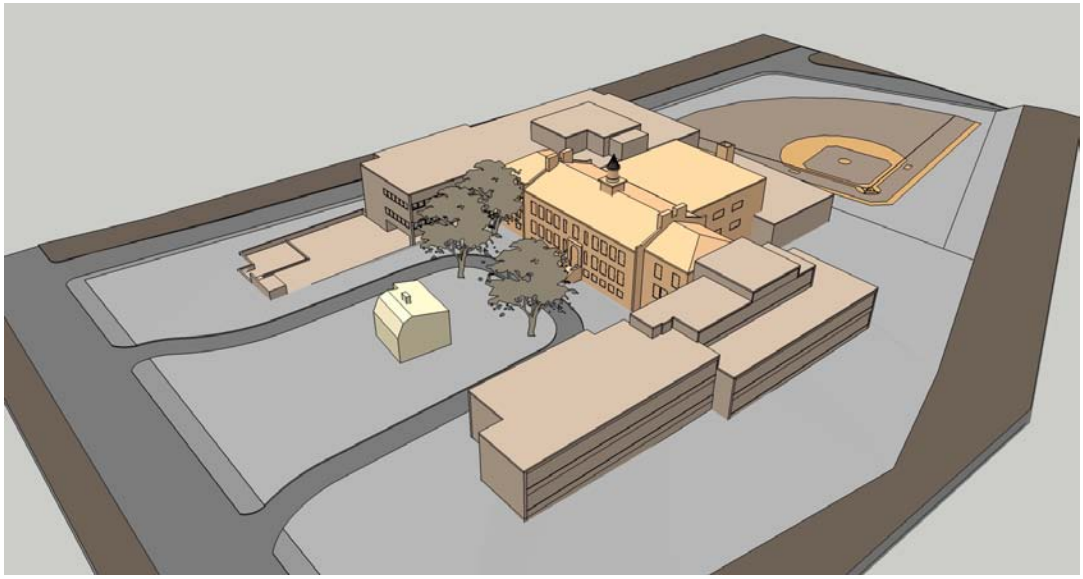
A programmatic reorganization of the building would also be undertaken to better accommodate the educational functions of the school. Existing interior layouts would be re-utilized as best as possible, with some minor interior partition modifications where necessary. In the Option A scheme diagrammed in this concept study, the renovated complex would lack 12 general classrooms, one kindergarten classroom, three science labs, and two vocational rooms.

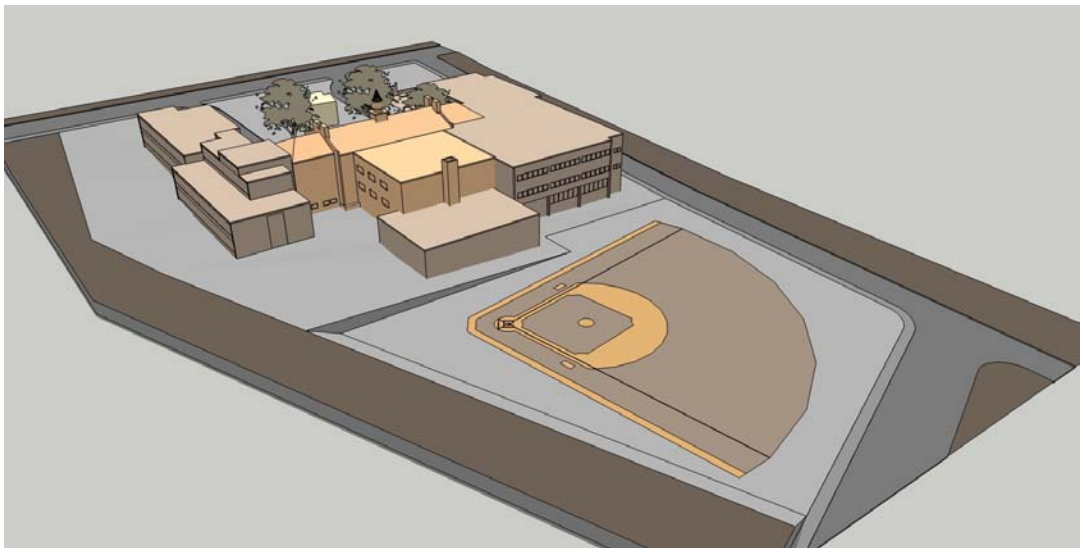
The 1913 building will continue to house some of the larger shared spaces such as the small gym, library and auditorium. The existing gymnasium at the rear of the 1913 building will be renovated. It is smaller than current MSBA standards would advise and cannot accommodate a regulation size basketball court with proper overrun area.

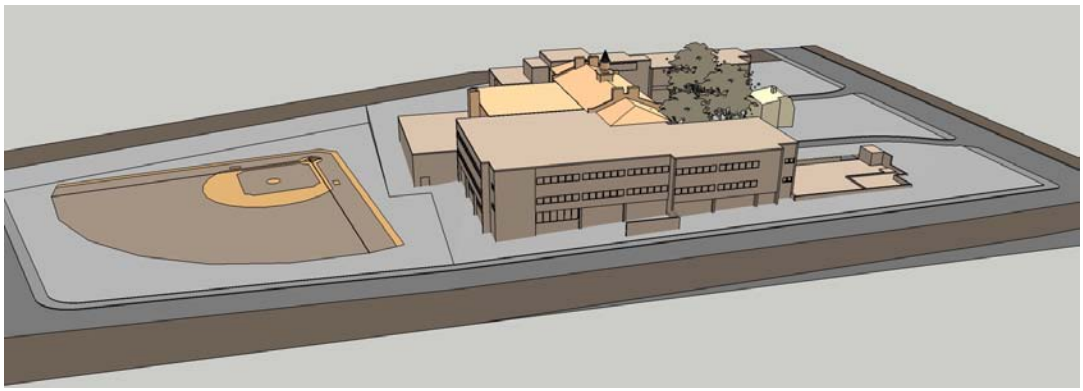
The 1954 building's structural bay was designed as a double loaded corridor with smaller office-sized spaces on one side and larger classroom spaces on the other. The new spaces will continue to be programmed in this way. New partitions will be installed to replace the existing movable partitions and to improve classroom acoustics. The accessibility restrictions of the 1954 building split level structure would be addressed by installing an elevator accessible to all floor levels.

The 1974 building was originally designed as an open classroom floor plan. Through previous renovations the interior spaces have been divided using an interior curtainwall / storefront partition system. These partitions can be reused or replaced with new stud partitions. The majority of the spaces housed in the 1974 building will continue to be classroom space, along with music and art. The cafeteria will also remain in its current location.

Demolition:	0 gsf
Renovation:	162,051 gsf
New Construction:	0 gsf
TOTAL Construction:	162,051 gsf
Estimated Construction Cost:	$43 M



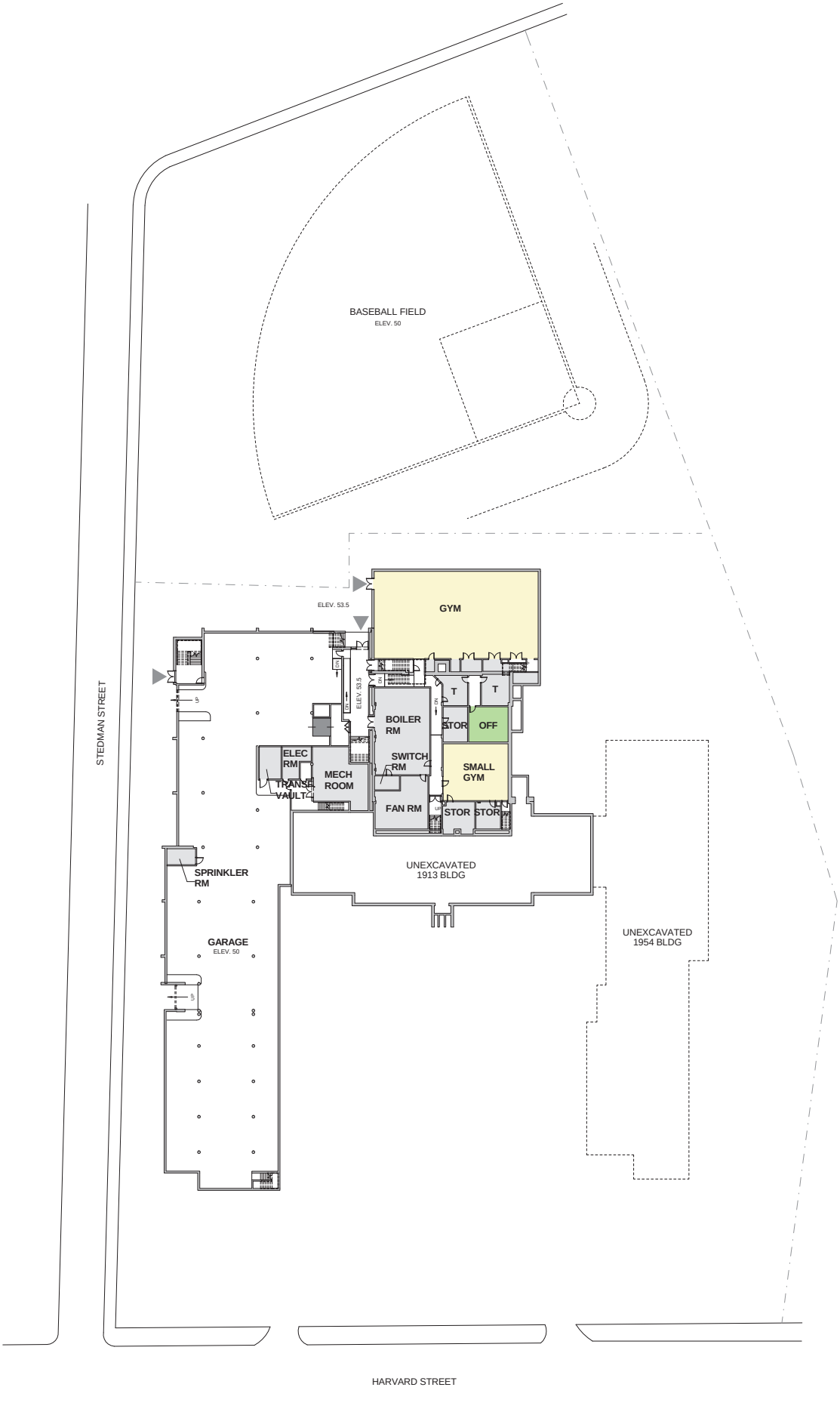




Conceptual massing

Compromises in overall room sizes and adjacencies would be made in order to reuse as many of the existing spaces as possible. In the 1913 and 1970 building, a majority of the existing classroom spaces are smaller than the MSBA recommended room sizes, however the MSBA will allow for the use of smaller room sizes in a renovation project to allow for the maximized reuse of the existing structure. Consistent, direct adjacencies, adequate room sizes, and full program requirements cannot be achieved in an exclusively renovation option.

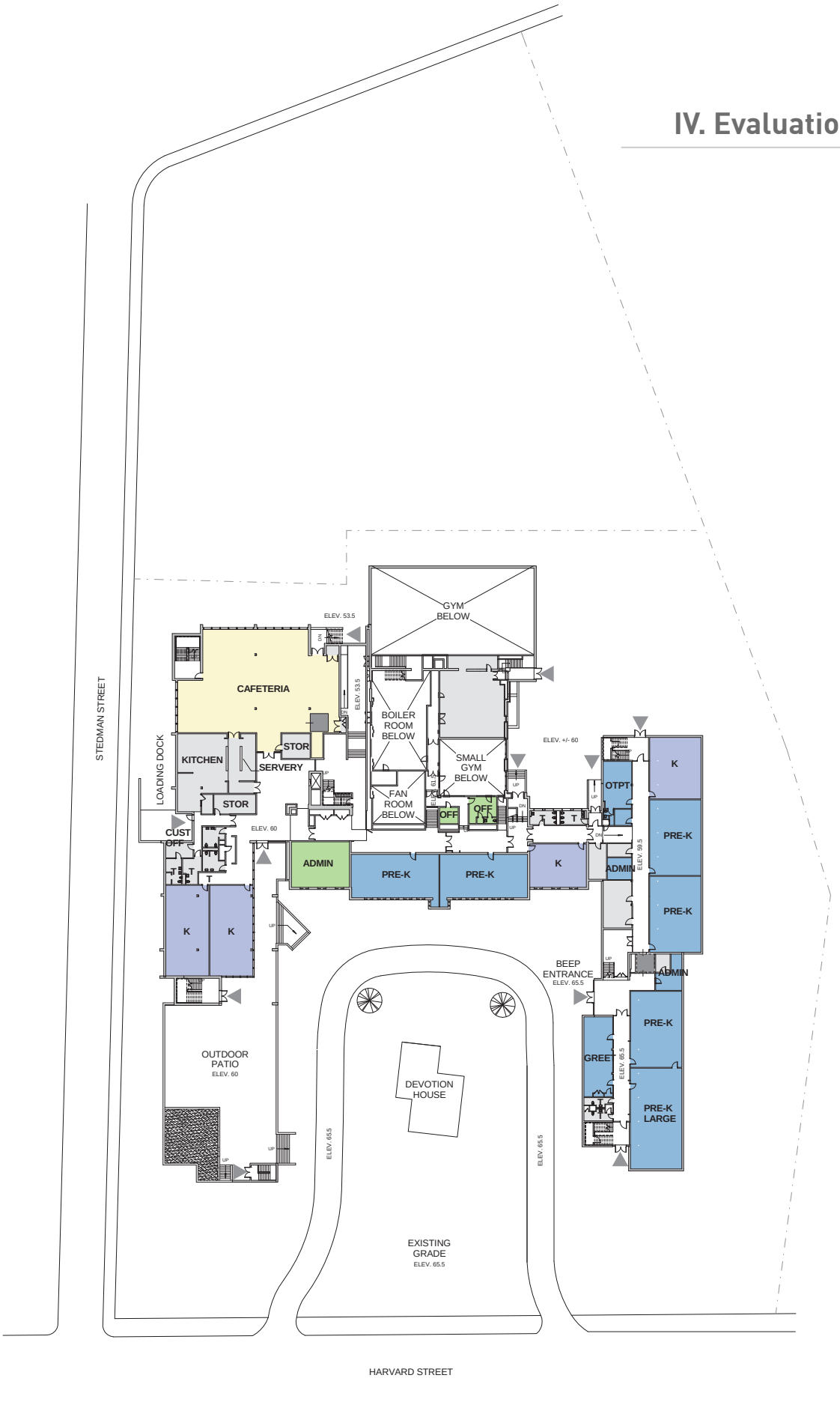
Construction of this project would require students be moved out of the existing building while it is undergoing renovation. The number and length of phases in the construction project will be directly related to the amount of students that can be moved out of the existing building at a given time. If alternative classroom spaces could be found for the entire student body then the building renovation could be completed in one consistent phase. A multi-phased occupied renovation could require as long as three years to complete.



GROUND FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

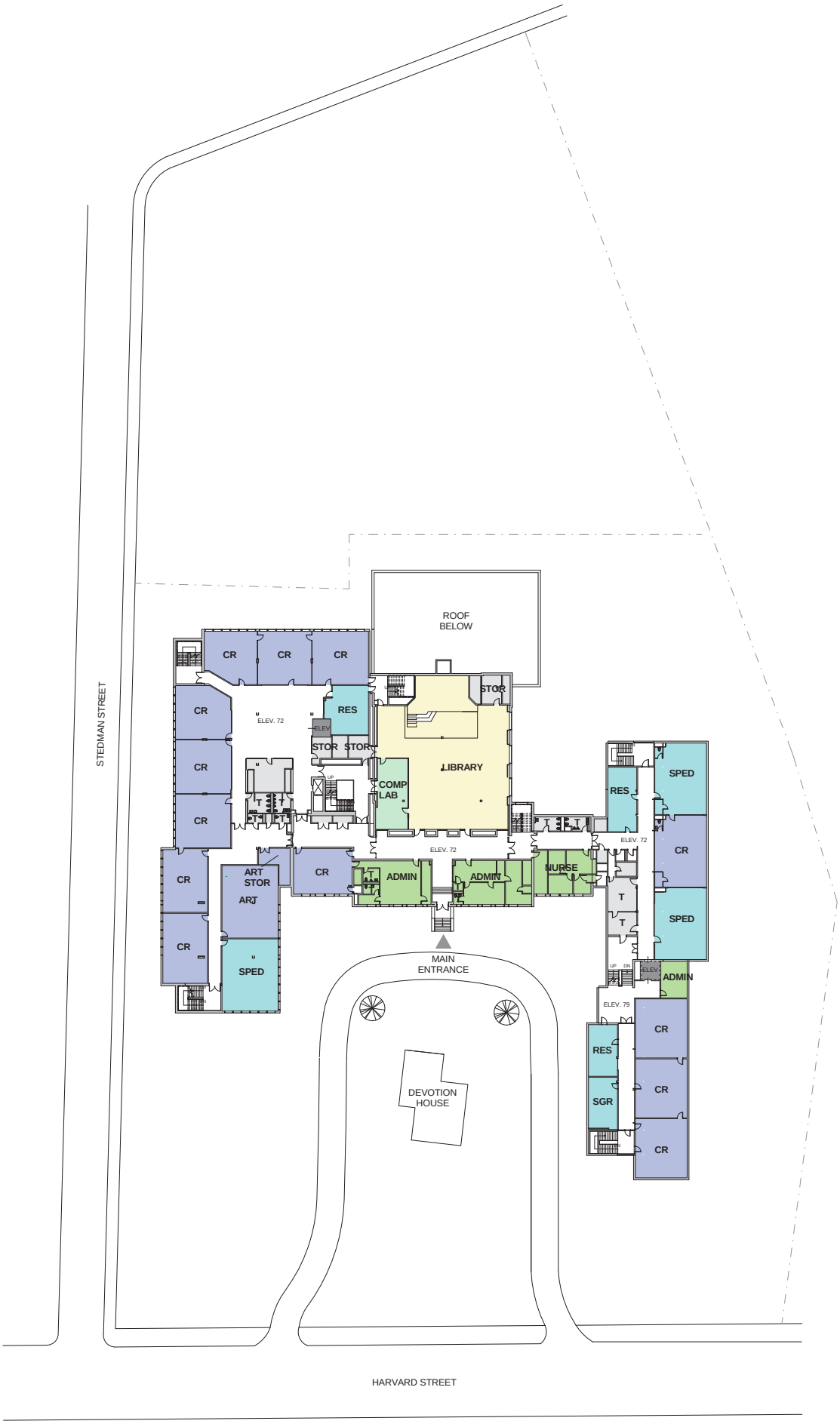
0' 40' 80'



FIRST FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'



SECOND FLOOR

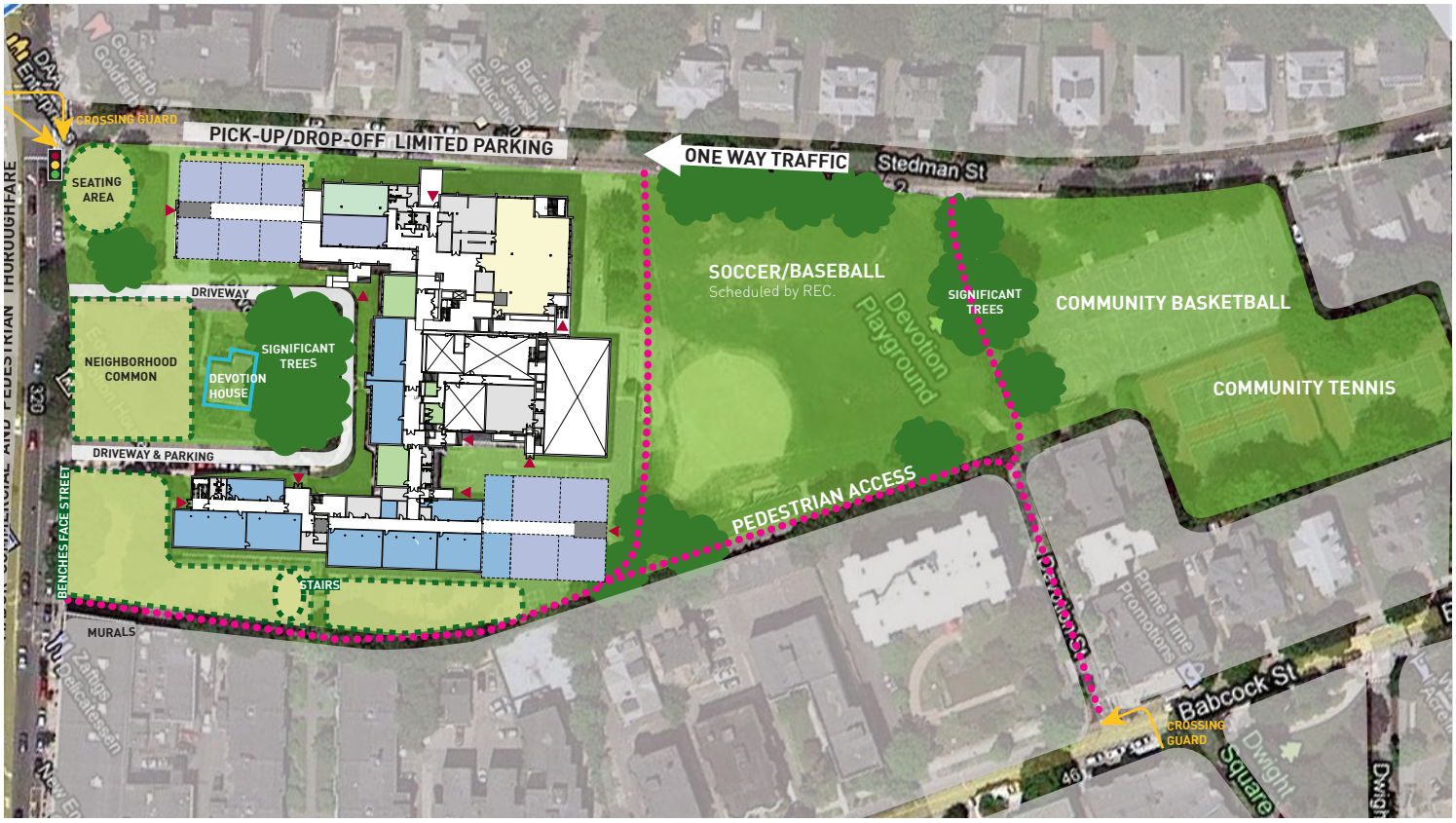
- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

THIRD FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'


CROSSING GUARD
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STAIRS
MURALS
SOCCER/BASEBALL
Scheduled by REC.
Devotion Playground
SIGNIFICANT TREES
COMMUNITY BASKETBALL
COMMUNITY TENNIS
PEDESTRIAN ACCESS
Babcock St
CROSSING GUARD
Dwight Square

Site plan

Option B evaluates the feasibility of a renovation to the existing Edward Devotion School buildings combined with minor additions to the 1954 and 1974 buildings. In this scheme, a three-story addition is constructed west of the 1974 building to house new classroom and science lab spaces. A two-story addition is constructed east of the 1954 building to accommodate kindergarten classrooms on the ground floor and additional classroom spaces and voc tech on the second floor.

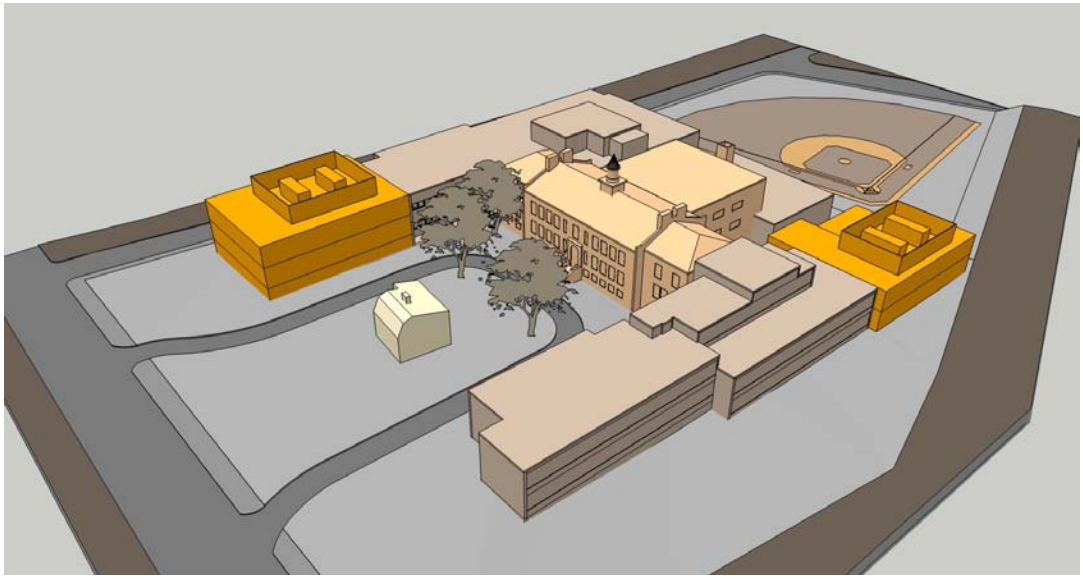
The renovation portion of the project will consist of the replacement of the majority of the building's systems, which have reached the end of their usable life cycle, as well as required accessibility and life safety updates. These updates would require all levels of the building to be accessible via elevator or chair lift access, all bathrooms to have accessible toilets, and a sprinkler system would need to be installed through the entire complex.

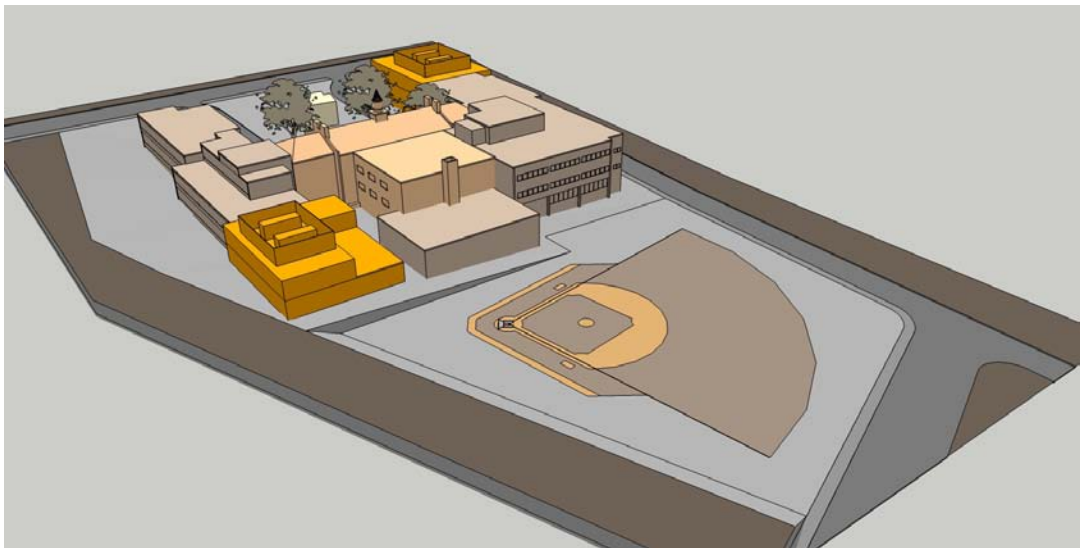
A programmatic reorganization of the building would also be undertaken to better accommodate the educational functions of the school. Existing interior layouts would be re-utilized as best as possible, with some minor interior partition modifications where necessary. In Option B, all classroom spaces have been provided, but due to the restraints of the existing building layout, classrooms cannot be grouped in clusters of four rooms per grade.

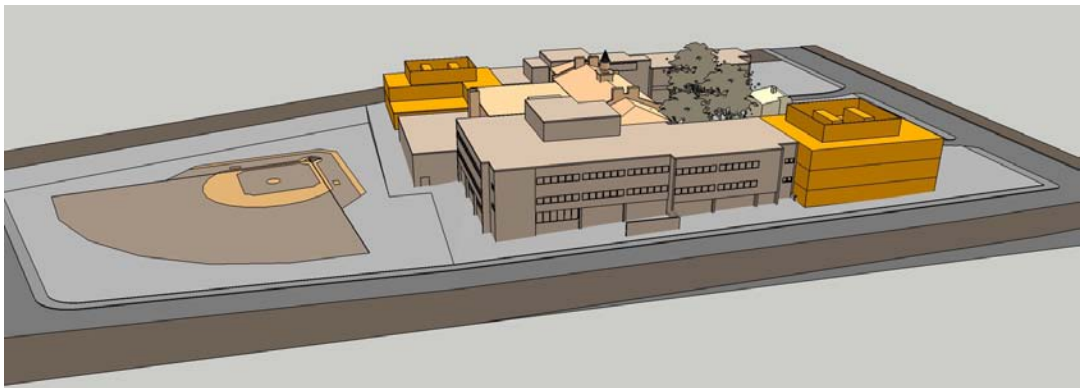
The 1913 building will continue to house some of the larger shared spaces such as the small gym, library, and auditorium. The existing gymnasium at the rear of the 1913 building will be renovated. It is smaller than current MSBA standards would advise and cannot accommodate a regulation size basketball court with proper overrun area.

The 1954 building's structural bay was designed as a double loaded corridor with smaller office-sized spaces on one side and larger classroom spaces on the other. The new spaces will continue to be programmed in this way. New partitions will be installed to replace the existing movable partitions and to improve classroom acoustics. The accessibility restrictions of the 1954 building split level structure would be addressed by installing an elevator accessible to all floor levels.

Demolition:
0 gsf
Renovation:
162,051 gsf
New Construction:
36,702 gsf
TOTAL Construction:
198,753 gsf
Estimated Construction Cost:
$57 M





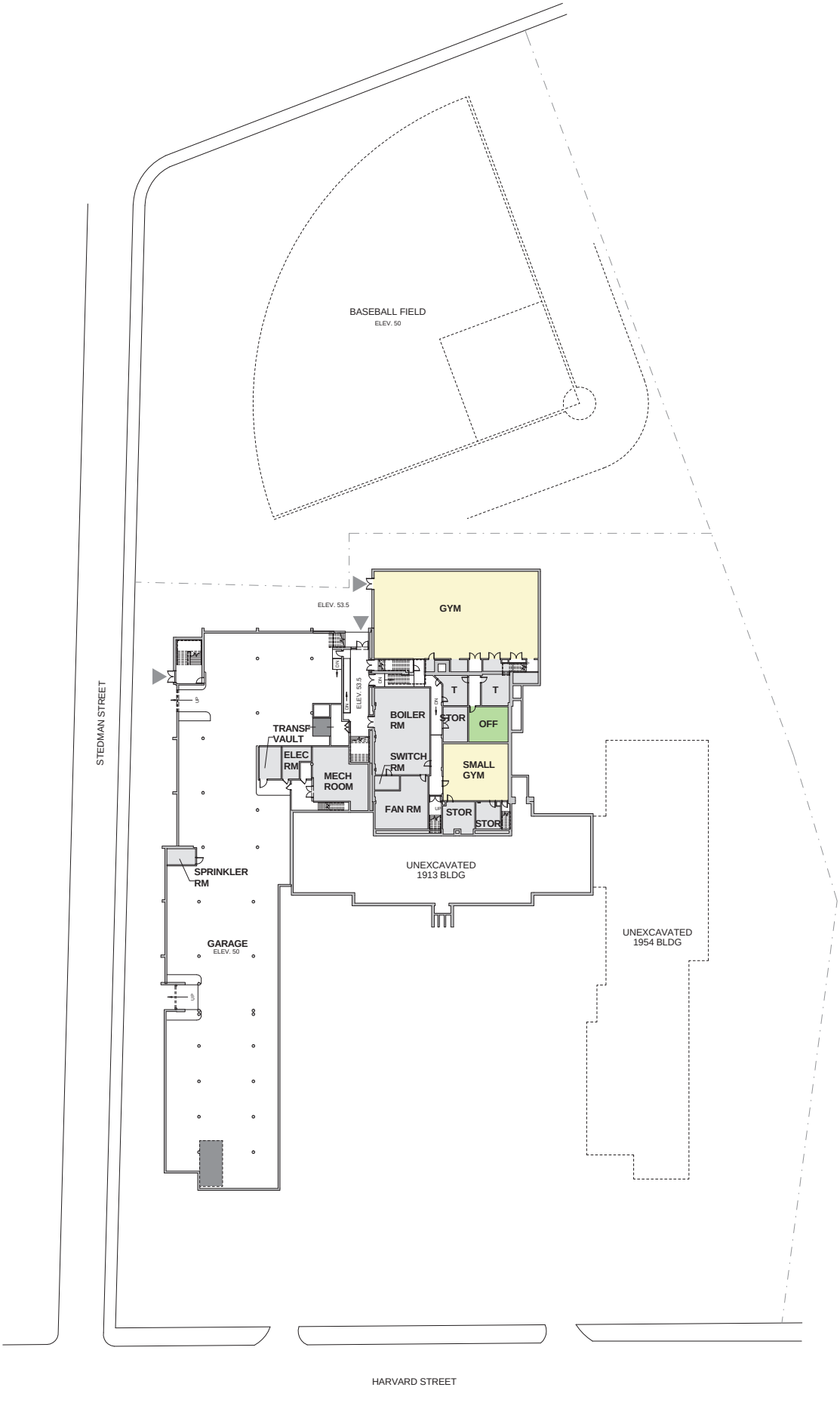


Conceptual massing

The 1974 building was originally designed as an open classroom floor plan. Through previous renovations the interior spaces have been divided using an interior curtainwall / storefront partition system. These partitions can be reused or replaced with new stud partitions. The majority of the spaces housed in the 1974 building will continue to be classroom space, along with music and art. The cafeteria will also remain in its current location.

Compromises in overall room sizes and adjacencies would be made in order to reuse as many of the existing spaces as possible. In the 1913 and 1970 building, a majority of the existing classroom spaces are smaller than the MSBA recommended room sizes, however the MSBA will allow for the use of smaller room sizes in a renovation project to allow for the maximized reuse of the existing structure. Consistent, direct adjacencies, adequate room sizes, and full program requirements cannot be fully achieved in a renovation and minor addition option.

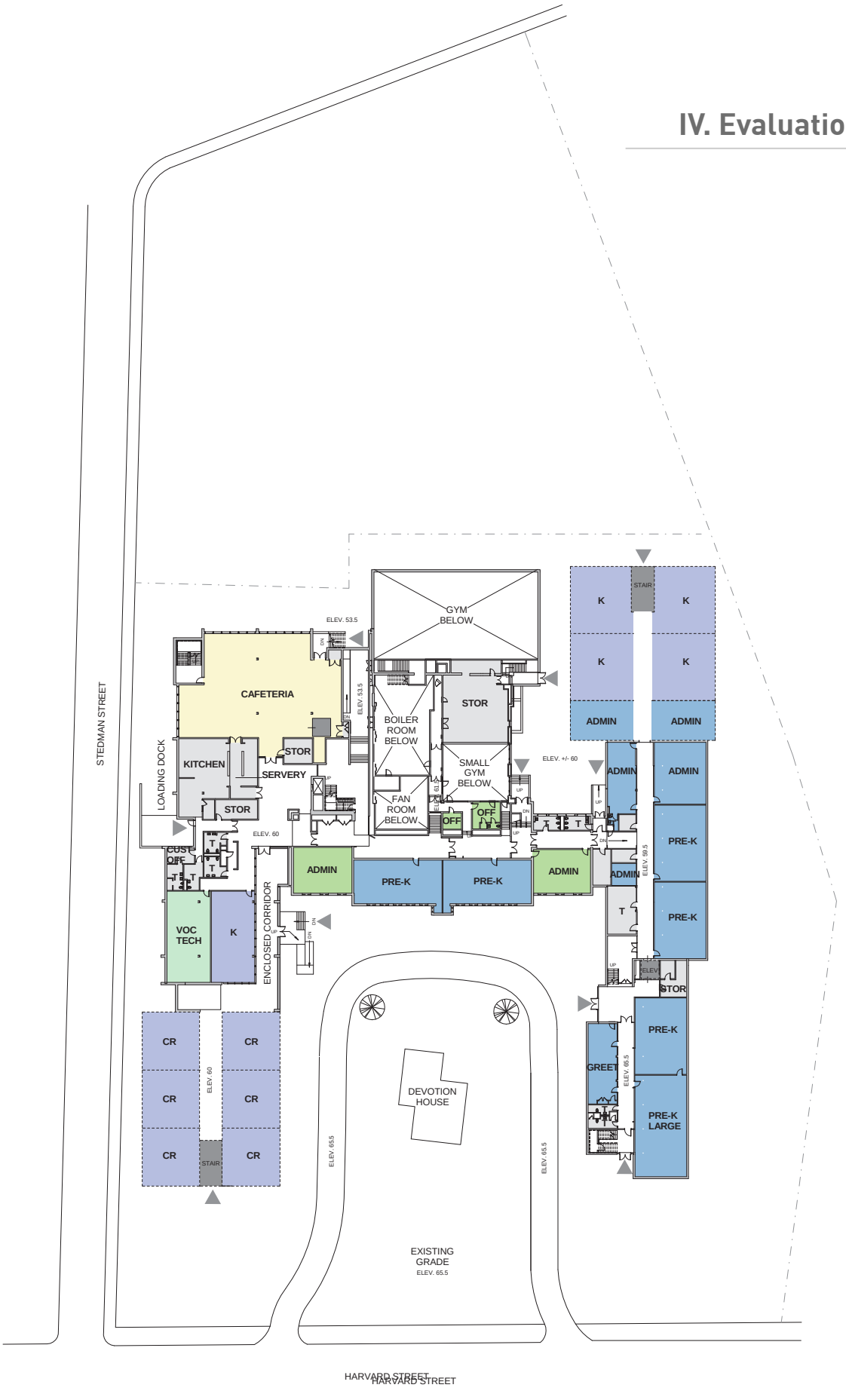
Construction of this project would require students be moved out of the existing building while it is undergoing renovation. The new additions can be constructed prior to the existing building renovation to provide some on site swing space; however, this will not provide enough teaching spaces to house the entire student body. The number and length of phases in the construction project will be directly related to the amount of students that can be moved out of the existing building at a given time. If alternative classroom spaces could be found for the entire student body then the building renovation could be completed in one consistent phase. A multi-phased occupied renovation could require as long as three years to complete.



GROUND FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'



FIRST FLOOR

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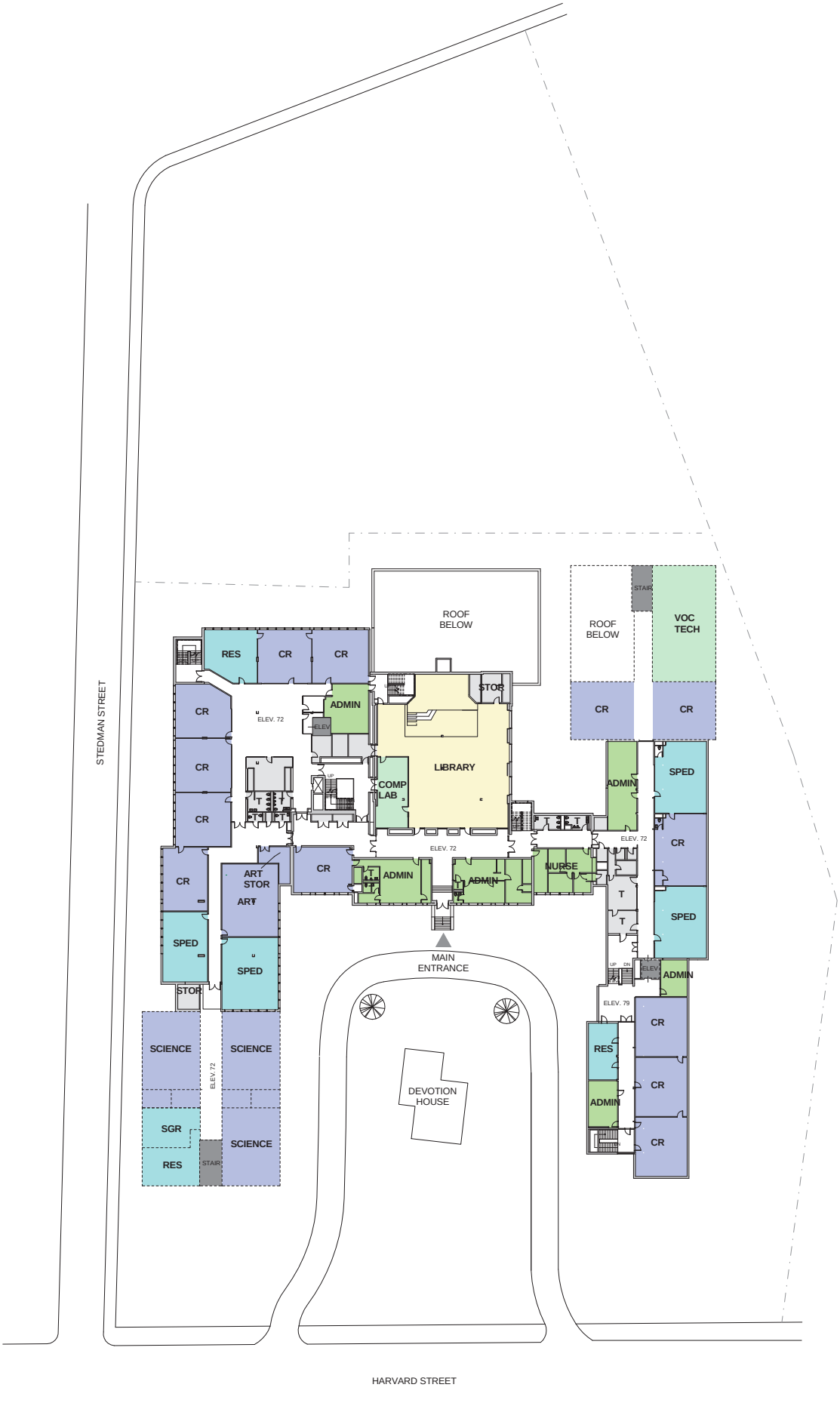
- SUPPORT
- OTHER

0' 40' 80'



SECOND FLOOR

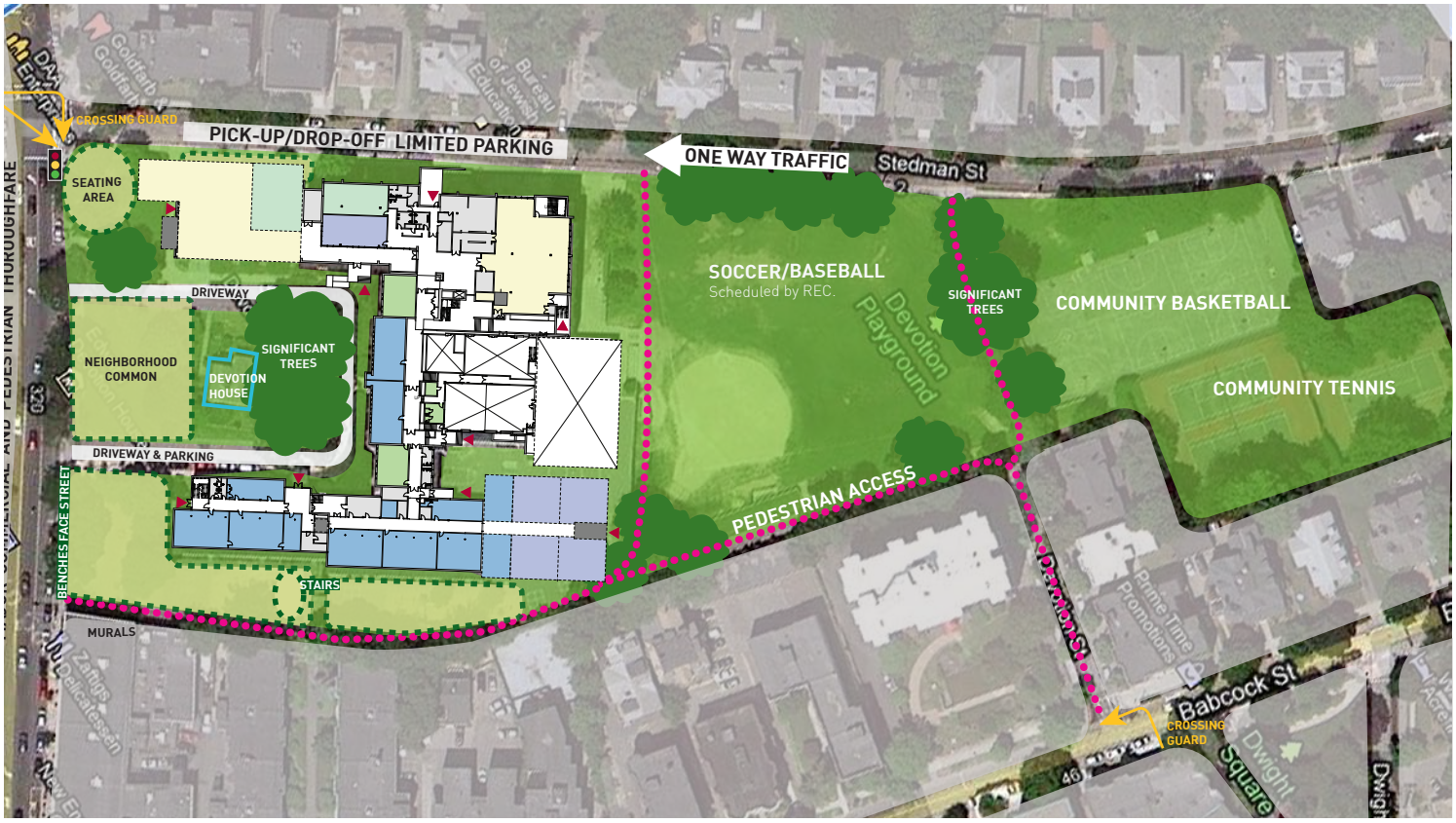
- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

THIRD FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'


CROSSING GUARD
PICK-UP/DROP-OFF LIMITED PARKING
ONE WAY TRAFFIC
Stedman St
SEATING AREA
DRIVEWAY
NEIGHBORHOOD COMMON
DEVOTION HOUSE
SIGNIFICANT TREES
DRIVEWAY & PARKING
BENCHES FACE STREET
STAIRS
MURALS
SOCCER/BASEBALL
Scheduled by REC.
Devotion Playground
SIGNIFICANT TREES
COMMUNITY BASKETBALL
COMMUNITY TENNIS
PEDESTRIAN ACCESS
Babcock St
CROSSING GUARD
Dwight Square

Site plan

Option B1 evaluates the feasibility of a renovation to the existing Edward Devotion School buildings combined with minor additions to the 1954 and 1974 buildings, and a new gymnasium. In this scheme, a three-story addition is constructed west of the 1974 building to house a new library, voc tech room, general classrooms and science lab spaces. A two-story addition is constructed east of the 1954 building to accommodate kindergarten classrooms on the ground floor and additional classroom spaces and voc tech on the second floor. The new larger gymnasium will be constructed over the footprint of the existing gym which will accommodate a regulation size basketball court with proper overrun area.

The renovation portion of the project will consist of the replacement of the majority of the building's systems, which have reached the end of their usable life cycle, as well as required accessibility and life safety updates. These updates would require all levels of the building to be accessible via elevator or chair lift access, all bathrooms to have accessible toilets, and a sprinkler system would need to be installed through the entire complex.

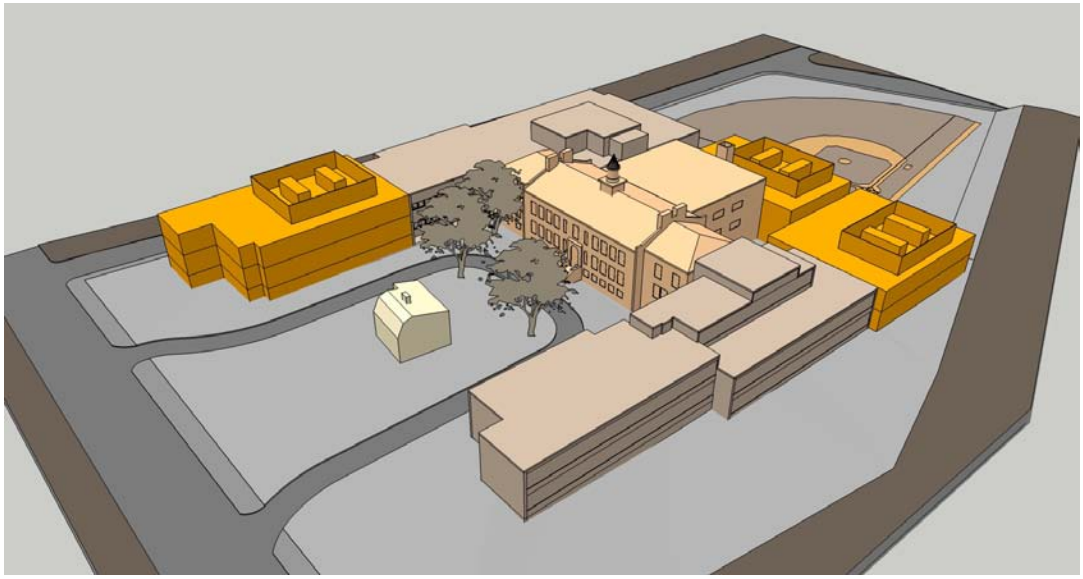
A programmatic reorganization of the building would also be undertaken to better accommodate the educational functions of the school. Existing interior layouts would be re-utilized as best as possible, with some minor interior partition modifications where necessary. In Option B1, all classroom spaces have been provided, but due to the restraints of the existing building layout, classrooms cannot be grouped in clusters of four rooms per grade.

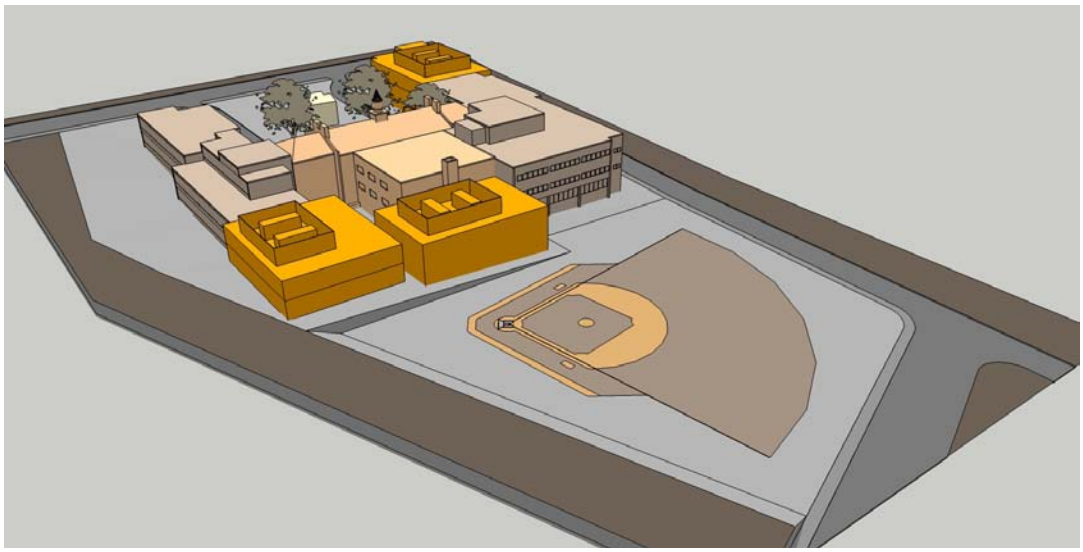
The 1913 building will continue to house some of the larger shared spaces. The small gym and auditorium will be enlarged to their original larger footprints within the existing building. The main auditorium floor will be restored on the second floor of the 1913 building, as a double height volume with balcony connected to the third floor.

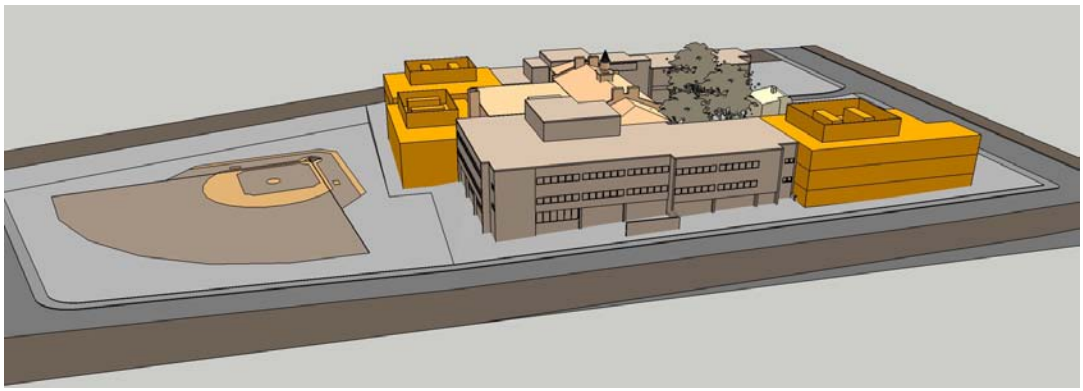
The 1954 building's structural bay was designed as a double loaded corridor with smaller office-sized spaces on one side and larger classroom spaces on the other. The new spaces will continue to be programmed in this way. New partitions will be installed to replace the existing movable partitions and to improve classroom acoustics. The accessibility restrictions of the 1954 building split level structure would be addressed by installing an elevator accessible to all floor levels.

Demolition:
12,689 gsf
Renovation:
148,301 gsf
New Construction:
42,946 gsf

TOTAL Construction:
191,247 gsf
Estimated Construction Cost:
$57 M





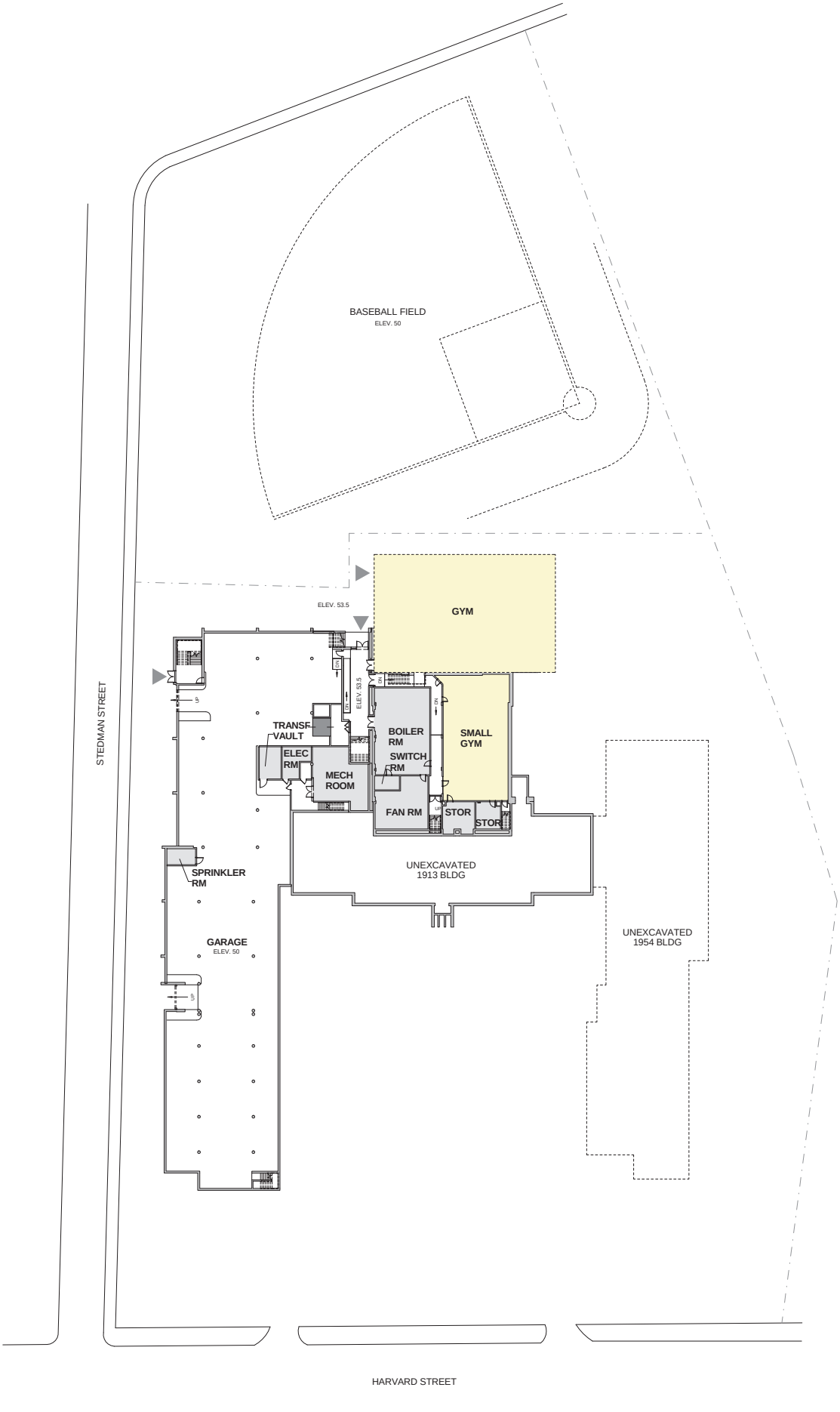


Conceptual massing

The 1974 building was originally designed as an open classroom floor plan. Through previous renovations the interior spaces have been divided using an interior curtainwall / storefront partition system. These partitions can be reused or replaced with new stud partitions. The majority of the spaces housed in the 1974 building will continue to be classroom space, along with music and art. The cafeteria will also remain in its current location.

Compromises in overall room sizes and adjacencies would be made in order to re-use as many of the existing spaces as possible. In the 1913 and 1970 building, a majority of the existing classroom spaces are smaller than the MSBA recommended room sizes, however the MSBA will allow for the use of smaller room sizes in a renovation project to allow for the maximized reuse of the existing structure. Consistent direct adjacencies, adequate room sizes, and full program requirements cannot be fully achieved in a renovation and minor addition option.

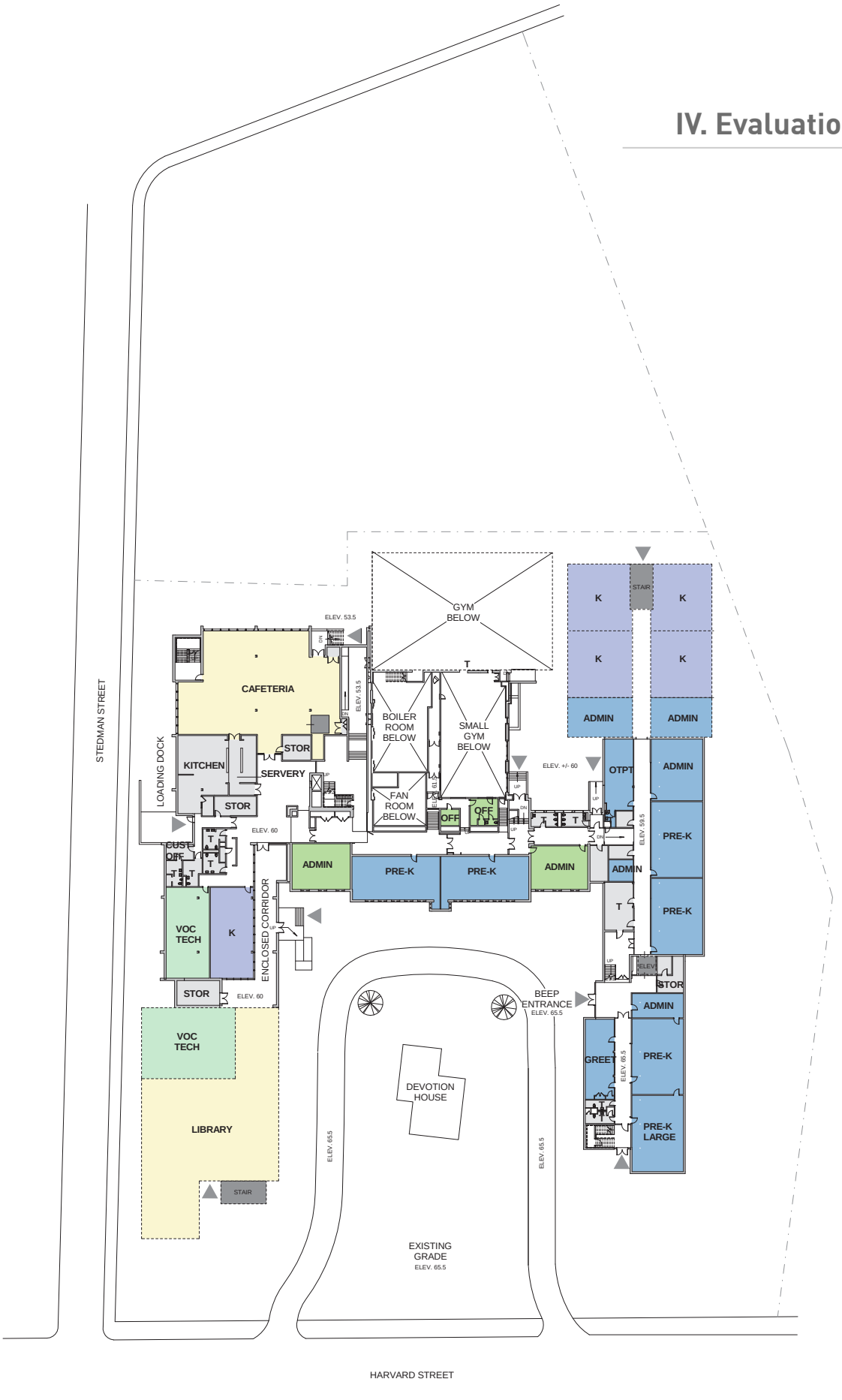
Construction of this project would require students be moved out of the existing building while it is undergoing renovation. The new additions can be constructed prior to the existing building renovation to provide some on site swing space; however, this will not provide enough teaching spaces to house the entire student body. The number and length of phases in the construction project will be directly related to the amount of students that can be moved out of the existing building at a given time. If alternative classroom spaces could be found for the entire student body then the building renovation could be completed in one consistent phase. A multi-phased occupied renovation could require as long as three years to complete.



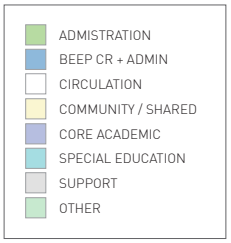
GROUND FLOOR

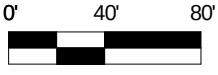
- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'


STEDMAN STREET
LOADING DOCK
CAFETERIA
KITCHEN
SERVERY
STOR
STOR
CUST OFF
ELEV. 53.5
ELEV. 60
GYM BELOW
BOILER ROOM BELOW
FAN ROOM BELOW
SMALL GYM BELOW
ELEV. 53.5
ELEV. 61.5
ELEV. +/- 60
OFF
OFF
ADMIN
PRE-K
PRE-K
ADMIN
K
K
K
K
STAIR
ADMIN
ADMIN
OTPT
ADMIN
PRE-K
ADMIN
PRE-K
T
ELEV. 59.5
ENCLOSED CORRIDOR
VOC TECH
K
STOR
ELEV. 60
VOC TECH
LIBRARY
STAIR
BEEP ENTRANCE
ELEV. 65.5
DEVOTION HOUSE
ELEV. 65.5
ELEV. 65.5
EXISTING GRADE
ELEV. 65.5
STOR
ADMIN
GREET
ELEV. 65.5
PRE-K
PRE-K LARGE
HARVARD STREET

FIRST FLOOR


ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER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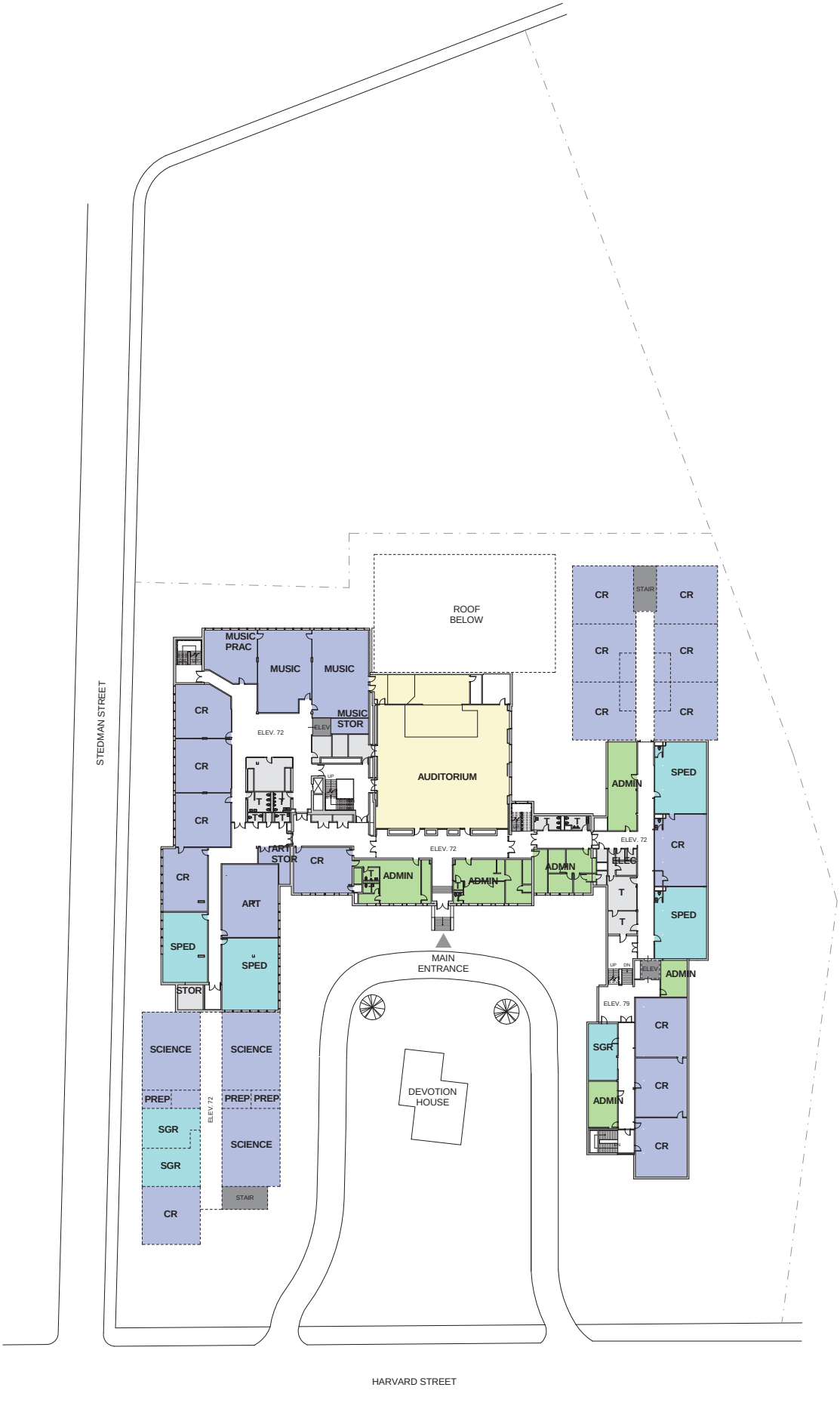


SECOND FLOOR

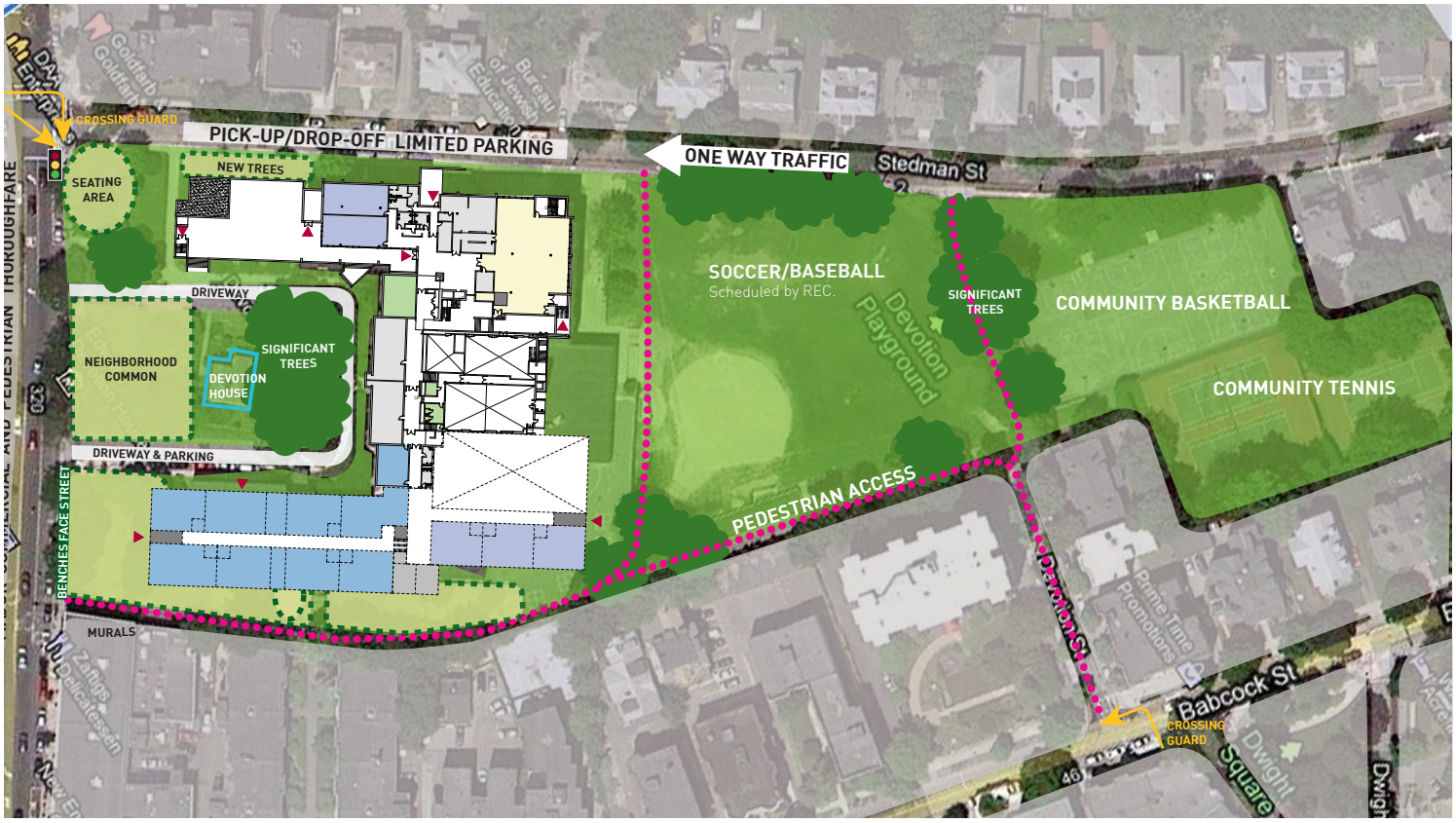
- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

THIRD FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'


CROSSING GUARD
PICK-UP/DROP-OFF LIMITED PARKING
ONE WAY TRAFFIC
Stedman St
SEATING AREA
NEW TREES
DRIVEWAY
NEIGHBORHOOD COMMON
DEVOTION HOUSE
SIGNIFICANT TREES
DRIVEWAY & PARKING
BENCHES FACE STREET
MURALS
SOCCER/BASEBALL
Scheduled by REC.
Devotion Playground
SIGNIFICANT TREES
COMMUNITY BASKETBALL
COMMUNITY TENNIS
PEDESTRIAN ACCESS
Babcock St
CROSSING GUARD
Dwight Square

Site plan

Option C evaluates the feasibility of a renovation to the existing 1974 and 1913 buildings of the Edward Devotion School, combined with a major addition to replace the 1954 building and gymnasium. The new addition will be a three-story split level structure that will maintain the current site organization of a longitudinal building perpendicular to the historic 1913 structure. Half of the new addition will be level with the current 1913 building elevations and half will be offset to allow for direct access to ground level.

The new addition will house the Pre-K BEEP program, kindergarten, classrooms, science labs, voc tech rooms, and library space. The Pre-K and kindergarten will be located on the first floor of the addition to allow the BEEP program to have a separate ground level entrance from the loop road. The majority of all BEEP-related program spaces will be located on the same floor within the new addition. The kindergarten spaces will be located in two separate areas on the first floor of the addition and 1974 building.

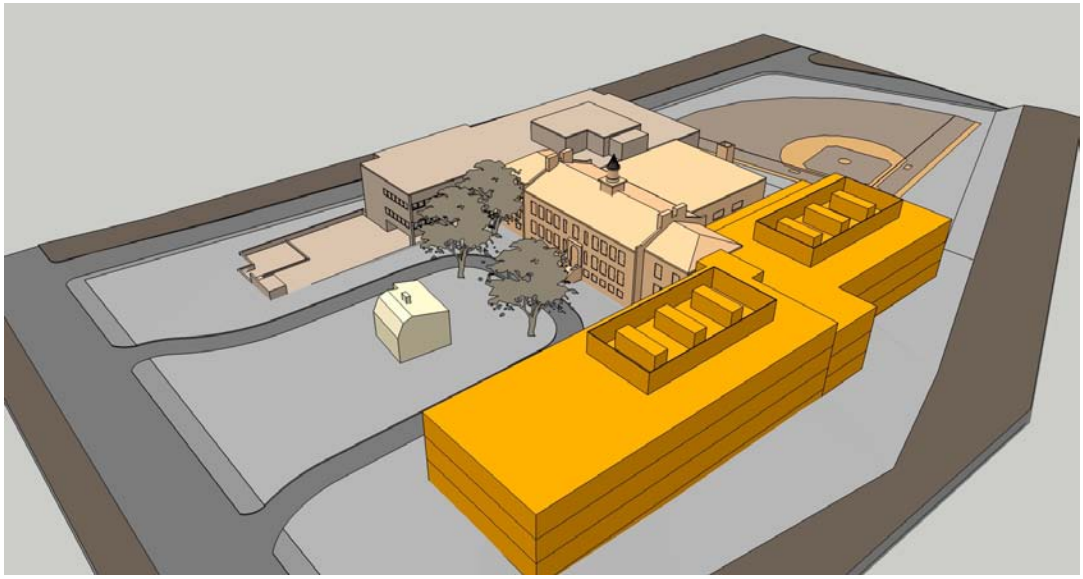
The new gymnasium will be located level with the existing small gym space, and accessible via a new elevator lobby at its western edge, and accessible from grade at the rear of the building adjacent to the ball field. The remaining teaching spaces and library will be located on the second and third floors, bordering the gymnasium space on the south side.

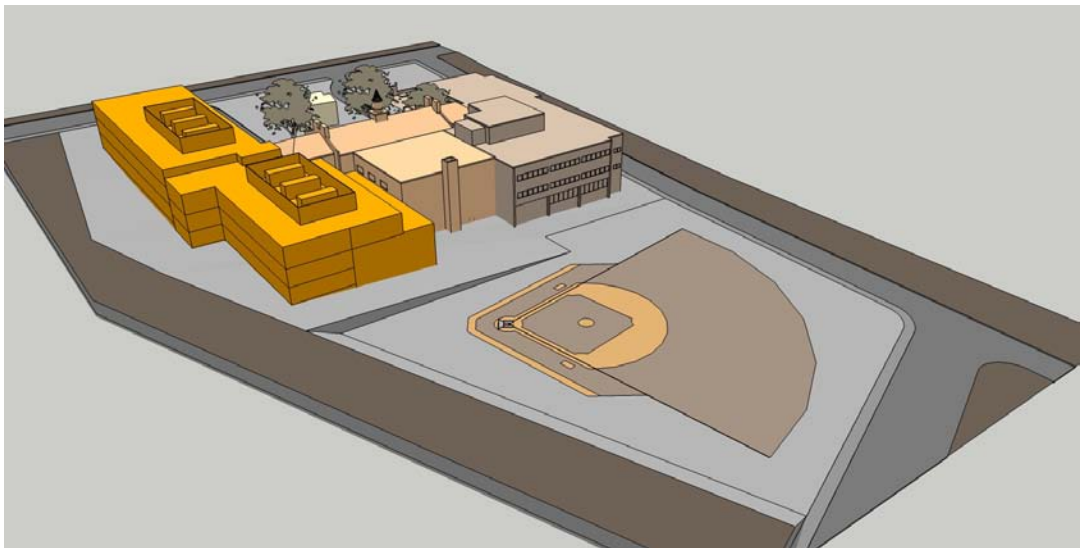
In order to accommodate all the necessary new program spaces, this addition will require a longer and wider footprint over the demolished 1954 building footprint. The resultant larger addition will be at the loss of the large play space currently located southwest of the existing 1954 building.

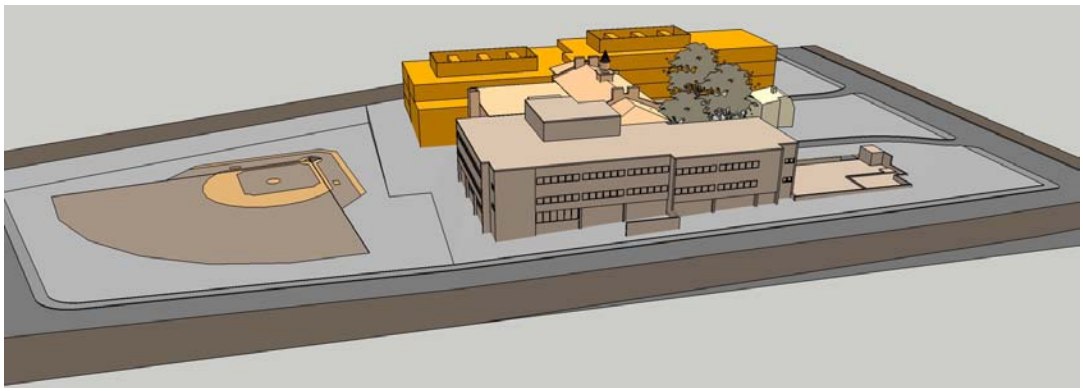
The renovation portion of the project will consist of the replacement of the majority of the building's systems that have reached the end of their usable lifecycles, as well as required accessibility and life safety updates. These updates would require all levels of the building to be accessible via elevator or chair lift, all bathrooms to have accessible toilets, and a sprinkler system would need to be installed throughout the entire complex.

A programmatic reorganization of the existing 1974 and 1913 buildings would also be undertaken to better accommodate the educational functions of the school. Existing interior layouts would be re-utilized as efficiently as possible, with some minor interior partition modifications where necessary. In Option C, all classroom spaces have been provided, but due to the constraints of the existing building and site layout, classrooms cannot be grouped in clusters of four rooms per grade.

Demolition:	42,690 gsf
Renovation:	113,180 gsf
New Construction:	81,105 gsf
TOTAL Construction:	194,285 gsf
Estimated Construction Cost:	$56 M







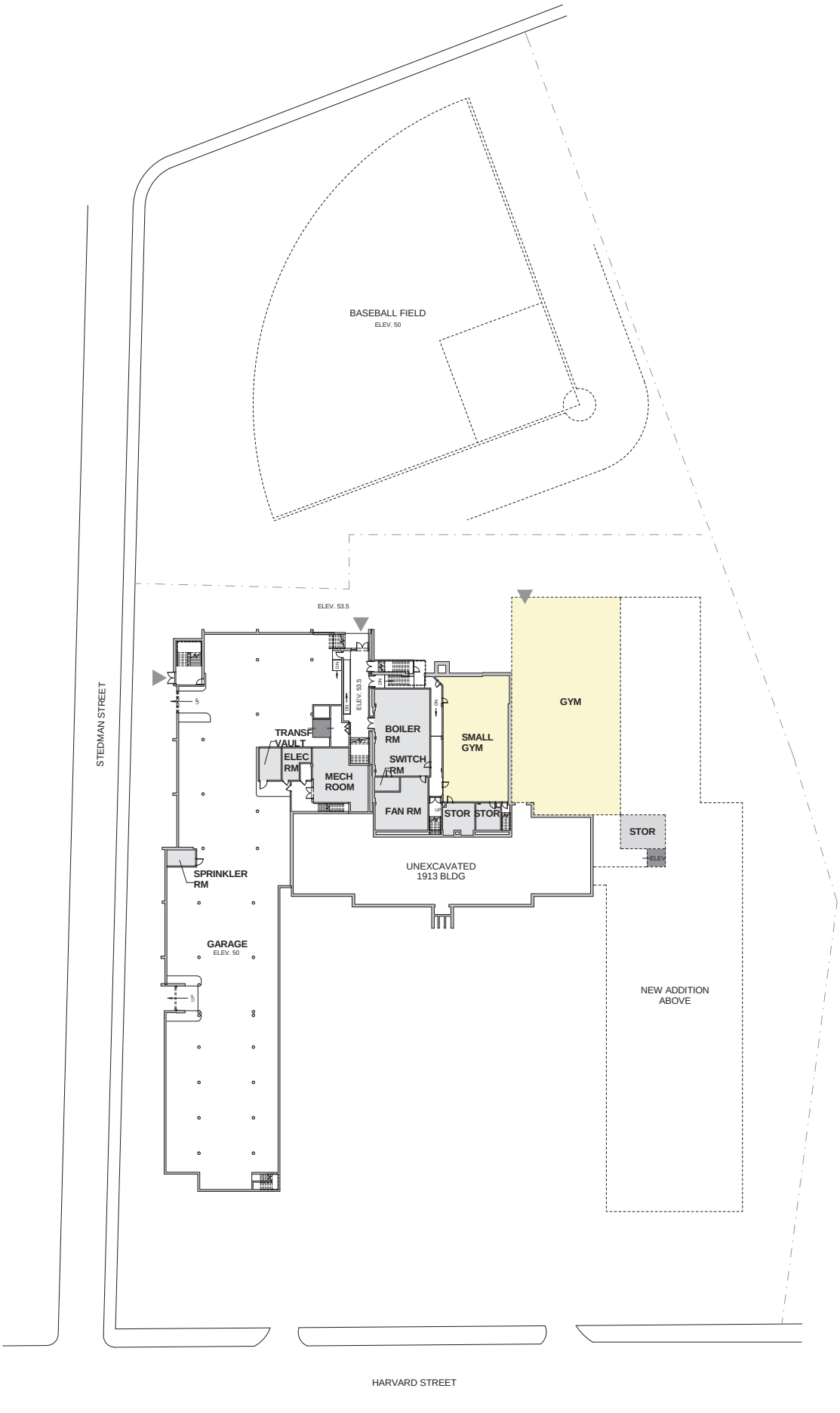
Conceptual massing

The 1913 building will continue to house some of the larger, shared spaces. The small gym and auditorium will be enlarged to their original larger footprints within the existing building. The main auditorium floor will be restored on the second floor of the 1913 building, as a double-height volume with balcony, and connected to the third floor.

The 1974 building was originally designed as an open classroom floor plan. Through previous renovations the interior spaces have been divided using an interior curtainwall / storefront partition system. These partitions can be reused or replaced with new stud partitions. The majority of the spaces housed in the 1974 building will continue to serve classroom functions, along with music and art. The cafeteria will also remain in its current location.

Compromises in overall room sizes and adjacencies would be made in order to re-use as many of the existing spaces as possible. In the 1913 and 1974 buildings, a majority of the existing classroom spaces are smaller than the MSBA recommended room sizes. The MSBA will allow for the use of smaller room sizes in a renovation project to allow for the maximized reuse of the existing structure. Consistent direct adjacencies, adequate room sizes, and full program requirements cannot be fully achieved in a renovation and addition option.

Construction of this project would require that the 1954 building and gym be demolished first, requiring temporary classroom spaces to house all students who would have been located in that structure. Upon completion of the new addition, a new gym and 37 teaching spaces would be available for classroom space; rooms intended for science labs, Pre-K, SPED and voc tech could be utilized as general classrooms. This scenario would allow the entire current student population to be housed in the new addition during the renovation of the 1913 and 1974 buildings. Compromises would need to be made during this construction period, noting that no small gym, cafeteria, library, auditorium, or dedicated art, music or science spaces would be available until after the renovation.



GROUND FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'


STEDMAN STREET
LOADING DOCK
CAFETERIA
KITCHEN
SERVERY
STOR
STOR
CUST OFF
ELEV. 53.5
ELEV. 53.5
ELEV. 60
BOILER ROOM BELOW
FAN ROOM BELOW
SMALL GYM BELOW
GYM BELOW
OFF
OFF
ELEV. 60
ADMIN
LOCKER
LOCKER
ADMIN
K
K
K
K
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STAIR
T
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T
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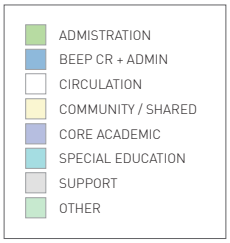
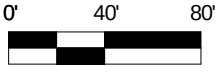
ADMIN
PRE-K
PRE-K
PRE-K
SENS GYM
STOR
GREETING/ ADMIN
PRE-K
PRE-K
PRE-K LARGE
STAIR
ELEV. 65.5
OUTDOOR PATIO
ELEV. 60
DEVOTION HOUSE
BEEP ENTRANCE
ELEV. 65.5
ELEV. 65.5
ELEV. 65.5
EXISTING GRADE
ELEV. 65.5
HARVARD STREET

FIRST FLOOR


ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER


0'
40'
80'

SECOND FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'

THIRD FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'


CROSSING GUARD
PICK-UP/DROP-OFF LIMITED PARKING
ONE WAY TRAFFIC
Stedman St
SEATING AREA
NEW TREES
DRIVEWAY
NEIGHBORHOOD COMMON
DEVOTION HOUSE
SIGNIFICANT TREES
DRIVEWAY & PARKING
BENCHES FACE STREET
MURALS
SOCCER/BASEBALL
Scheduled by REC.
Devotion Playground
SIGNIFICANT TREES
COMMUNITY BASKETBALL
COMMUNITY TENNIS
PEDESTRIAN ACCESS
Babcock St
CROSSING GUARD
Dwight Square

Site plan

Option C evaluates the feasibility of a renovation to the existing 1974 and 1913 buildings of the Edward Devotion School, combined with a major addition to replace the 1954 building and gymnasium. The new addition is to be constructed over the footprint of the demolished 1954 building and gym, and wrap around the rear of the existing 1913 building to provide a circuitous connection between all buildings.

The new addition will be a three-level structure, with the Pre-K BEEP program located at ground level elevation offset from the rest of the addition, and a new gym located above Pre-K, at the third floor elevation, creating a large volume on the upper-most level. This configuration was chosen to allow for at grade access to the Pre-K, while allowing for alignment of the other levels with the existing floor elevations.

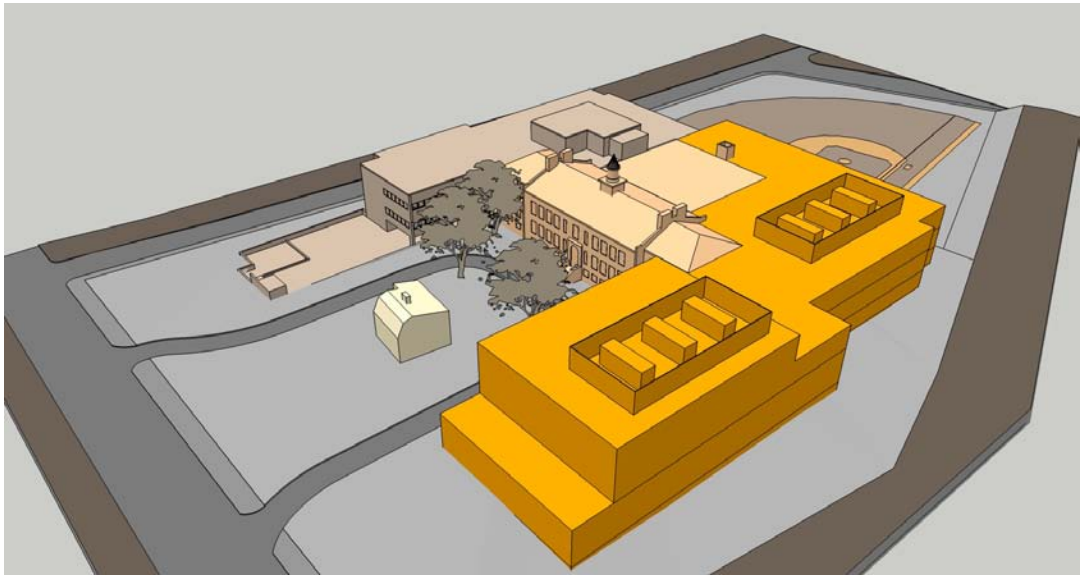
The new addition will house the Pre-K BEEP program, kindergarten, classrooms, science labs, and library space. As noted above, the Pre-K and kindergarten will be located on the first-floor of the addition to allow the BEEP program to have a separate ground-level entrance from the loop road. All BEEP-related program spaces will be located on the same floor within the new addition. The additional classroom spaces will be constructed adjacent to the north and east elevation of the 1913 building.

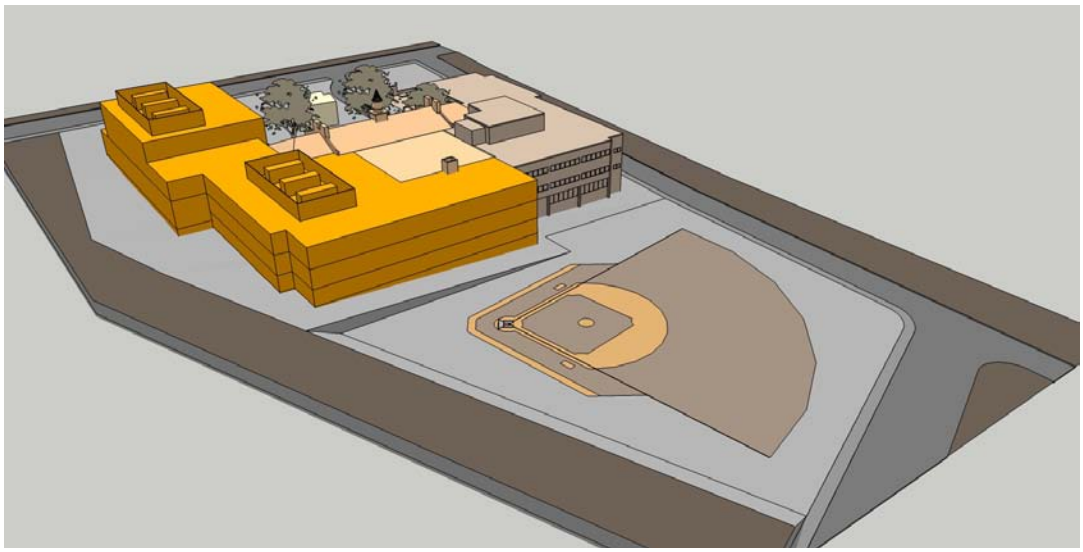
In order to accommodate all the necessary new program spaces, this addition will require a longer and wider footprint over the demolished 1954 building footprint. The resultant larger addition will be at the loss of a majority of the play spaces around the existing 1954 building.

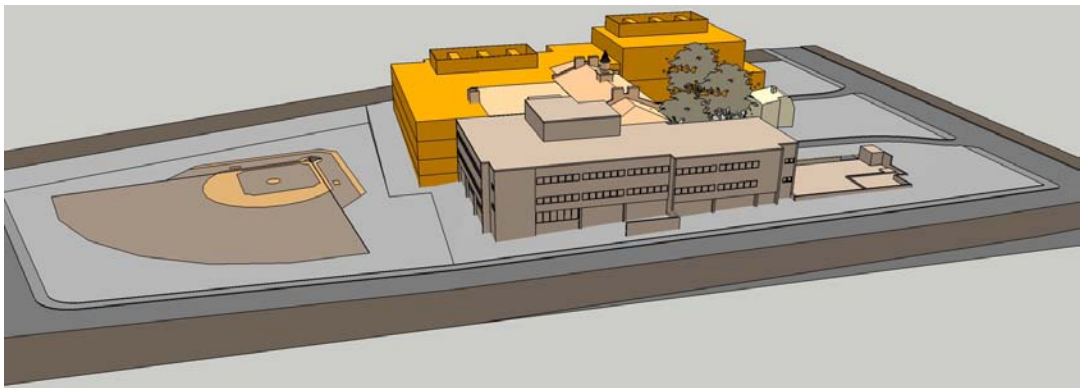
The renovation portion of the project will consist of the replacement of the majority of the building's systems that have reached the end of their usable lifecycles, as well as required accessibility and life safety updates. These updates would require all levels of the building to be accessible via elevator or chair lift, all bathrooms to have accessible toilets, and a sprinkler system would need to be installed throughout the entire complex.

A programmatic reorganization of the existing 1974 and 1913 buildings would also be undertaken to better accommodate the educational functions of the school. Existing interior layouts would be re-utilized as efficiently as possible, with some minor interior partition modifications, where necessary. In Option C1, all classroom spaces have been provided, but due to the constraints of the existing building and site layout, all classrooms cannot be grouped in clusters of four rooms per grade.

Demolition:	42,690 gsf
Renovation:	113,180 gsf
New Construction:	80,191 gsf
TOTAL Construction:	193,371 gsf
Estimated Construction Cost:	$60 M







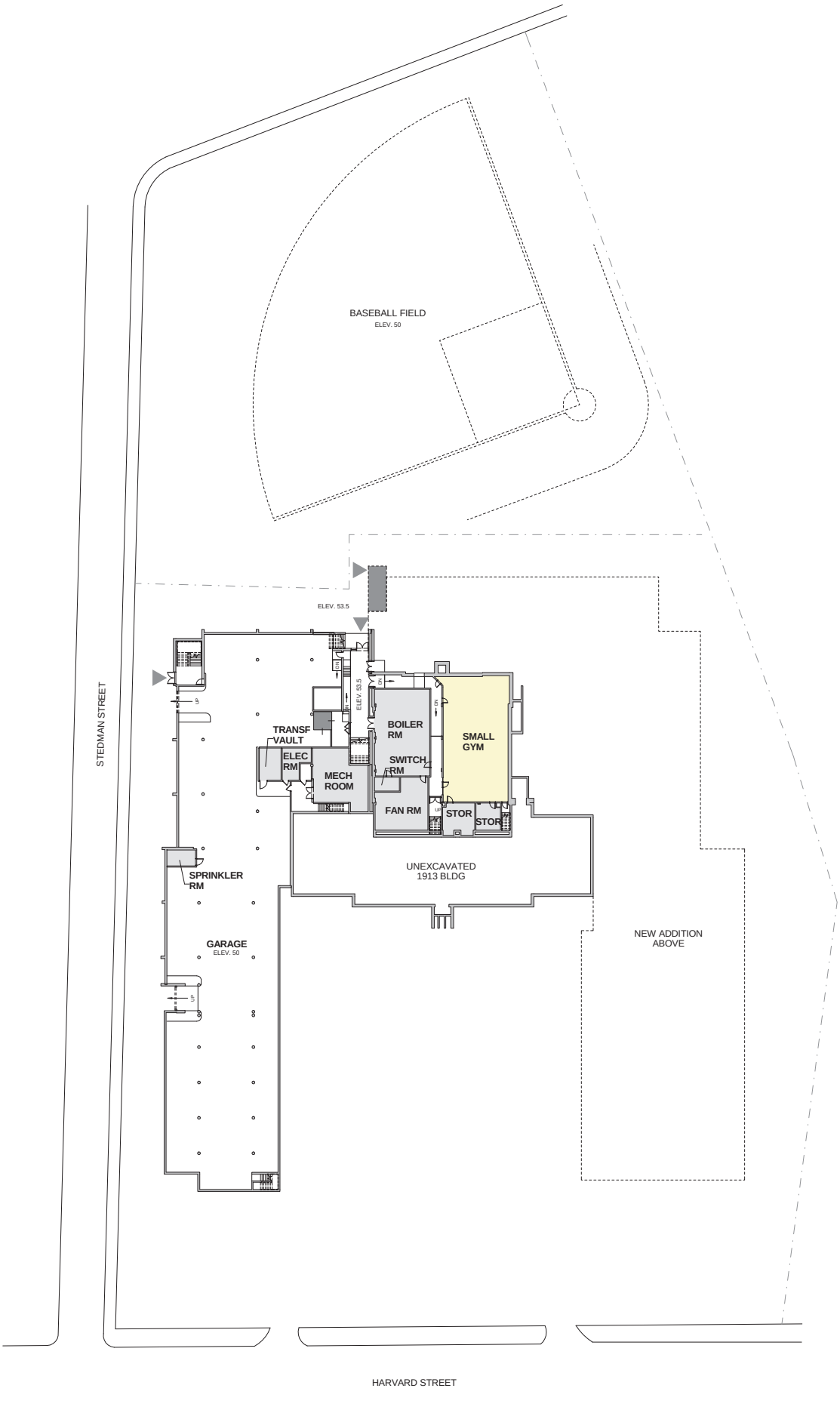
Conceptual massing

The 1913 building will continue to house some of the larger, shared spaces. The small gym and auditorium will be enlarged to their original larger footprints within the existing building. The main auditorium floor will be restored on the second floor of the 1913 building, as a double-height volume with balcony, and connected to the third floor.

The 1974 building was originally designed as an open classroom floor plan. Through previous renovations, the interior spaces have been divided using an interior curtainwall / storefront partition system. These partitions can be reused or replaced with new stud partitions. The majority of the spaces housed in the 1974 building will continue to serve classroom functions, along with music and art. The cafeteria will also remain in its current location.

Compromises in overall room sizes and adjacencies would be made in order to re-use as many of the existing spaces as possible. In the 1913 and 1974 buildings, a majority of the existing classroom spaces are smaller than the MSBA-recommended room sizes. The MSBA will allow for the use of smaller room sizes in a renovation project to allow for the maximized reuse of the existing structure. Consistent direct adjacencies, adequate room sizes, and full program requirements cannot be fully achieved in a renovation and addition option.

Construction of this project would require that the 1954 building and gym be demolished first, requiring temporary classroom spaces to house all students who would have been located in that structure. Upon completion of the new addition, a new gym and 35 teaching spaces would be available for classroom space; rooms intended for science labs, Pre-K, SPED and music could be utilized as general classrooms. This scenario would allow the entire current student population to be housed in the new addition during the renovation of the 1913 and 1974 buildings. Compromises would need to be made during this construction period, noting that no small gym, cafeteria, library, auditorium, or dedicated art, music or science spaces would be available until after the renovation.



GROUND FLOOR

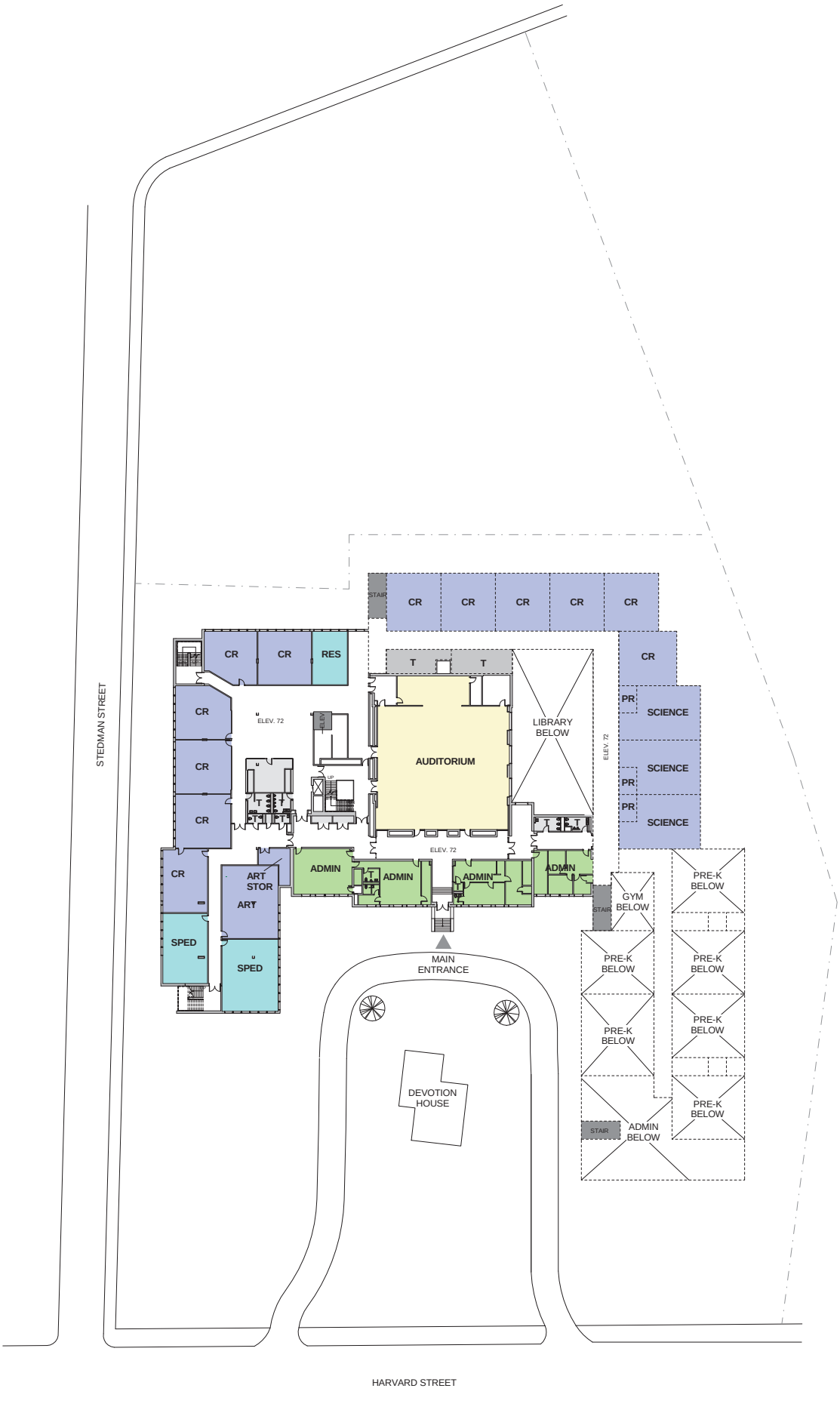
- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

FIRST FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'



SECOND FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

THIRD FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'


CROSSING GUARD
PICK-UP/DROP-OFF LIMITED PARKING
ONE WAY TRAFFIC
Stedman St
SEATING AREA
NEW TREES
DRIVEWAY
NEIGHBORHOOD COMMON
DEVOTION HOUSE
SIGNIFICANT TREES
DRIVEWAY & PARKING
BENCHES FACE STREET
MURALS
SOCCER/BASEBALL
Scheduled by REC.
Devotion Playground
SIGNIFICANT TREES
COMMUNITY BASKETBALL
COMMUNITY TENNIS
PEDESTRIAN ACCESS
Babcock St
CROSSING GUARD
Dwight Square

Site plan

Option D: Demolition, Renovation and Major Addition

Option D evaluates the feasibility of a project consisting of the demolition of the 1954 and 1974 buildings and gym, with new construction surrounding a renovated 1913 building. The new construction will consist of a three-level structure, plus ground level parking and an entrance off of Stedman Street, a much lower elevation than the majority of the site. The new construction levels will be aligned with existing 1913 building elevation, with the exception of the portion of the building constructed over the 1954 building footprint. This floor will be at a half-story offset elevation from the majority of the building to allow for ground level access.

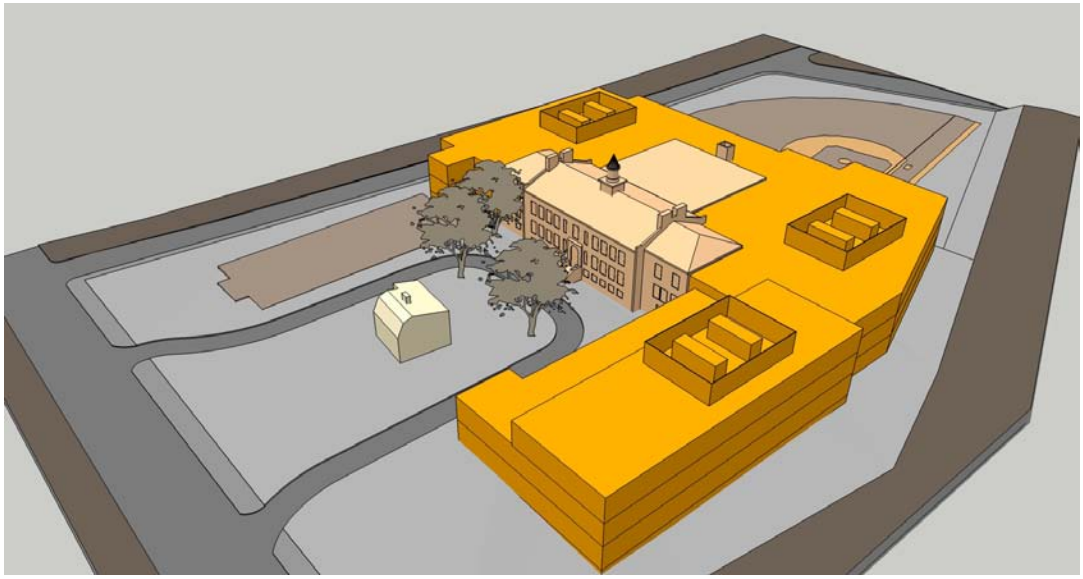
The 1913 building will be completely renovated with the installation of all new systems including a full sprinkler system, and it will continue to house some of the larger shared spaces. The small gym and auditorium will be enlarged to their original larger footprints within the existing building. The main auditorium floor will be restored on the second floor of the 1913 building, as a double-height volume with balcony, and connected to the third floor.

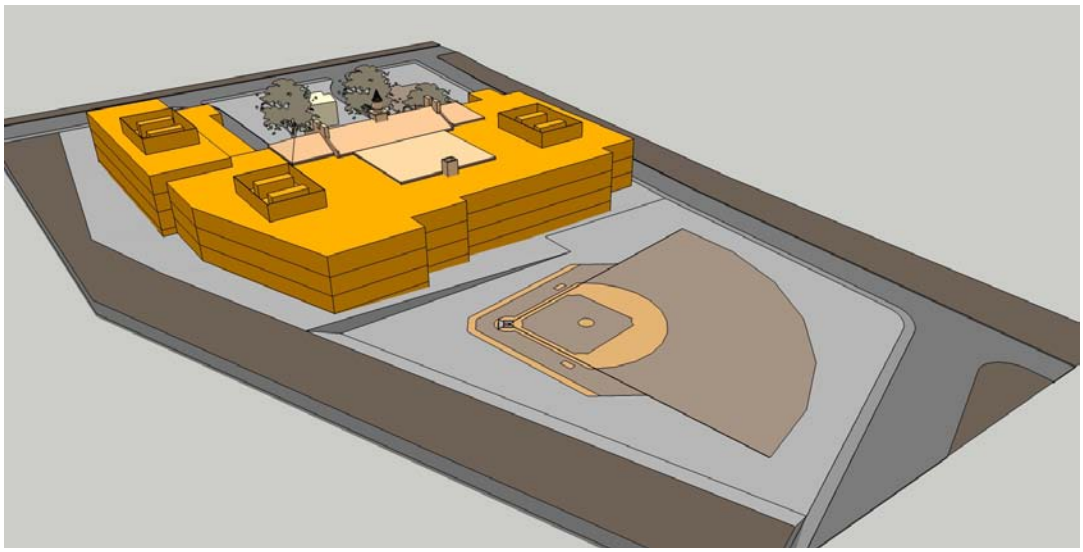
This option's layout is structured around locating the large gathering spaces within the core of the building. The circulation to these spaces forms a perimeter loop around the community spaces, and this loop also provides access to all of the classrooms. At the first floor the cafeteria and gym spaces are located at opposite ends of the building. The main auditorium floor and library are then located on the second floor, with the third floor providing open area to create multi-story volumes for these spaces.

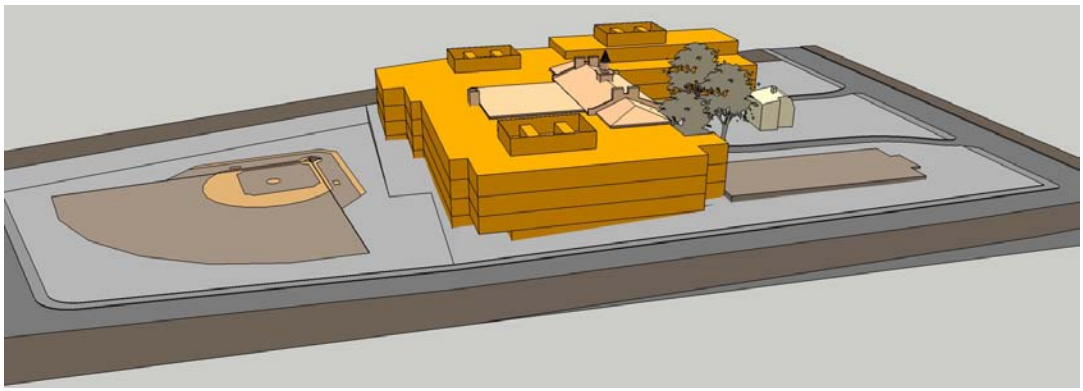
New classroom spaces have been organized in clusters of four classrooms to allow each grade to be grouped together in the building. SPED classrooms have been evenly distributed throughout the spaces, with an effort to locate each of the required six classrooms next to a cluster of four general classrooms. The additional six small-group and resource rooms have been distributed throughout the building. The science, music, art and voc-tech room programs have also been located in groups within this option in an effort to create specialty program clusters within the building layout.

The Pre-K BEEP program will be located on the offset portion of the first floor, above the demolished 1954 building footprint. As noted above, this location will allow the BEEP program to have a separate ground level entrance from the loop road. The majority of BEEP-related program spaces will be located on the same floor within the new addition.

Demolition:	117,592 gsf
Renovation:	38,278 gsf
New Construction:	162,087 gsf
TOTAL Construction:	200,365 gsf
Estimated Construction Cost:	$67 M







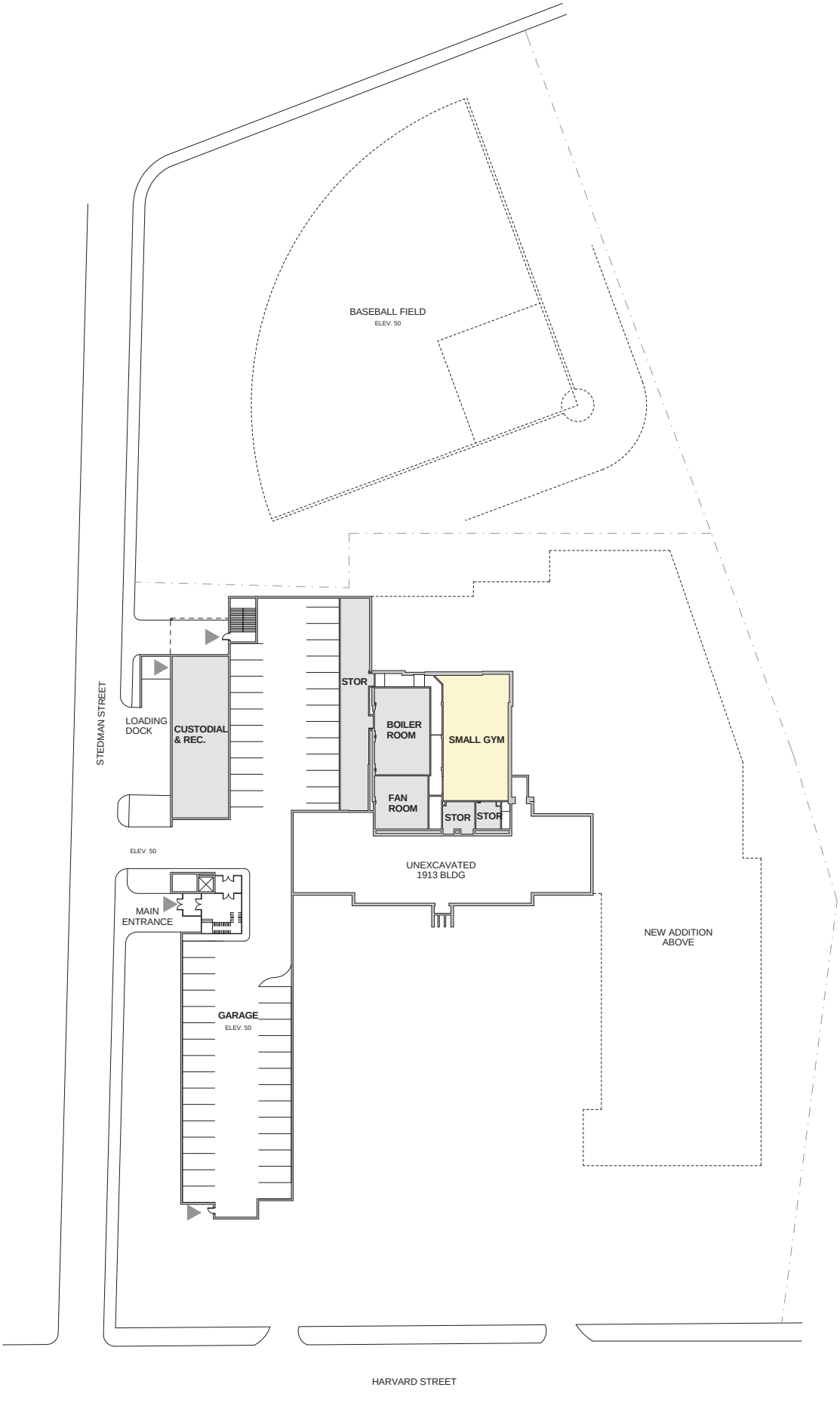
Conceptual massing

In order to accommodate all the necessary new program spaces, this addition will require a longer and wider footprint over the demolished 1954 building footprint. The resultant larger addition will be at the loss of the large play space currently located southwest of the existing 1954 building.

The most cost-efficient and shortest construction schedule for this project would require that all students be relocated into temporary classroom spaces for the duration of the project. This would allow for a continuous construction project involving the demolition of the 1954, 1974 and existing gym structures, renovation of the 1913 building, and construction of the new portion of the school. In a CM-at-Risk scenario, this construction project could be completed in as little as 18 months or one academic year.

A phased, occupied renovation project would require that the 1954 building and gym be demolished first, requiring temporary classroom spaces to house all students who would have been located in the existing 1954 structure. At the end of the first phase, a new gym and 36 teaching spaces would be available for classroom space. These rooms, intended as Pre-K, SPED, science labs, voc-tech, art and music spaces, could be utilized as general classrooms, allowing the current full student population to be housed on site.

The second phase would consist of the demolition of the 1974 building and construction of the remaining half of the new construction, along with the renovation of the existing 1913 structure. Compromises would need to be made during the second phase construction period, noting that no small gym, cafeteria, library, auditorium, or dedicated art, music or science spaces would be available until after project completion.



GROUND FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

FIRST FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'

SECOND FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

THIRD FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'


CROSSING GUARD
PICK-UP/DROP-OFF LIMITED PARKING
ONE WAY TRAFFIC
Stedman St
SEATING AREA
NEW TREES
DRIVEWAY
NEIGHBORHOOD COMMON
DEVOTION HOUSE
SIGNIFICANT TREES
DRIVEWAY & PARKING
BENCHES FACE STREET
MURALS
SOCCER/BASEBALL
Scheduled by REC.
Devotion Playground
SIGNIFICANT TREES
COMMUNITY BASKETBALL
COMMUNITY TENNIS
PEDESTRIAN ACCESS
Babcock St
CROSSING GUARD
Dwight Square

Site plan

Option D1 evaluates the feasibility of a project consisting of the demolition of the 1954 and 1974 buildings and gym, with new construction surrounding a renovated 1913 building. The new construction will consist of a four-level structure plus ground-level parking and a main administration entrance off of Stedman Street, a much lower elevation than the majority of the site. The new construction levels will be aligned with the existing 1913 building elevations, with the exception of the fourth floor, which will be higher than any of the existing 1913 levels. The purpose of the fourth floor is to allow for the preservation of play spaces located around the existing 1954 building footprint, which is lost in option D. Additional play space area is also gained over the footprint of the demolished 1954 building.

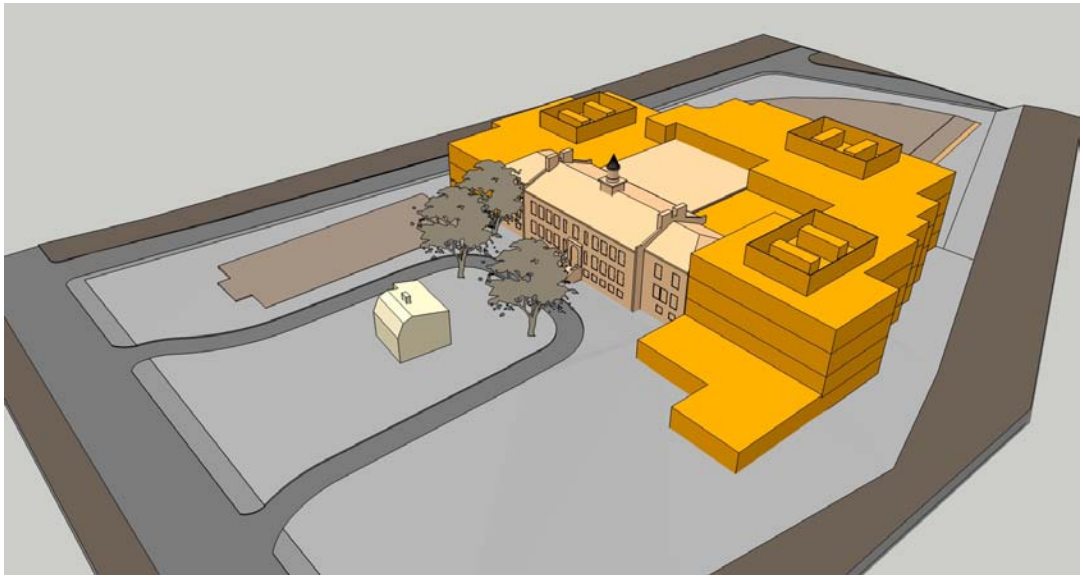
The 1913 building will be completely renovated with the installation of all new systems, including a full sprinkler system, and it will continue to house some of the larger shared spaces. The small gym and auditorium will be enlarged to their original larger footprints within the existing building. The main auditorium floor will be restored on the second floor of the 1913 building, as a double-height volume with balcony, and connected to the third floor.

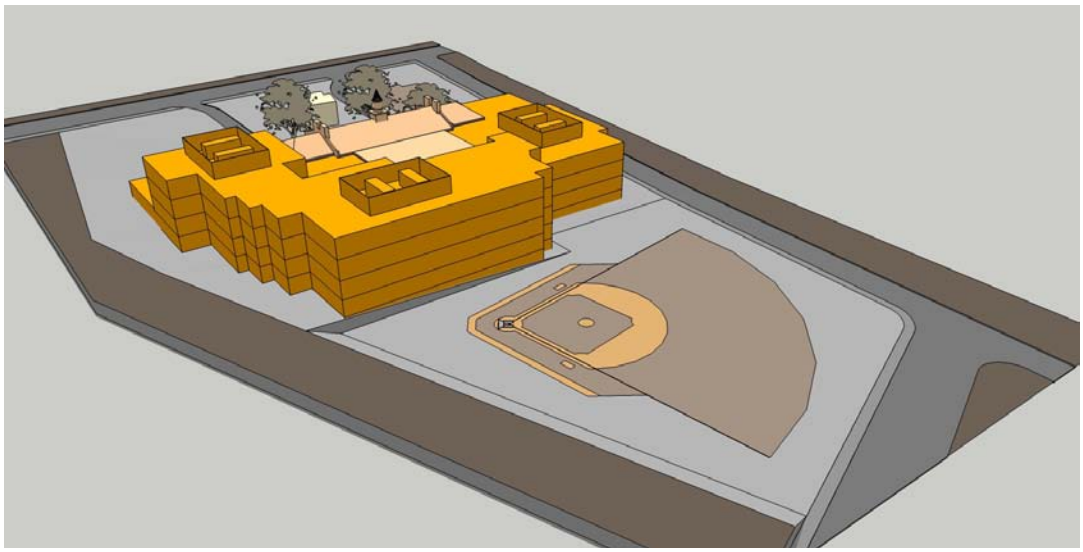
This option's layout is structured around locating the large gathering spaces within the core of the building. The circulation to these spaces forms a perimeter loop around the community spaces, and this loop also provides access to all of the classrooms. On the first floor the cafeteria and gym spaces are located at opposite ends of the building. The main auditorium is located on the second floor, with library spaces at the second and third floors.

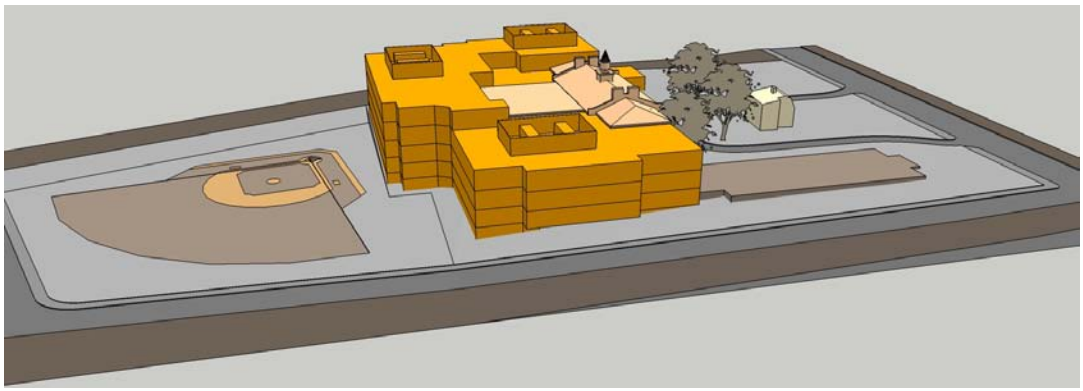
The Pre-K BEEP program will be located at the southern end of the building at the first floor. Re-grading at the front of the building will be required to allow for at-grade access to the main BEEP entrance as shown in this option. A new play space can the also be created over the demolished 1954 building footprint and extend out to Harvard Street.

New classroom spaces have been organized in clusters of four classrooms to allow each grade to be grouped together in the building. SPED classrooms have been evenly distributed throughout the spaces, with an effort to locate each of the required six classrooms next to a cluster of four general classrooms. The additional six small-group and resource rooms have been distributed throughout the building. The science, music, art and voc-tech room programs have also been located in groups within this option in an effort to create specialty program clusters within the building layout.

Demolition:	117,592 gsf
Renovation:	38,278 gsf
New Construction:	155,241 gsf
TOTAL Construction:	193,519 gsf
Estimated Construction Cost:	$64 M





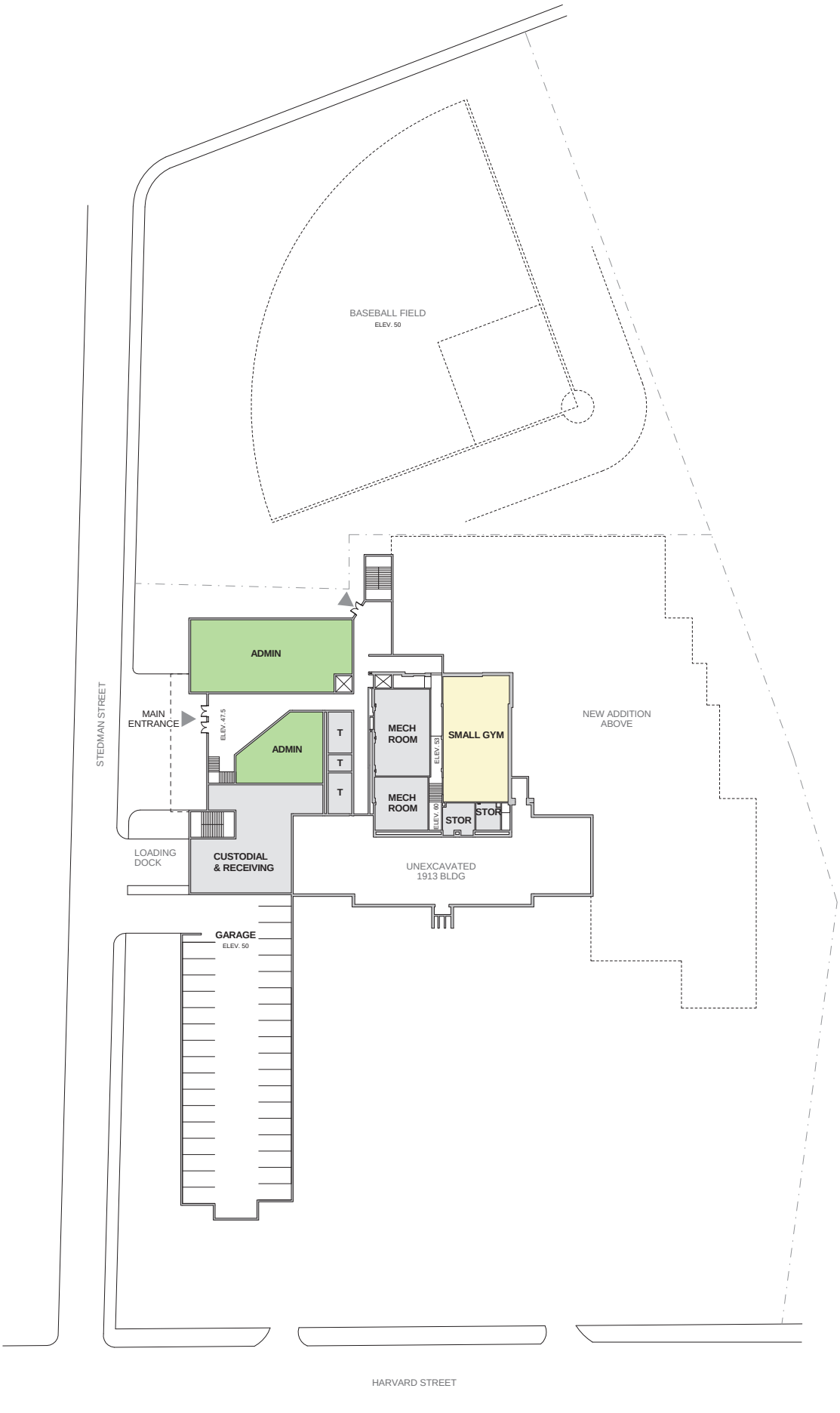


Conceptual massing

The most cost-efficient and shortest construction schedule for this project would require that all students be re-located into temporary classroom spaces for the duration of the project. This would allow for a continuous construction project involving the demolition of the 1954, 1974 and existing gym structures, renovation of the 1913 building, and construction of the new portion of the school. In a CM-at-Risk scenario, this construction project could be completed in as little as 18 months or one academic year.

A phased, occupied renovation project would require that the 1954 building and gym be demolished first, requiring temporary classroom spaces to house all students who would have been located in the existing 1954 structure. At the end of the first phase, a new gym and 37 teaching spaces would be available for classroom space. The rooms intended for Pre-K, SPED, science labs, voc-tech, art and music could be utilized as general classrooms, allowing the current full student population to be housed on site.

The second phase would consist of the demolition of the 1974 building and construction of the remaining half of the new construction, along with the renovation of the existing 1913 structure. Compromises would need to be made during the second phase construction period, noting that no small gym, cafeteria, library, auditorium, or dedicated art, music or science spaces would be available until after project completion.



GROUND FLOOR

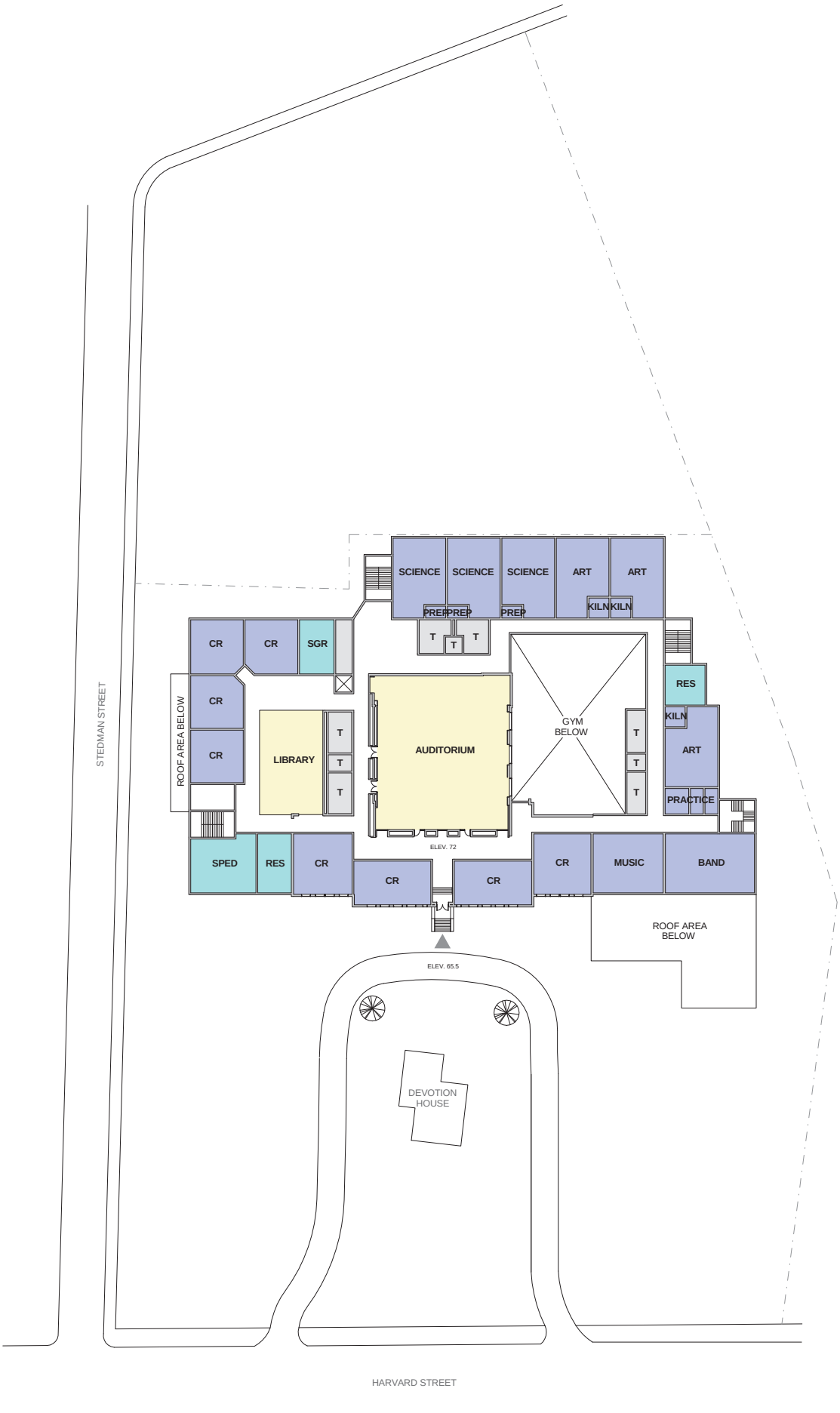
- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

FIRST FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'



SECOND FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

THIRD FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'

FOURTH FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'


CROSSING GUARD
PICK-UP/DROP-OFF LIMITED PARKING
ONE WAY TRAFFIC
Stedman St
SEATING AREA
NEW TREES
DRIVEWAY
NEIGHBORHOOD COMMON
DEVOTION HOUSE
SIGNIFICANT TREES
DRIVEWAY & PARKING
BENCHES FACE STREET
STAIRS
MURALS
BASEBALL
Devotion Playground
SIGNIFICANT TREES
COMMUNITY BASKETBALL
COMMUNITY TENNIS
PEDESTRIAN ACCESS
Babcock St
CROSSING GUARD
Dwight Square

Site plan

Option E evaluates the feasibility of a project which can be constructed while school continues in the existing school buildings and would not require off site temporary classroom spaces. The majority of the new building would be constructed on the adjacent ball field site. The new building would be a four-story structure: a ground floor, level with the existing ball field grade, plus three upper floors aligned with the existing building elevations. A connection between the 1913 building and the new structure, along with the science lab spaces would be built along the north side of the 1913 building once the 1974 building is completely demolished.

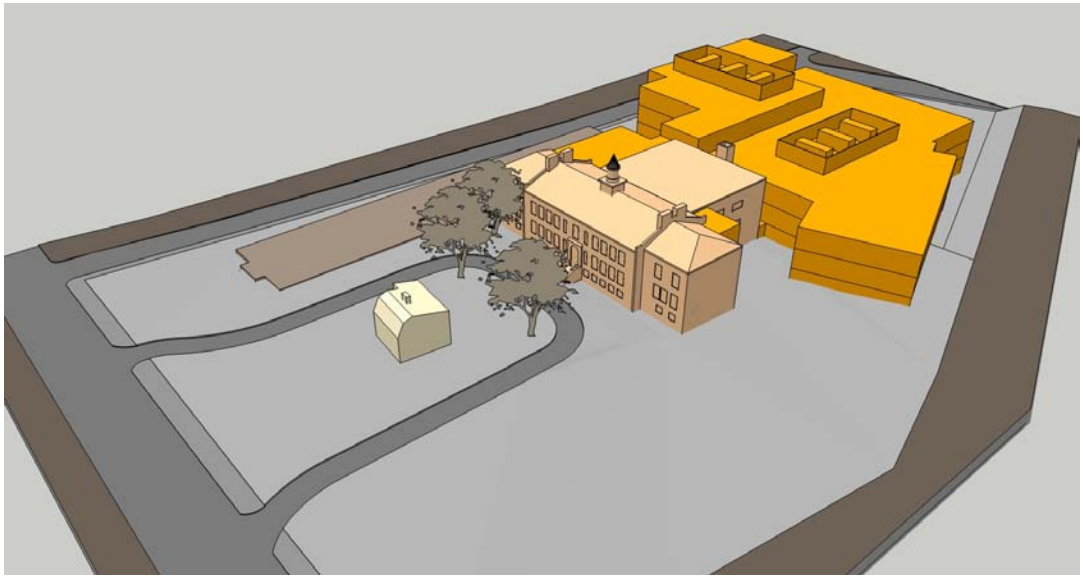
The Pre-K BEEP program has been located at the ground level, with classrooms facing towards the eastern edge of the site. All program spaces related to Pre-K are accessible off of one corridor on the ground floor, creating easy access between the spaces. A new Pre-K play area can be created at the eastern edge of the site right outside the Pre-K classrooms, and separate from the other play areas for the older children.

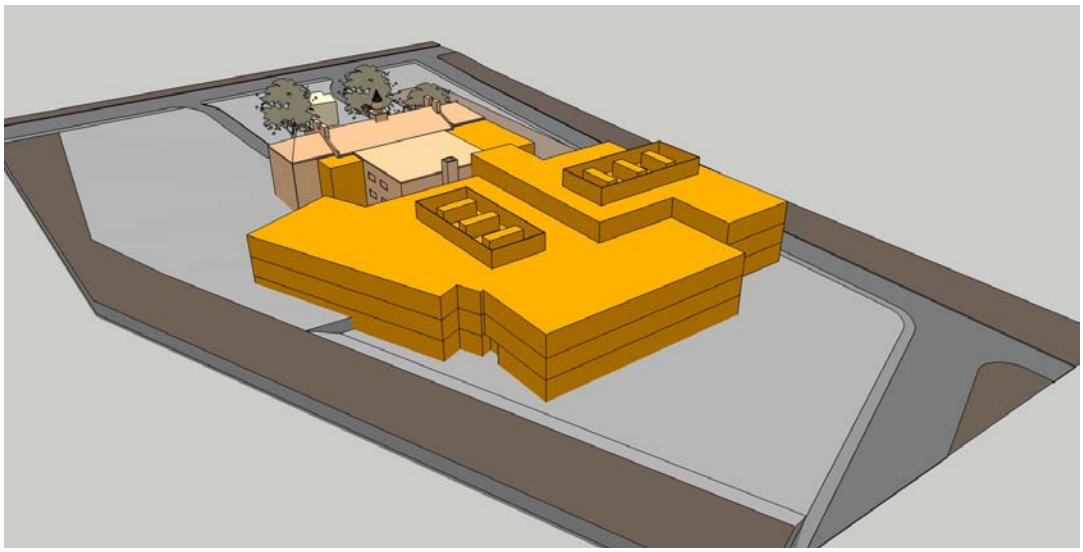
New classrooms spaces have been organized in clusters of four to allow each grade to be grouped together in the building. SPED classrooms have been evenly distributed throughout the spaces, with an effort to locate each of the required six classrooms next to a cluster of four general classrooms. The additional six small group and resource rooms have been distributed throughout the building. The art and music spaces have been grouped together in the southwestern corner of the second floor, forming a creative arts corner of the building. The science labs have been located off the new connection corridor between the 1913 and new building. This will create easy access to a science lab off each floor level, and allow the science labs to be geared towards different age groups depending on what grade levels they are adjacent to.

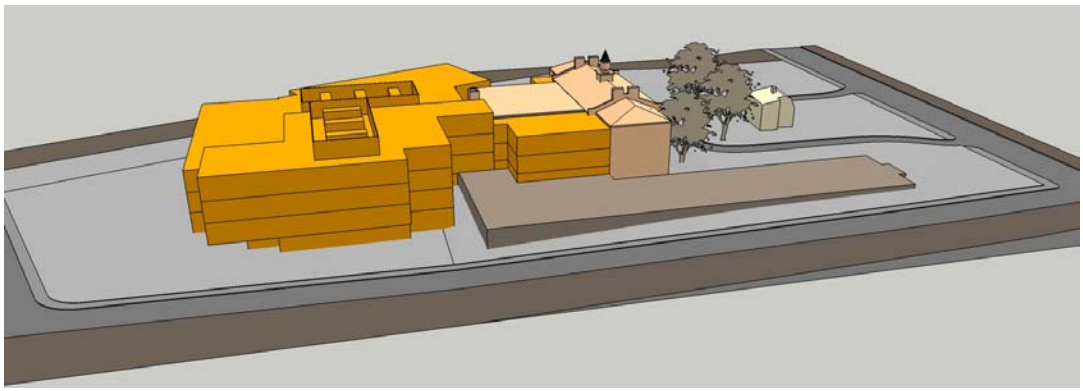
The 1913 building will be completely renovated with the installation of all new systems, including a full sprinkler system, and it will continue to house some of the larger shared spaces. The small gym and auditorium will be enlarged to their original larger footprints within the existing building. The main auditorium floor will be restored on the second floor of the 1913 building, as a double-height volume with balcony, and connected to the third floor.

Demolition:
117,592 gsf
Renovation:
38,278 gsf
New Construction:
170,985 gsf

TOTAL Construction:
209,263 gsf
Estimated Construction Cost:
$66 M







Conceptual massing

The first phase of this construction would provide the build out of all the new spaces located over the existing ball field. This construction will take place while the 1954 and 1974 buildings remain occupied; however the existing gymnasium at the rear of the 1913 building will need to be demolished prior to construction. During the second phase of construction, the new building over the ball field will be useable by the school. The first phase completion will fall short on classrooms by 12 rooms, and not provide science labs or an auditorium space. Therefore some specific program spaces, such as art, music, or Pre-K may need to be used as general classrooms during the second phase of construction.

The second phase of construction will need to begin with the demolition of the existing 1954 and 1974 buildings. The construction can then commence on the connection between the 1913 and new building, the new parking level and play deck, and the renovation of the 1913 building. Final site work and installation of the exterior play spaces would follow this construction.

This option will resolve the problem of a lack of swing space for the students of the Devotion School. However, legal implications must be further reviewed for the availability of construction on the adjacent town owned ball field land. The town must further decide whether it will be acceptable to lose the ball field completely from this area, at the benefit to the school and gain of additional play spaces over the demolished existing buildings.

GROUND FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

FIRST FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

SECOND FLOOR

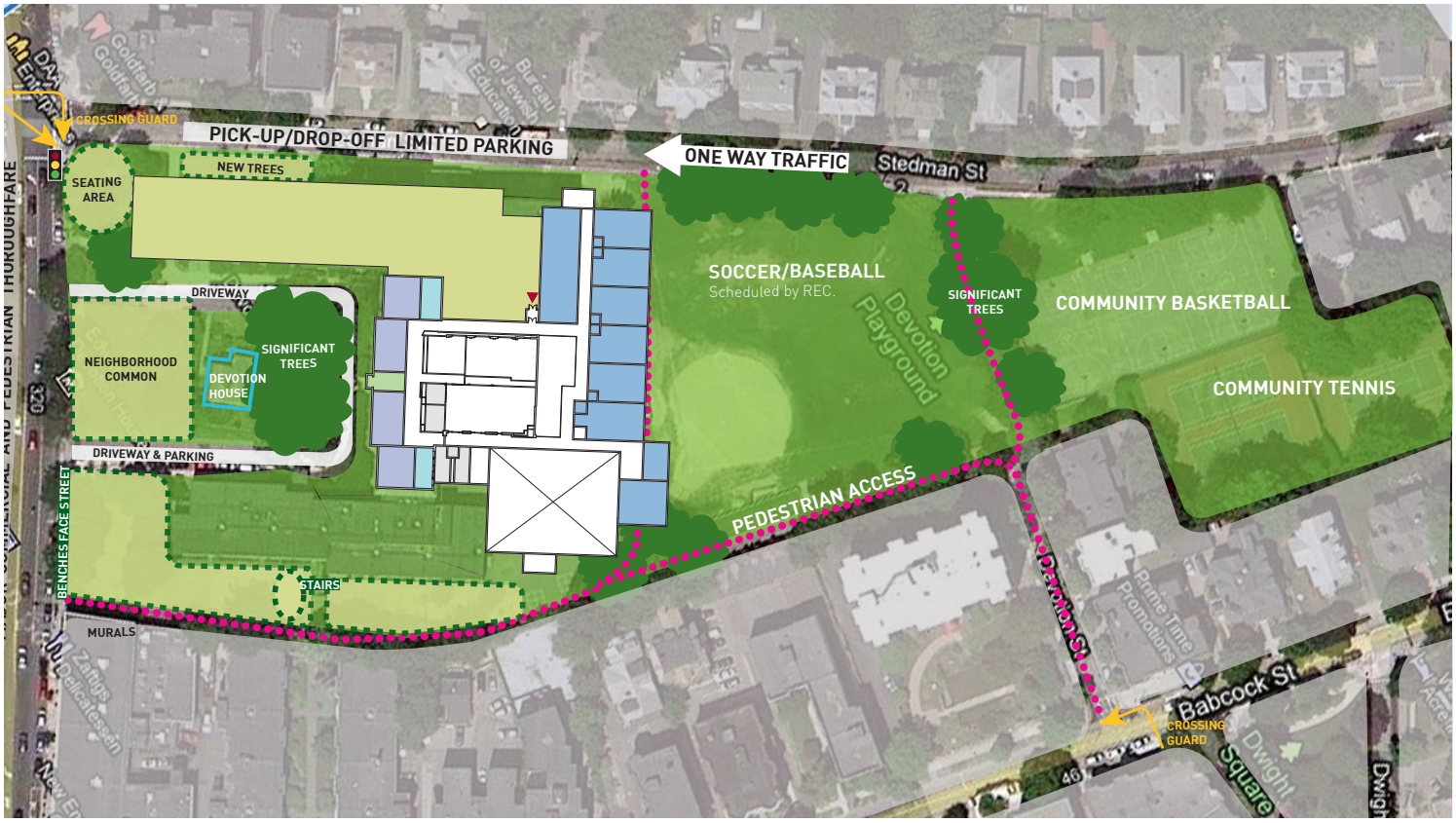
- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

THIRD FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'


CROSSING GUARD
PICK-UP/DROP-OFF LIMITED PARKING
ONE WAY TRAFFIC
Stedman St
SEATING AREA
NEW TREES
DRIVEWAY
NEIGHBORHOOD COMMON
DEVOTION HOUSE
SIGNIFICANT TREES
DRIVEWAY & PARKING
BENCHES FACE STREET
STAIRS
MURALS
SOCCER/BASEBALL
Scheduled by REC.
Devotion Playground
SIGNIFICANT TREES
COMMUNITY BASKETBALL
COMMUNITY TENNIS
PEDESTRIAN ACCESS
Babcock St
CROSSING GUARD
Dwight Square

Site plan

Option E1 evaluates the feasibility of a project which can be constructed while school continues in the existing school buildings and would not require major off site temporary classroom spaces. This option has also been designed to have minimal infringement on the adjacent ball field property. As a result of these restrictions, a six-level structure will be required. This will include a basement floor below grade, ground to third floors, which would align with the existing 1913 building levels, and a fourth floor above the 1913 building levels.

Some selective demolition of the existing buildings will be required before construction can begin. The existing gymnasium will require removal, along with a small portion of the 1974 building. The spaces lost from the minor demolition of the 1974 building will be space from the cafeteria, three classrooms on the second floor, and three classrooms on the third floor for a total of six teaching spaces lost. These teaching spaces could be relocated into temporary modular classroom trailers located either on the Edward Devotion School site or adjacent ball field or tennis courts.

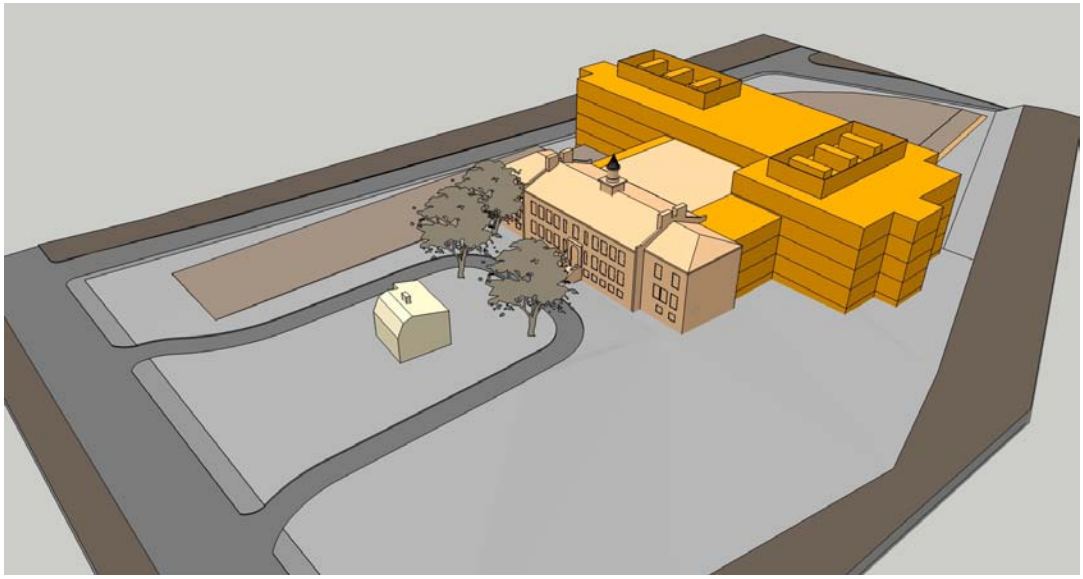
The primary organization of this design creates a narrow footprint which runs the width of the site parallel to the main 1913 building corridor. The building is designed to be wide enough to accommodate an efficient double-loaded corridor scheme. Large gathering spaces—cafeteria and gymnasium—have been located in the basement to maximize the exterior window areas for classrooms. A grand central stair atrium will connect all levels of the building, and bring natural daylight through the core and into the basement.

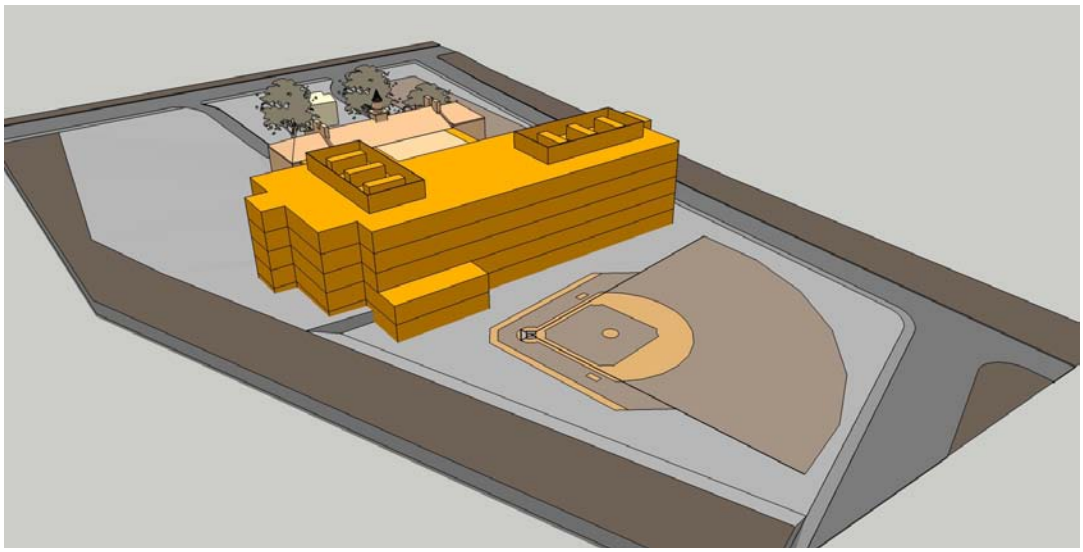
The Pre-K BEEP program has been located on the first floor off of the central corridor. The Kindergarten classrooms will be directly above the Pre-K rooms on the second floor. A new Pre-K/K play area can be created atop the parking roof deck which will align with the first floor. This play area will be directly accessible from the first floor corridor, and only one flight down from the Kindergarten corridor. The area of the parking roof deck beyond the play area creates an excellent opportunity to establish a green roof which will integrate the parking structure with the park-like landscape along Harvard Street.

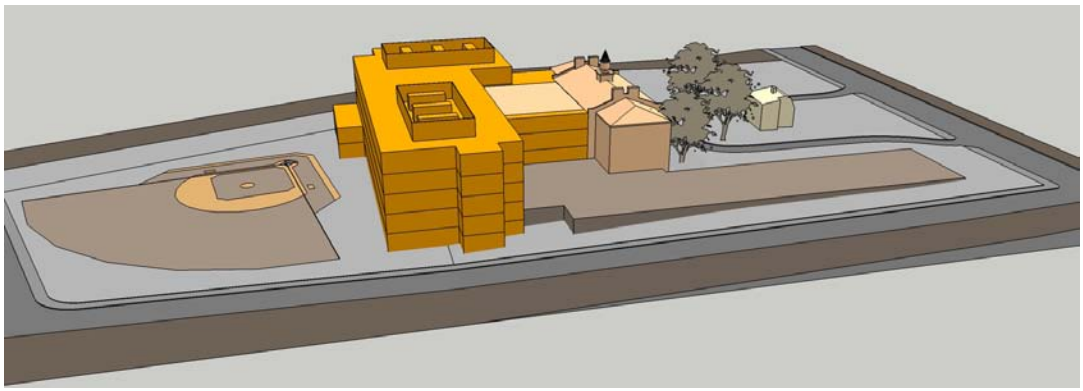
New classrooms spaces have been organized in clusters of four to allow each grade to be grouped together in the building. The art and music spaces have been grouped together in the south end of the new building, forming a creative arts area. The science labs have also been grouped together in the south end of the new building on the third floor.

The 1913 building will be completely renovated with the installation of all new systems, including a full sprinkler system, and it will continue to house some

Demolition:
117,592 gsf
Renovation:
38,278 gsf
New Construction:
176,666 gsf
TOTAL Construction:
214,944 gsf
Estimated Construction Cost:
$73 M







Conceptual massing

of the larger shared spaces. The small gym and auditorium will be enlarged to their original larger footprints within the existing building. The main auditorium floor will be restored on the second floor of the 1913 building, as a double-height volume with balcony, and connected to the third floor.

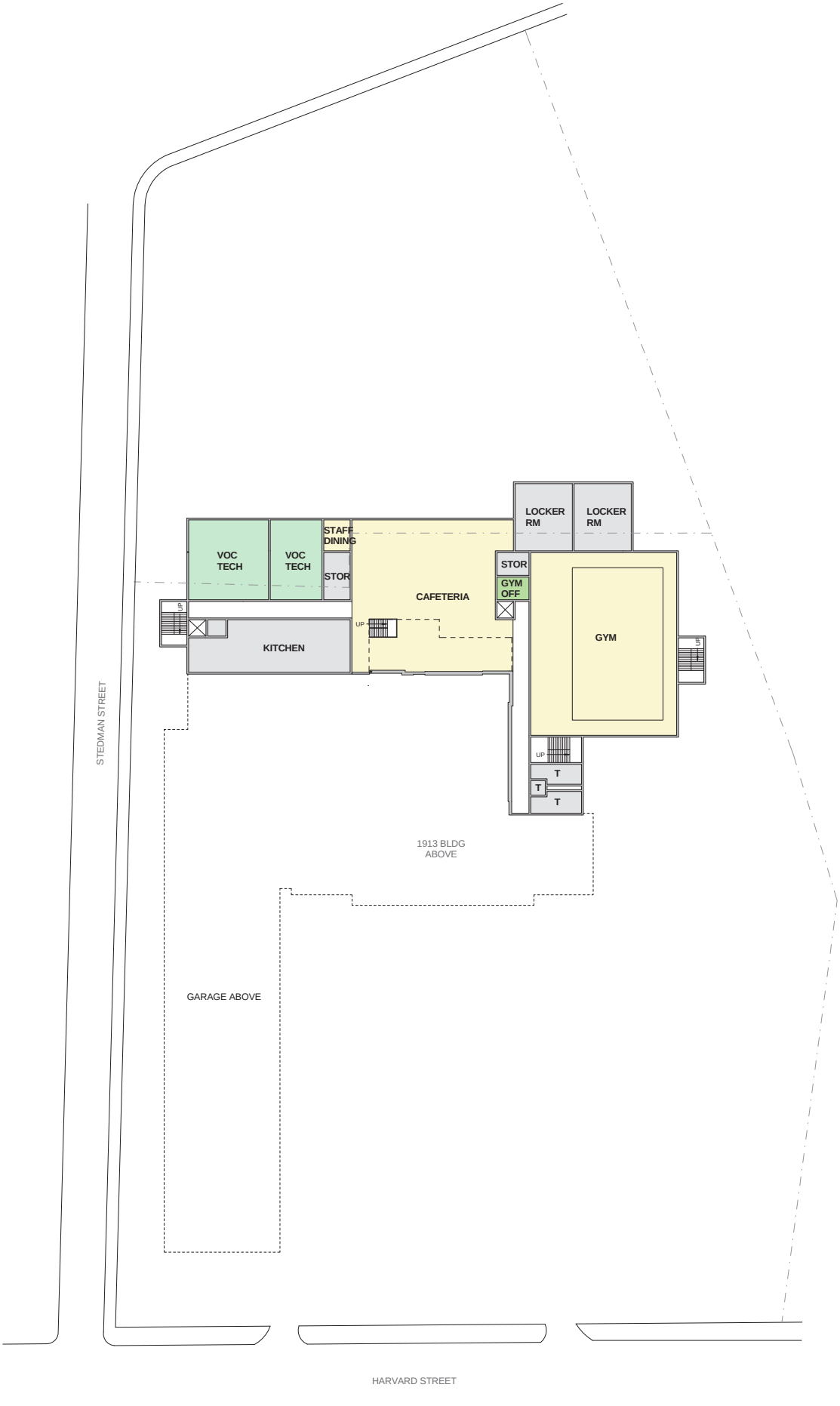
There are many opportunities for new play areas within this option. The footprint of the new building has been kept narrow enough to allow for a ball field to be rebuilt to the east of the building, near its current location. The roof deck of the parking structure will provide a large play area, portions of which can be separated off for the Pre-K and K grade students, and the remainder used by older students. On the southern edge of the site where the former 1954 building was located, and additional play space can be added, along with a possible medium or small soccer field.

The first phase of this construction would provide the build out of all the new spaces located to the rear of the 1913 building. This construction will take place while the 1954 and the majority of the 1974 building remain occupied. However the new construction will require the partial demolition of the eastern elevation of the 1974 building as previously described, along with the demolition of the existing gymnasium.

During the second phase of construction, the new facility to the rear of the 1913 building will available for use by the school. The first phase construction will fall short on total classrooms by 12 rooms, and not provide an auditorium space. Therefore some specific program spaces, such as art, music, or Pre-K may need to be used as general classrooms, during the second phase of construction.

The second phase of construction will need to begin with the demolition of the existing 1954 and 1974 buildings. The construction can then commence on the new parking level and play deck and the renovation of the 1913 building. Final site work and installation of the exterior play spaces would follow this construction.

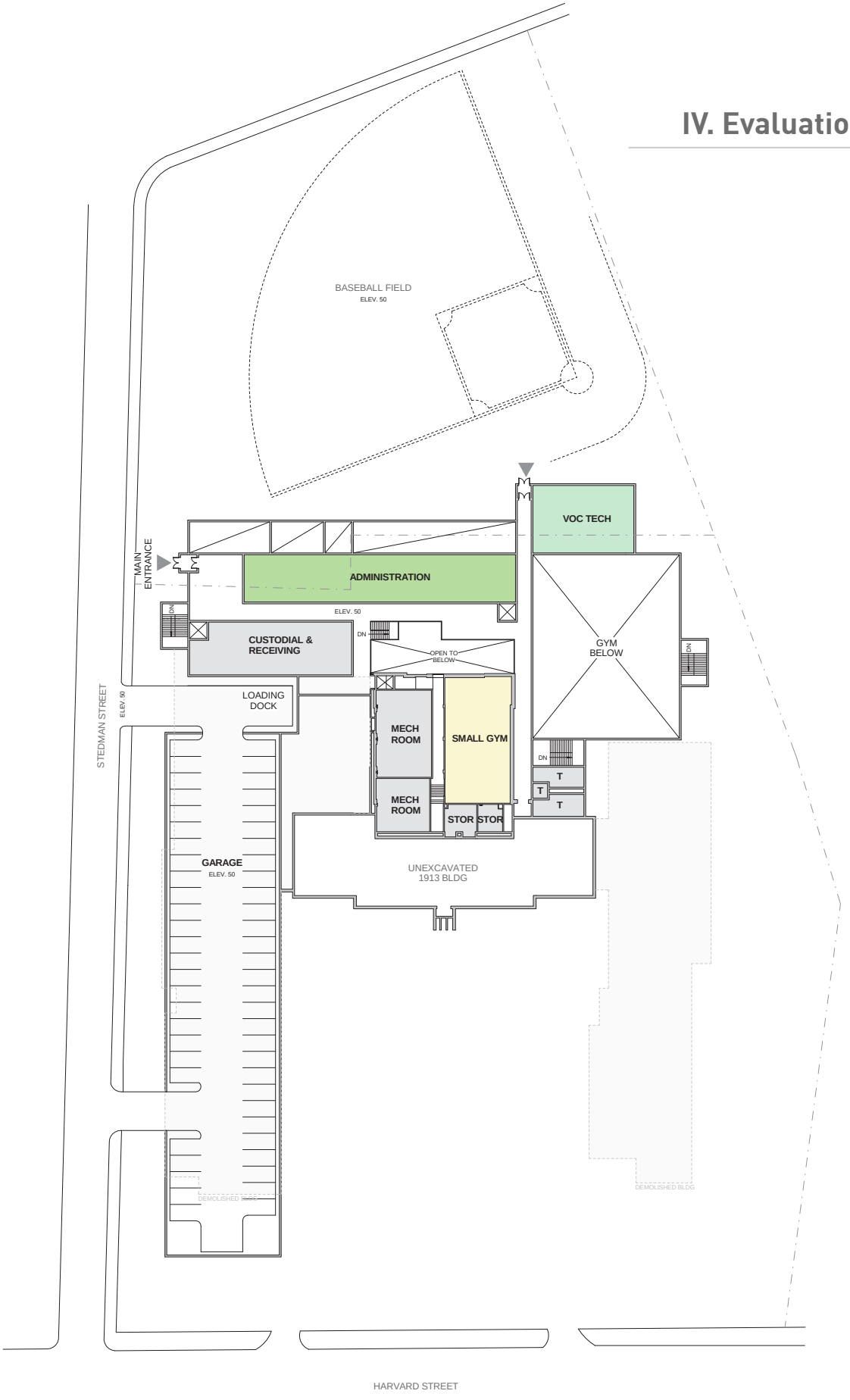
This option will largely resolve the problem of a lack of swing space for the students of the Devotion School and preserve the original 1913 school building. However, legal implications of Article 97 and its impact on the use of a portion of the existing ball field for school construction must be further reviewed. However, in this option, as opposed to Option E, the impact on the adjacent ball field land is minimal, and a new ball field can be reconstructed in approximately the same location.



BASEMENT

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

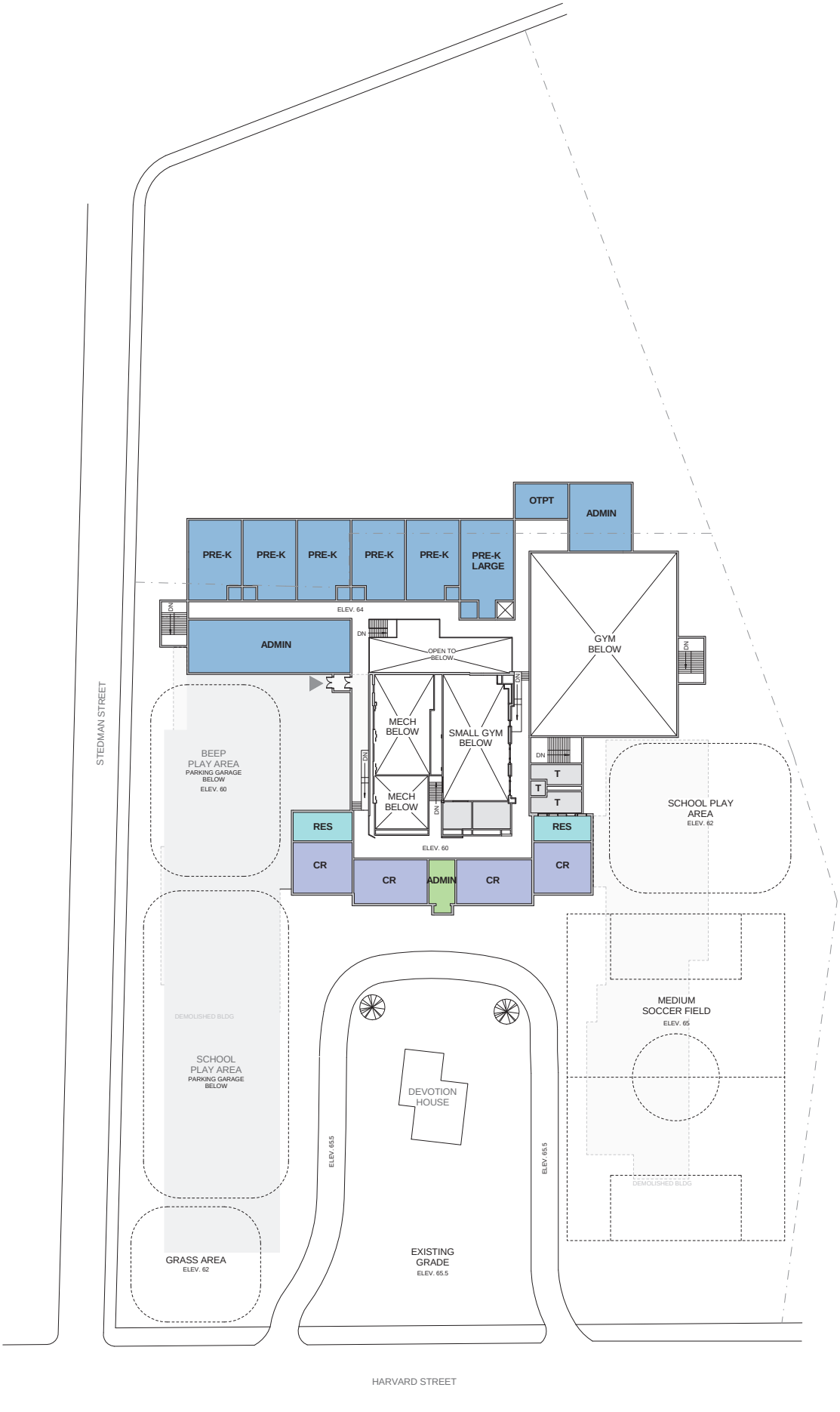
0' 40' 80'



GROUND FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'



FIRST FLOOR

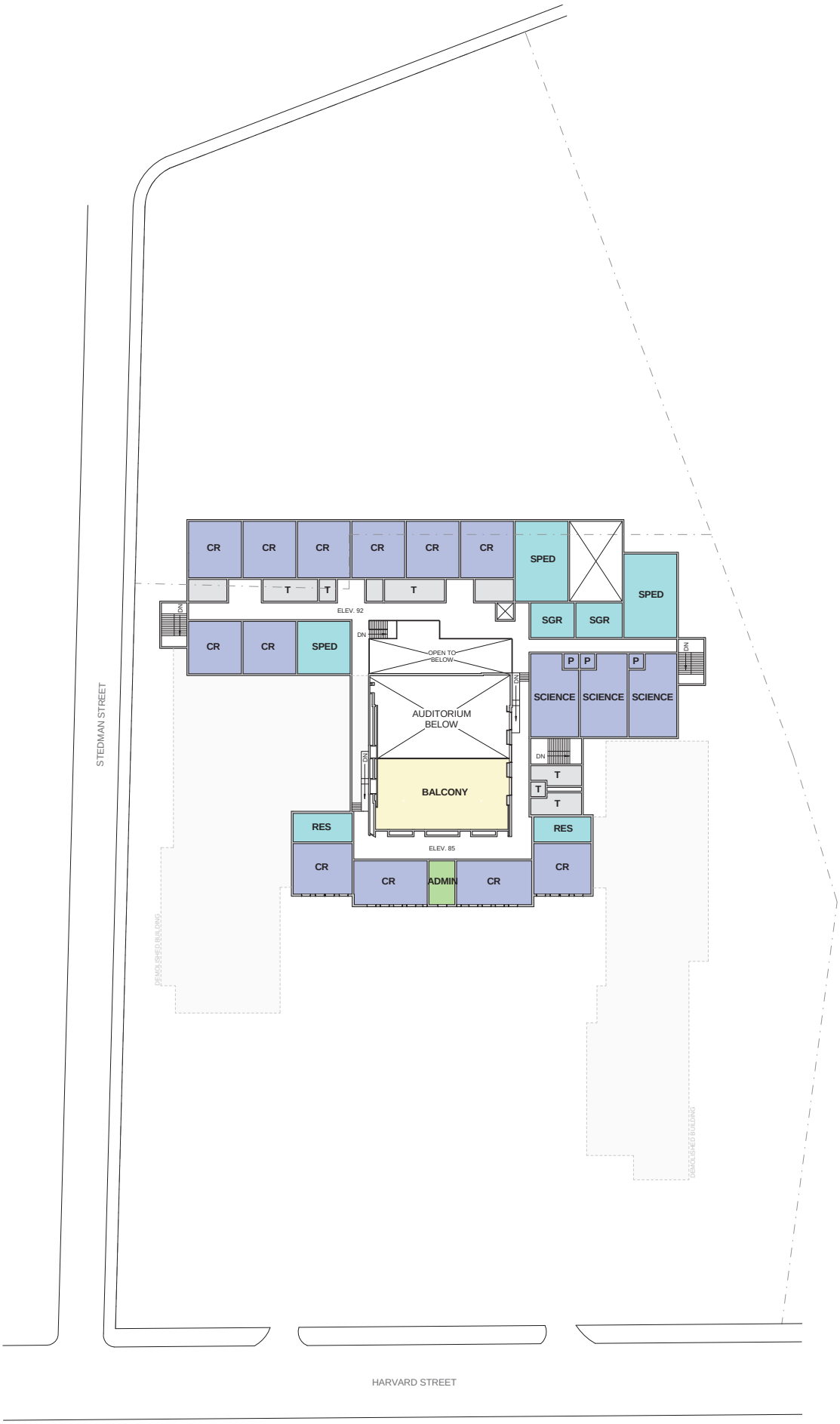
- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

SECOND FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'



THIRD FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

FOURTH FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'


CROSSING GUARD
PICK-UP/DROP-OFF LIMITED PARKING
ONE WAY TRAFFIC
Stedman St
SEATING AREA
NEW TREES
DRIVEWAY
NEIGHBORHOOD COMMON
DEVOTION HOUSE
SIGNIFICANT TREES
DRIVEWAY & PARKING
BENCHES FACE STREET
STAIRS
MURALS
COMMUNITY BASKETBALL
COMMUNITY TENNIS
PEDESTRIAN ACCESS
Babcock St
CROSSING GUARD
Dwight Square

Site plan

Option F evaluates the feasibility of an entirely new stand alone school building constructed on the adjacent ball field site. The new building would be a four-story structure, with the ground floor level with the existing baseball field. The existing Edward Devotion School buildings would then be demolished, and the site re-graded to allow for new soccer or ball fields to be constructed over the existing building footprints.

The Pre-K BEEP program has been located at the ground level, with classrooms facing towards the eastern edge of the site. All program spaces related to Pre-K are accessible off of one corridor on the ground floor, creating easy access between the spaces. The main administration area and cafeteria are also located at the ground floor, so that these spaces may be easily accessible upon entrance into the building.

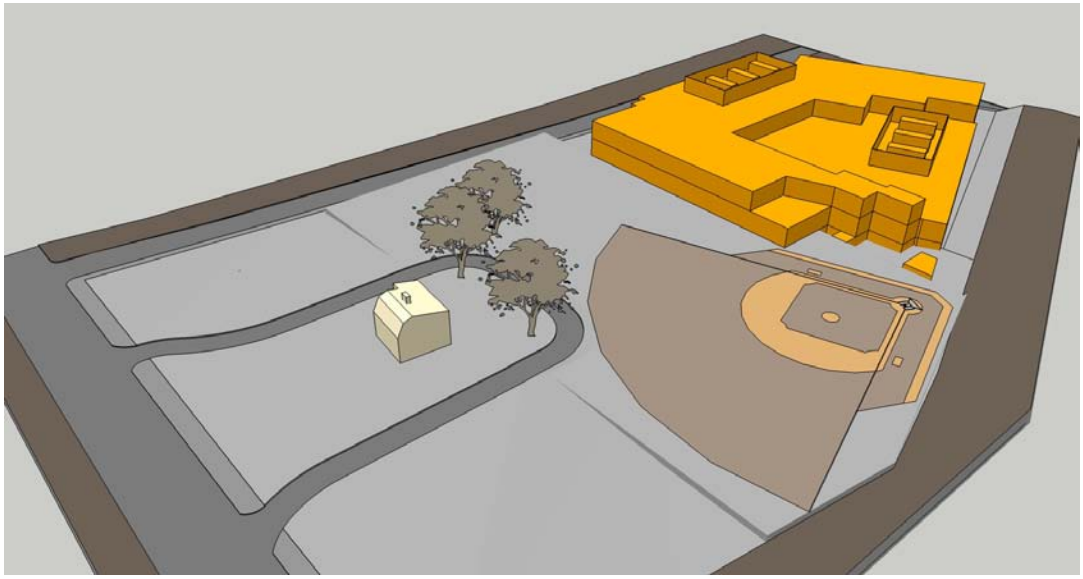
The Kindergarten classrooms have been located on the first floor of the building, above the below grade parking level. This allows the Kindergarten classrooms to also be at grade level, and have direct access to the play spaces outside of their rooms.

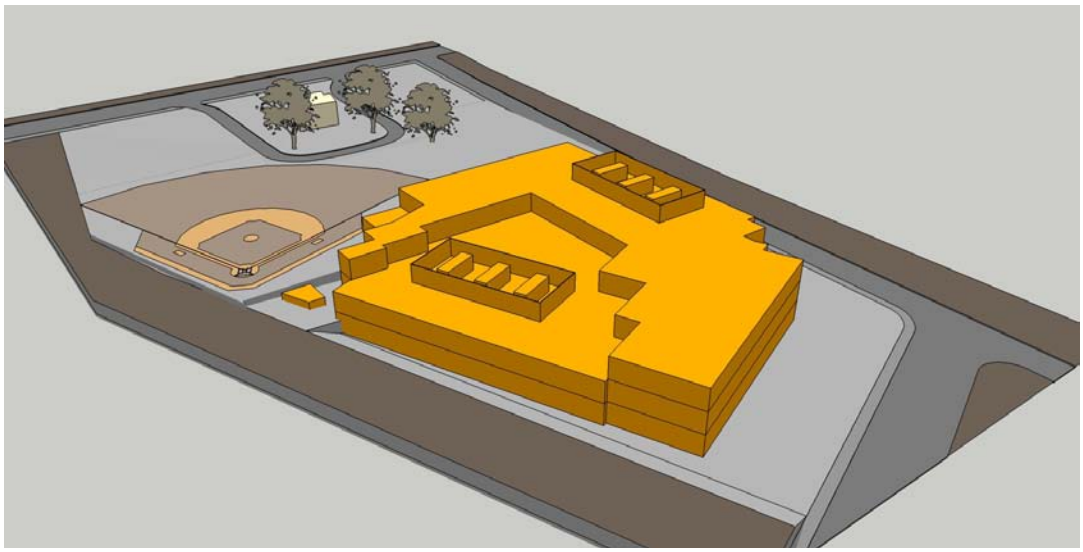
New classrooms spaces have been organized in clusters of four to allow each grade to be grouped together in the building. SPED classrooms have been evenly distributed throughout the spaces, with an effort to locate each of the required six classrooms next to a cluster of four general classrooms. The additional six small group and resource rooms have been distributed throughout the building. The specialty rooms of art, music, and science programs have been grouped together on the third floor.

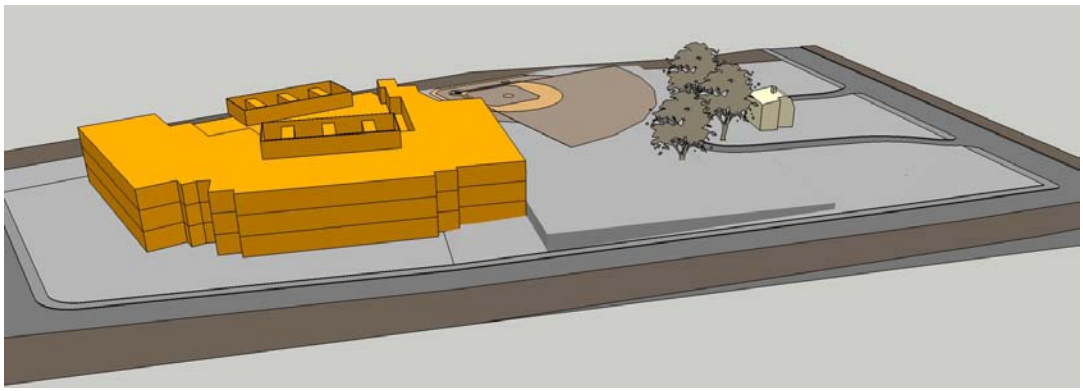
The construction of the new school building would be constructed in one continuous phase due to its separate location on the ball field site. Once the school population has vacated the existing buildings, they would be demolished to allow for the new site work to begin. This option will resolve the problem of a lack of swing space for the students of the Devotion School. However, legal implications must be further reviewed for the availability of construction on the adjacent town owned ball field land.

Demolition:
162,051 gsf
Renovation:
0 gsf
New Construction:
1,400 gsf

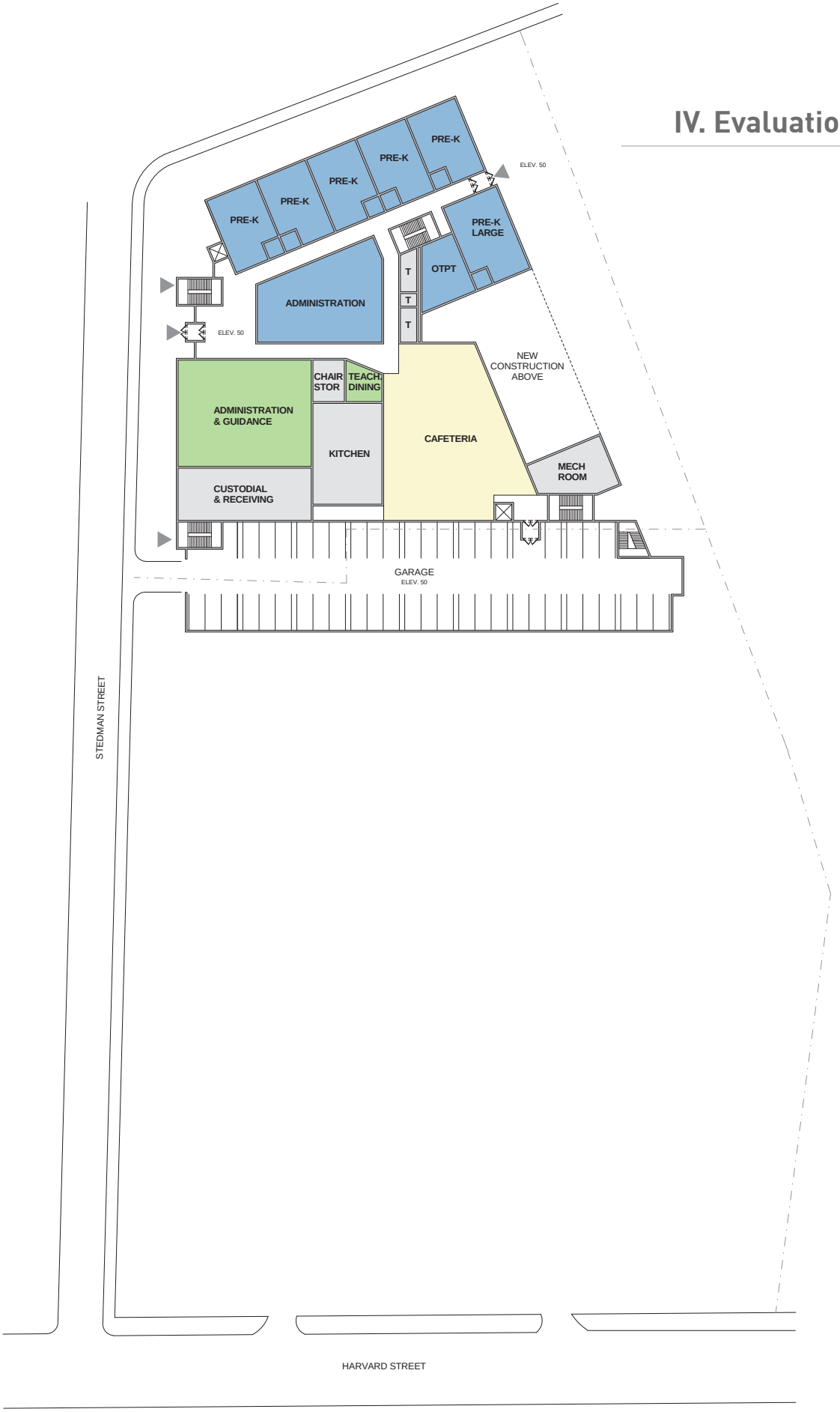
TOTAL Construction:
184,119 gsf
Estimated Construction Cost:
$65 M



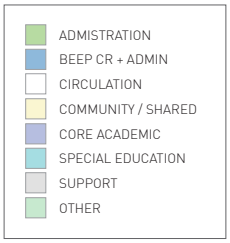


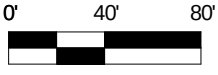


Conceptual massing



GROUND FLOOR





FIRST FLOOR
FIELD OPTION 1

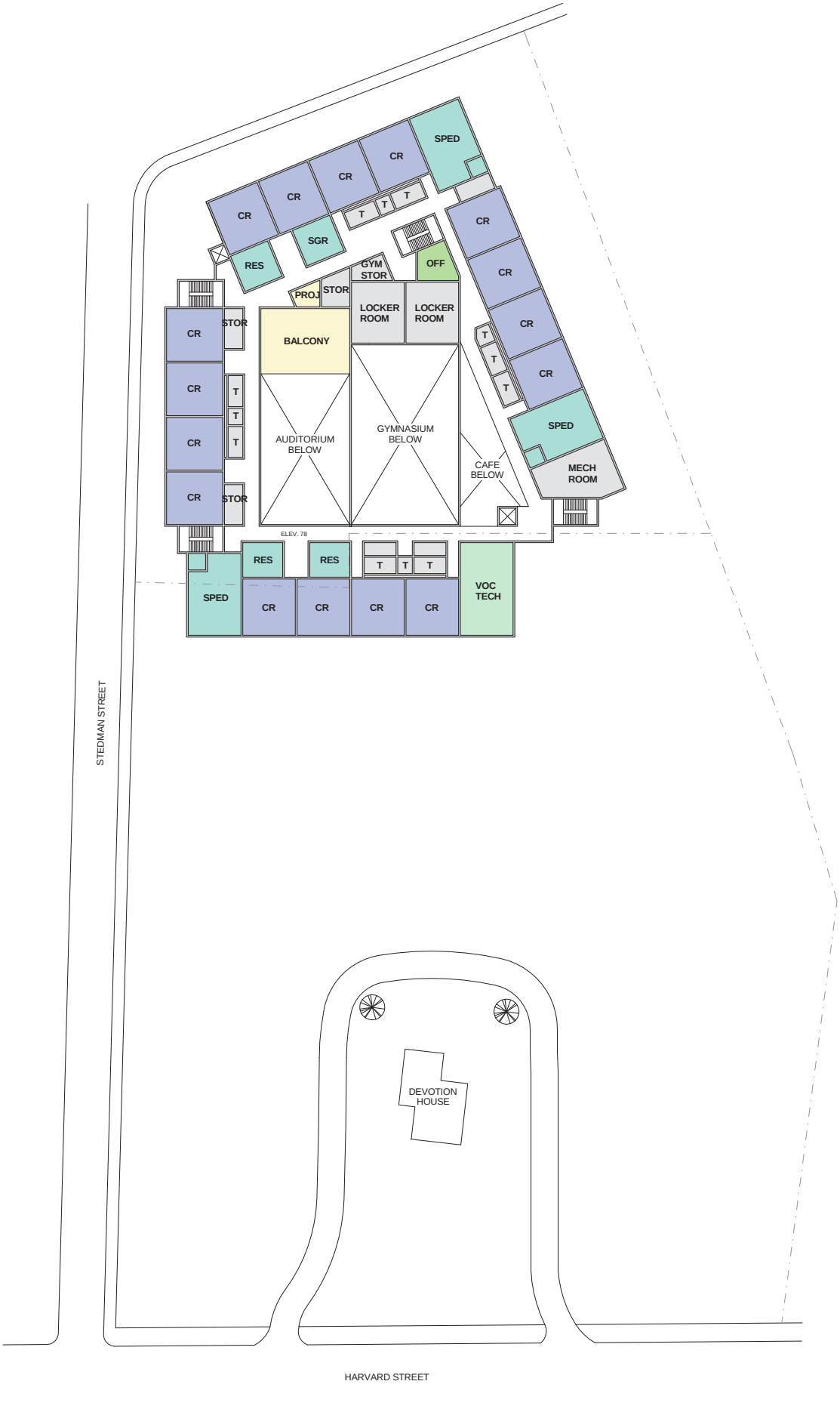
- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'

FIRST FLOOR
FIELD OPTION 2

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

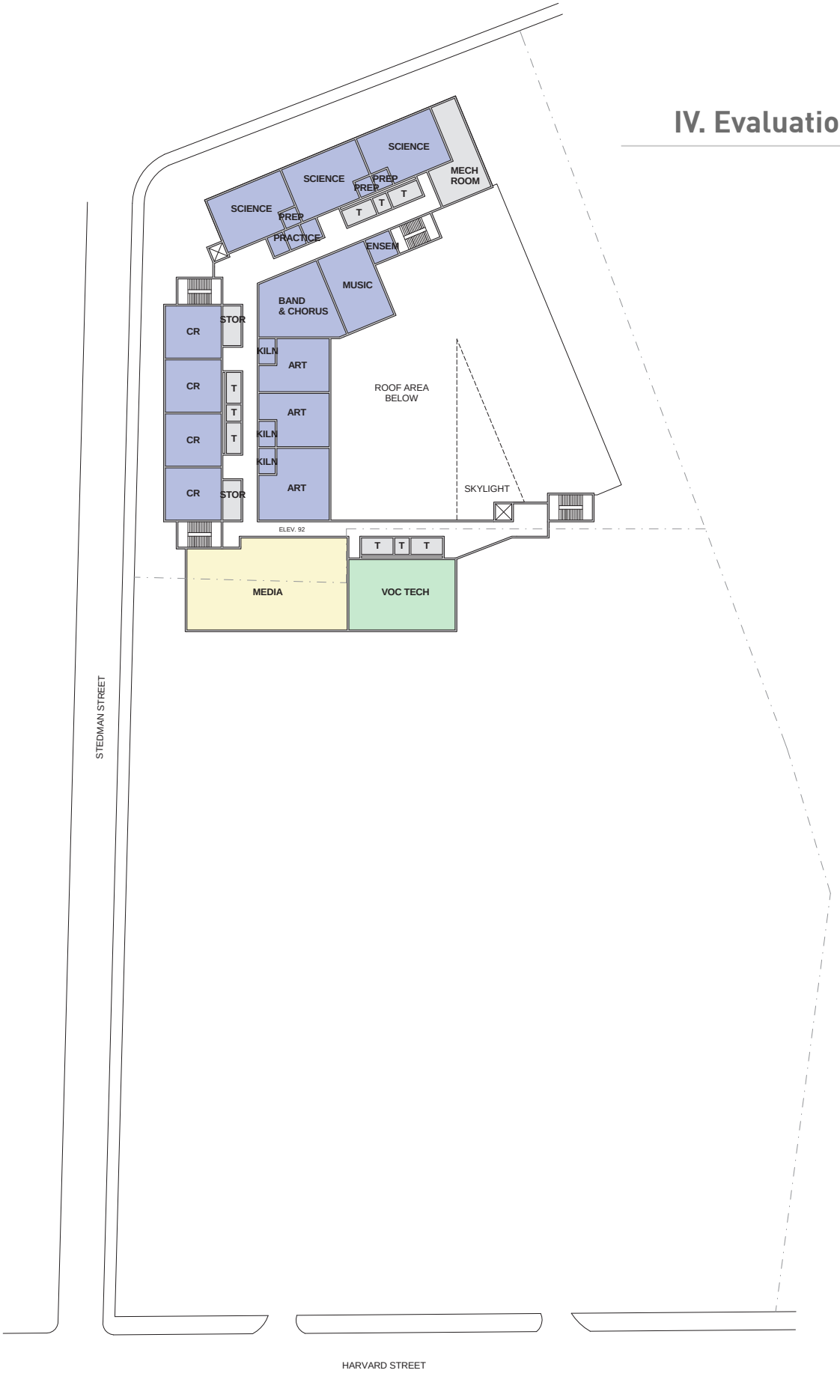
0' 40' 80'



SECOND FLOOR

- ADMISTRATION
- BEEP CR + ADMIN
- CIRCULATION
- COMMUNITY / SHARED
- CORE ACADEMIC
- SPECIAL EDUCATION
- SUPPORT
- OTHER

0' 40' 80'



THIRD FLOOR

ADMISTRATION
BEEP CR + ADMIN
CIRCULATION
COMMUNITY / SHARED
CORE ACADEMIC
SPECIAL EDUCATION
SUPPORT
OTHER

0' 40' 80'

RDK ENGINEERS
200 Brickstone Square | Andover, MA 01810-1488
P: 978-296-6200 | F: 978-296-6201

RDK Understands How Engineering Affects People

October 26, 2012

Ms. Stephanie MacNeil
HMFH Architects
130 Bishop Allen Drive
Cambridge, MA 02139

RE: Brookline Devotion Plans

Stephanie,

The 10 options (A, B, B1, C, C1, D, D1, E, E1, F) dated August 28, 2012 were reviewed for MEP/FP.

Under any of the options except for F which is a completely new school that doesn't retain any of the existing building, the renovations will be a Level 3 renovation with respect to IEBC Ch. 34 so MEP/FP systems would need to be brought up to current code. Nearly all systems need to be replaced either 1) to comply with current code (e.g. fire alarm) per Ch. 34 or 2) due to age (e.g. HVAC boilers, air handling units). Those replaced due to age get selected to meet current codes.

For Option F, all utilities would be relocated to the new site and all systems designed to current code requirements.

Water service (sprinkler and domestic) originates in the Sprinkler Room in the garage in the 1973 wing. Power is in the Transformer Vault and Main Electric Room between the 1973 and 1913 wings. Heating originates in the Boiler Room.

For all scenarios except F, the Sprinkler Room should be maintained in the existing location. The room would likely need to expand because the renovated/new school will be fully sprinkled so additional zones/valves are needed. The natural gas service is adjacent to the Sprinkler Room and should be maintained in the existing location similar to the water service. If the 1973 wing is demolished, these rooms and their service over to the 1913 wing would need to be protected during construction.

For power, the utility company would likely replace the gear in the Transformer Vault. The main switchboard and all other gear in the Main Electric Room would be replaced also. Under Options A thru C1, the Transformer Vault and Main Electric Room remain in place. The equipment in these rooms could be upgraded in place through a series of shutdowns. Under Options D thru E1, the rooms may remain in the existing locations and protected during demolition/renovation of the 1973 wing or a temporary service provided. The rooms could also be permanently relocated. Options D thru F do not show Transformer Vault or Main Electric Room because their location would be determined later and likely exterior on the building. Coordination with phasing would be required if there is relocation.

Replacement of all equipment in the Boiler Room will be recommended for any Option. Options A thru E1 show the Boiler Room remaining in the existing location. The Boiler Room can also be relocated if needed and would need to be coordinated with phasing. Ultimately, all hydronic systems (pumps, piping, etc) would be replaced so the Boiler Room could be relocated also. That would need to be coordinated with phasing.

All HVAC systems are recommended to be replaced. Recommendation for the heating is a high efficiency condensing gas boiler hot water system. Cooling system would be a chilled water system with new cooling tower and chiller(s) using variable frequency drives for highest operating efficiency. The existing unused cooling tower on the roof has been abandoned and is in poor condition. Also, the capacity of the cooling tower would not meet the load of a fully cooled renovated or new school. For these reasons the existing cooling tower would not be reused. Chilled beams and a displacement ventilation system would be recommended for the cooling system.

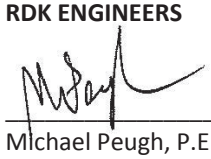
For Option A (renovate in place with no new construction), I assume this is a complete gut renovation where all MEP/FP systems are replaced. Similarly for Options B thru E1, the assumption is that any portion of the existing building that is retained would be a complete gut renovation with MEP/FP systems replaced. Upon completion of any of the Options, all MEP/FP (equipment, fixtures, piping, wiring, devices, etc.) in the existing spaces would be new. Nearly all MEP/FP systems and equipment are 40 years or older. Some items like switchgear and fire alarm are newer but not new enough to maintain in a renovated or new design. Sprinkler Room and natural gas service could be maintained but would require new upgrades.

In Options B thru E1, as additions are constructed, the utilities need to be extended to those areas. New piping and wiring would need to originate in the main utility rooms and pass through the existing areas to feed these new areas. The existing branch piping and wiring would not support these new spaces. Depending on phasing, some areas not being actively renovated would still have ceilings in the corridors removed to get piping/wiring from the utility room to the new space. e.g. in Option B, new HW piping would be needed from the Boiler Room to the new 2nd floor Classrooms and Voc Tech in the southeast corner of the building.

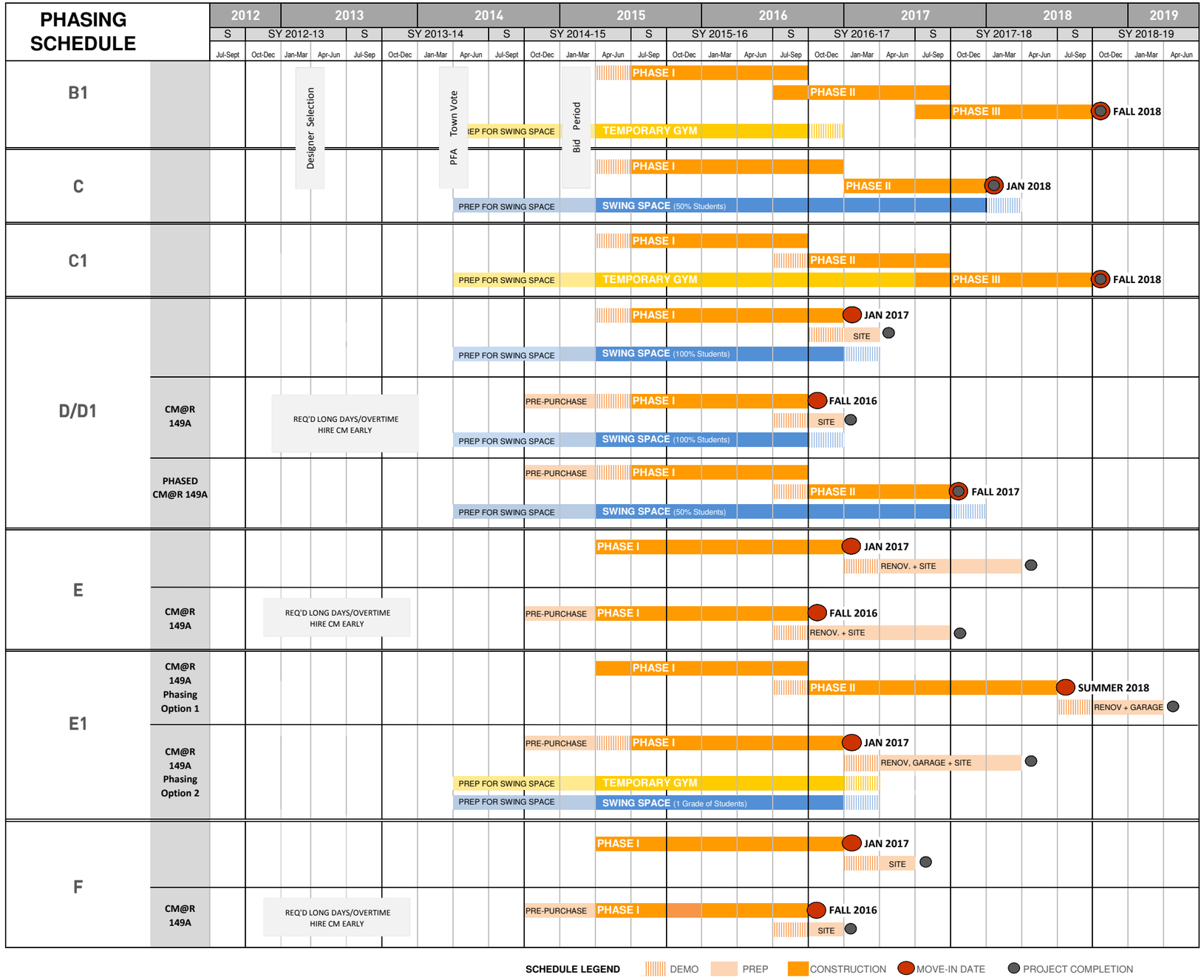
An existing underground fuel oil storage tank is located under the patio outside the gym and cafeteria. The school no longer fires the boilers on fuel oil so the tank is recommended for removal under all scenarios if the school confirms it isn't needed. For Options D thru F, removal of the tank is required to accommodate the renovation.

Sincerely,

RDK ENGINEERS



Michael Peugh, P.E.
Project Manager


PHASING SCHEDULE
2012
2013
2014
2015
2016
2017
2018
2019
S
SY 2012-13
SY 2013-14
SY 2014-15
SY 2015-16
SY 2016-17
SY 2017-18
SY 2018-19
Jul-Sept
Oct-Dec
Jan-Mar
Apr-Jun
Jul-Sep
B1
Designer Selection
PFA
Town Vote
Bid Period
PHASE I
PHASE II
PHASE III
FALL 2018
EP FOR SWING SPACE
TEMPORARY GYM
C
JAN 2018
PREP FOR SWING SPACE
SWING SPACE (50% Students)
C1
D/D1
JAN 2017
SITE
SWING SPACE (100% Students)
CM@R 149A
REQ'D LONG DAYS/OVERTIME
HIRE CM EARLY
PRE-PURCHASE
FALL 2016
PHASED CM@R 149A
FALL 2017
E
RENOV. + SITE
E1
CM@R 149A Phasing Option 1
SUMMER 2018
RENOV + GARAGE
CM@R 149A Phasing Option 2
RENOV, GARAGE + SITE
SWING SPACE (1 Grade of Students)
F
SCHEDULE LEGEND
DEMO
PREP
CONSTRUCTION
MOVE-IN DATE
PROJECT COMPLETION

	A	B	B1	C	C1	D		
							CM@R	CM@R PHASED
Description	**Renovation w/ No Additions**	**Renovation w/ Modest Additions for CR's**	**Renovation w/ Modest Additions for CR's**	**Renovations and Additions**	**Renovations and Additions**	**Renovations and Additions**	**Renovations and Additions**	**Renovations and Additions**
Renovation Area	162,051	162,051	148,301	113,180	113,180	38,278	38,278	38,278
New Construction Area	-	36,702	42,949	81,105	80,191	142,826	142,826	142,826
Structured Parking Area	-	8,000	8,000	-	-	19,261	19,261	19,261
Total Area	**162,051**	**206,753**	**199,250**	**194,285**	**193,371**	**200,365**	**200,365**	**200,365**
Construction Cost	**$ 42,760,474**	**$ 56,683,692**	**$ 57,272,179**	**$ 53,892,007**	**$ 58,643,293**	**$ 61,803,062**	**$ 66,426,215**	**$ 63,216,158**
Construction Cost per sqft	**$ 264**	**$ 274**	**$ 287**	**$ 277**	**$ 303**	**$ 308**	**$ 332**	**$ 316**
Construction Contingency 10%	$ 4,276,047	$ 5,668,369	$ 5,727,218	$ 5,389,201	$ 5,864,329	$ 6,180,306	$ 6,642,622	$ 6,321,616
Phasing Approach	Temp CR's for 400			Temp CR's for 400	Temporary Gym	Temp CR's for 800	Temp CR's for 800	Temp CR's for 400
Temp. Classroom Costs	$ 3,650,000	$ -	$ -	$ 2,450,000	$ 900,000	$ 5,110,000	$ 3,650,000	$ 3,650,000
A/E Fees at 10%	$ 4,703,652	$ 6,235,206	$ 6,299,940	$ 5,928,121	$ 6,450,762	$ 6,798,337	$ 7,306,884	$ 6,953,777
OPM and Other Professional Services at 5%	$ 2,351,826	$ 3,117,603	$ 3,149,970	$ 2,964,060	$ 3,225,381	$ 3,399,168	$ 3,653,442	$ 3,476,889
F&E w/ Tech - 780 students + 90 BEEP x $2,400	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000
Project Contingency 5%	$ 2,991,500	$ 3,689,644	$ 3,726,865	$ 3,635,569	$ 3,858,588	$ 4,268,944	$ 4,488,358	$ 4,285,322
Total Project Cost	**$ 62,821,500**	**$ 77,482,514**	**$ 78,264,172**	**$ 76,346,958**	**$ 81,030,354**	**$ 89,647,817**	**$ 94,255,520**	**$ 89,991,762**
Project Cost per sqft	**$ 388**	**$ 375**	**$ 393**	**$ 393**	**$ 419**	**$ 447**	**$ 470**	**$ 449**
MSBA 40% (+-)	23,668,600	30,993,006	31,305,669	29,558,783	32,052,142	33,815,127	36,242,208	34,536,705
MSBA 5% Bonus for Renov.	2,958,575	3,036,502	2,912,586	2,152,420	2,345,014	807,511	865,470	824,742
Total MSBA Reimbursement	26,627,175	34,029,508	34,218,255	31,711,203	34,397,155	34,622,638	37,107,678	35,361,447
Town of Brookline Share	**$ 36,194,325**	**$ 43,453,006**	**$ 44,045,917**	**$ 44,635,755**	**$ 46,633,199**	**$ 55,025,179**	**$ 57,147,842**	**$ 54,630,315**

NOTES:

1. Estimated costs based on PM&C cost estimate dated October, 2012.
2. All Estimates include a 6% escalation cost.
3. Professional fees include OPM, Architecture and Engineering Fees, Testing, Clerk of the Work.
4. Total Square Feet for Options A & B is not inclusive of all program requirements due to site constraints
5. MSBA may not fund all parts of the above projects such as structured parking and/or roof plazas

	D1			E		E1			F / F1	
		CM@R	CM@R PHASED		CM@R		CM@R	CM@R PHASED		CM@R
Description	**Renovations and Additions**	**Renovations and Additions**	**Renovations and Additions**	**Renovated 1910 Bldg w/ New Addition in Ball Field**	**Renovated 1910 Bldg w/ New Addition in Ball Field**	**Renovated 1910 Bldg w/ New Addition in Ball Field**	**Renovated 1910 Bldg w/ New Wing Behind OPTION 2**	**Renovated 1910 Bldg w/ New Wing Behind OPTION 1**	**New Building in Ball Field**	**New Building in Ball Field**
Renovation Area	38,278	38,278	38,278	38,278	38,278	38,278	38,278	38,278	-	-
New Construction Area	144,675	144,675	144,675	152,563	152,563	161,366	158,324	158,324	168,052	168,052
Structured Parking Area	10,566	10,566	10,566	18,422	18,422	18,342	18,342	18,342	16,067	16,067
Total Area	193,519	193,519	193,519	209,263	209,263	217,986	214,944	214,944	184,119	184,119
Construction Cost	$ 59,023,677	$ 63,507,850	$ 59,305,208	$ 65,547,088	$ 68,824,442	$ 68,825,460	$ 73,439,074	$ 76,183,910	$ 64,551,761	$ 67,779,349
Construction Cost per sqft	$ 305	$ 328	$ 306	$ 313	$ 329	$ 316	$ 342	$ 354	$ 351	$ 368
Construction Contingency 10%	$ 5,902,368	$ 6,350,785	$ 5,930,521	$ 6,554,709	$ 6,882,444	$ 6,882,546	$ 7,343,907	$ 7,618,391	$ 6,455,176	$ 6,777,935
Phasing Approach	Temp CR's for 800	Temp CR's for 800	Temp CR's for 400				Temp CR's for 138			
Temp. Classroom Costs	$ 5,110,000	$ 3,650,000	$ 3,650,000	$ -	$ -	$ -	$ 1,140,000	$ -	$ -	$ -
A/E Fees at 10%	$ 6,492,604	$ 6,985,864	$ 6,523,573	$ 7,210,180	$ 7,570,689	$ 7,570,801	$ 8,078,298	$ 8,380,230	$ 7,100,694	$ 7,455,728
OPM and Other Professional Services at 5%	$ 3,246,302	$ 3,492,932	$ 3,261,786	$ 3,605,090	$ 3,785,344	$ 3,785,400	$ 4,039,149	$ 4,190,115	$ 3,550,347	$ 3,727,864
F&E w/ Tech - 780 students + 90 BEEP x $2,400	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000	$ 2,088,000
Project Contingency 5%	$ 4,093,148	$ 4,303,772	$ 4,037,954	$ 4,250,253	$ 4,457,546	$ 4,457,610	$ 4,806,421	$ 4,923,032	$ 4,187,299	$ 4,391,444
Total Project Cost	$ 85,956,099	$ 90,379,202	$ 84,797,043	$ 89,255,320	$ 93,608,466	$ 93,609,817	$ 100,934,850	$ 103,383,679	$ 87,933,277	$ 92,220,320
Project Cost per sqft	$ 444	$ 467	$ 438	$ 427	$ 447	$ 429	$ 470	$ 481	$ 478	$ 501
MSBA 40% (+-)	32,338,440	34,691,681	32,458,817	35,702,128	37,443,386	37,443,927	39,917,940	41,353,472	35,173,311	36,888,128
MSBA 5% Bonus for Renov.	799,567	857,751	802,543	816,321	856,134	821,887	888,591	920,547	-	-
Total MSBA Reimbursement	33,138,006	35,549,431	33,261,360	36,518,449	38,299,521	38,265,814	40,806,531	42,274,018	35,173,311	36,888,128
Town of Brookline Share	$ 52,818,093	$ 54,829,771	$ 51,535,683	$ 52,736,871	$ 55,308,945	$ 55,344,003	$ 60,128,319	$ 61,109,660	$ 52,759,966	$ 55,332,192

Appendices

Nobis Engineering, Inc. | NH | MA | NJ | VT

Existing Conditions Assessment Report
Edward R. Devotion School
Brookline, MA
June 25, 2012

INTRODUCTION

Nobis Engineering Inc. (Nobis) has performed an Existing Conditions Survey at the Edward R. Devotion School located on Harvard Street in Brookline, MA (the Site). Nobis reviewed the plans titled "Utility Plan" dated September 30, 1952 (1952 Utility Plan) and "Plumbing Utility Plan" dated February 14, 1974 (1974 Utility Plan) both provided by HMFH Architects, as well as a Drainage Plan obtained from the Town of Brookline Engineering Department (Brookline Drainage Plan), an AutoCAD plan prepared by the Town of Brookline Engineering Department titled "Devotion School" dated January 2012 (Brookline Site Plan) and a GIS Figure prepared by the Town of Brookline Engineering Department titled "Devotion School" (Brookline GIS Figure). Nobis also visited the Site, as well as Brookline Town Hall on June 19, 2012. During the site visit, Nobis visually inspected the existing conditions at the Site, interviewed relevant personnel at the Site, and spoke with officials at Brookline Town Hall.

EXISTING CONDITIONS SUMMARY

Water and Sewer

The Site is serviced by municipal water and sewer from the Town of Brookline. Water service enters the building through a four inch line which connects to the main running beneath Stedman Street, as shown on the 1974 Utility Plan. Waste is discharged from the building to the 10-inch sanitary sewer main running beneath Stedman Street, as shown on the Brookline Drainage Plan. Officials from the Town of Brookline Engineering Department indicated that the sewer line beneath Stedman Street runs in a generally eastward direction toward Commonwealth Avenue until it eventually crosses into Boston and connects to an MWRA main line. They were not aware of any capacity issues on this line.

Drainage

Runoff from the Site is captured by various drainage structures, including catch basins and small surface drains. Due to incomplete survey data, as well as debris in many of the catch basins, Nobis could not confirm the point of discharge for much of the runoff after it enters these drainage structures. However, based on visual observations, a review of the various Site Plans and Figures, and an interview with school maintenance staff, Nobis believes that the summary provided below represents the most likely storm water drainage patterns that are in place at present.

Based on the Brookline Drainage Plan, the Brookline Site Plan, and the two Utility Plans, all runoff that is collected from the Site is sent either to the 12-inch drain line beneath Harvard Street, the 40-inch drain line beneath Stedman Street (likely of brick construction), or the dry wells beneath the ball field through which runoff infiltrates back into the subsurface. Since the Harvard Street drain line connects to the Stedman Street drain line at the corner of the two

streets, all site runoff sent to municipal drains is ultimately collected by the Stedman Street line, sent beneath Commonwealth Avenue into Boston, and emptied into the Charles River. Officials from the Town of Brookline Engineering Department indicated that there are currently no capacity issues with either the Harvard or Stedman Street drain lines.

Based on the locations of drains and catch basins on-Site, and observations of topography, Nobis has divided the Site into ten presumed catchment areas which are listed below (see the Catchment Area Plan for locations of catchment areas):

1. Tennis Courts

Nobis observed one catch basin in each of the two tennis courts at the northern end of the Site. The Site Plans and GIS Figure did not depict either of these catch basins. Since the courts are entirely impervious, and school maintenance staff did not indicate that there are any flooding issues in this area, the catch basins likely connect to the drain line on Stedman Street.

2. Northern Basketball Courts

Nobis observed two catch basins in the basketball courts at the northern end of the Site. One catch basin was located near the center of the courts, and a second was located near the southeastern corner of the courts. Nobis observed standing water in the center catch basin, and a drain line exiting the catch basin in the direction of Stedman Street. The catch basin near the southwestern corner of the courts was dry and contained a significant amount of debris. No drain lines were visible in the basin, but they may have been covered by debris. The Site Plans and GIS Figure did not depict these catch basins. Since the courts are entirely impervious, and school maintenance staff did not indicate that there are any flooding issues in this area, the catch basins likely connect to the drain line on Stedman Street.

3. Ball Field – Northwestern Portion

Nobis observed four catch basins in the northwestern portion of the ball field; one in the grass in the north central portion of the ball field, one adjacent to the paved walkway near the northwestern corner of the ball field, and two in the grass near the northwestern corner of the ball field (see Brookline Site Plan for locations). These catch basins were approximately five feet deep, appeared to be of older construction, and all but one contained a significant amount of debris. It was unclear based on visual inspection if any drainage piping entered these catch basins, or if they merely acted as dry wells.

The Brookline Site Plan appears to depict the two catch basins in the grass near the northwestern corner of the ball field as being connected by a drain line which connects to the drain on Stedman Street. The Brookline Site Plan depicts the basin adjacent to the concrete walkway as having no connection to any drain lines. This indicates that this catch basin may act as a dry well. The basin in the grass in the north central portion of the ball field is depicted on the Brookline Site Plan as being at the terminus of a 10” drain line which connects to a catch basin behind home plate at the southern end of the ball field, and also to a manhole in the southern basketball courts. This suggests that the catch basin in the grass in the north central portion of the ball field may also be a dry well which collects water from both the northwestern and southeastern portions of the ball field, as well as the southern basketball courts. School maintenance staff indicated that minor flooding (1-2 inches of standing water) regularly occurs in this area during rain events.

4. Ball Field – Southeastern Portion

Nobis observed three catch basins in the southeastern portion of the ball field; one near each player bench and one behind home plate. These catch basins were cleaner than those in the northwestern portion of the ball field, and appeared to be of newer construction. The Brookline Site Plan depicts the catch basin behind home plate as being connected to the manhole in the north central portion of the ball field, and to the manhole in the southern basketball courts by a 10" drain line. The plan does not show the two catch basins near the player benches, and no pipes were visible in either of these two catch basins. They likely act as dry wells, but this should be confirmed through further visual inspection of the inside of the basins. School maintenance staff did not indicate that flooding was an issue in this portion of the property.

5. Southern Basketball Courts

The southern basketball courts are separated from the ball field by an approximately six foot high retaining wall. Nobis observed four catch basins and one drain manhole in this area. Two catch basins were located directly behind home plate near the retaining wall, one catch basin was located near the corner of the gym, and the final catch basin was located near the building corner near the lower eastern playgrounds. The manhole was located between the two catch basins behind home plate. The Brookline Site Plan depicts the two catch basins near the retaining wall as being connected to the manhole, which connects to the 10" drain line running beneath the ball field. The 1952 Utility Plan appears to depict the catch basin at the building corner near the lower eastern playgrounds as connected to an 8" vitreous clay drainage pipe which runs through the location of the manhole, and terminates in the approximate center of the ball field, presumably at a dry well. This line is in a similar location to the 10" drain line depicted on the Brookline Site Plan, and it is unclear if they connect to one another, or if they are actually the same line. It is assumed that the catch basin near the corner of the gym also connects to the manhole near the retaining wall, but this should be confirmed through further visual inspection. School maintenance staff indicated that flooding is not an issue in this portion of the property.

6. Lower Eastern Playgrounds

The lower eastern playgrounds are bounded by the southern basketball courts, the eastern edge of the building, the property line, and the upper eastern playgrounds, which are separated from the lower eastern playgrounds by a set of concrete stairs. Nobis observed one catch basin in this area. The 1952 Utility Plan appears to depict this catch basin connected to the 8" drain line that terminates in the center of the ball field, indicating that this area drains to the center of the ball field. School maintenance staff indicated that there are no flooding issues in this portion of the property.

7. Upper Eastern Playgrounds

The upper eastern playgrounds are located south of the lower eastern playgrounds, and are bordered by the eastern edge of the building, the eastern property line, and Harvard Street. Nobis did not observe any catch basins in this area. The 1952 Site Plan appears to depict a catch basin in this area connected to the same 8" drain line as the catch basin in the Lower Eastern Playgrounds, indicating that this area drains to the center of the ball field. School maintenance staff indicated that there are no flooding issues in this portion of the property.

8. Front Lawn/Entrance Driveway

The front of the Site contains a lawn with an entrance drive, as well as a small historic building. This area is separated from the southwestern front patio (described below) by an approximately three foot high retaining wall. Nobis observed three catch basins in the driveway, each of which appeared to drain to Harvard Street. GIS plans obtained from the Town of Brookline appear to show five catch basins in the general area of the front driveway. School maintenance staff did not indicate that flooding is an issue in this portion of the Site.

9. Southwestern Front Patio

Nobis observed six small rectangular drains in the southwestern front patio area. School maintenance staff believed that these drains were connected to the town drain line on Stedman Street, but none of the drains appeared on the Site Plans or GIS Figure, so this could not be confirmed. School maintenance staff indicated that minor flooding occurs frequently in this area (approximately 1-2 inches of standing water) during rain events.

10. Western Driveways

On the western side of the building along Stedman Street there are two driveways which slope down to the garage areas on the first floor of the building. In between the two driveways there is a set of concrete stairs which lead up to the second floor of the building. Nobis observed long rectangular grate drains at each of the two driveways. School maintenance staff indicated that these grate drains are in good working condition, and flooding is not an issue at these areas. The Brookline Drainage Plan appears to depict a drain line near the northern driveway connecting to the Stedman Street drain line, indicating that one or both of these grate drains are connected to the municipal drainage system.

TOWN REQUIREMENTS

The Town of Brookline requires that a permit application be filed before the construction of any new sanitary sewer, storm drain and water supply connections. For any project in which the new building footprint is greater than 2500 SF, the town requires the following:

1. A detailed Site Plan showing relevant Site features such as topography and the locations of storm water management structures;
2. Calculations by a registered professional engineer showing that the storm water disposal system to be installed at the Site is of sufficient design and capacity to safely recharge “a 25 year/24 hour (5.5” of rain) storm event” to groundwater;
3. An Erosion and Sediment Control Plan in compliance with Town of Brookline By-Law 8.26 (refer to page 8.26-13 of the Town of Brookline By-Laws for a full list of requirements for the Erosion and Sediment Control Plan);
4. A Storm Water Management Plan in compliance with Town of Brookline By-Law 8.26 (refer to page 8.26-22 of the Town of Brookline By-Laws for a full list of requirements for the Storm Water Management Plan).

Refer to the attached “Town of Brookline, Massachusetts Department of Public Works Requirements for the Approval of Sanitary Sewer, Storm Drain and Water Supply Connections” for further description of the requirements listed above.

CONCLUSIONS AND RECOMMENDATIONS

The drainage information on the Site Plans and GIS Figure that Nobis obtained from the HMFH and the Town of Brookline is incomplete. Generally, more information should be obtained on the drains in the southwestern front patio, as well as the catch basins and presumed dry wells in the playgrounds, southern basketball courts, and ball field. The Brookline GIS Figure contains elevation data and limited drainage data, but the accuracy of this data is unknown and should be verified.

A Site survey should be performed in which locations and elevations of all drainage structures and piping on the Site are obtained. This new information, as well as all information from the previous Site Plans should be compiled into one comprehensive Existing Conditions Plan.

The Town of Brookline requires that for any redevelopment project, the storm water from a 25-year/24 hour storm must be held on site and recharged to groundwater rather than be discharged to municipal storm drains. In practice, site constraints such as limited space and/or poorly draining soils can make these requirements extremely difficult and costly to achieve. The Town Engineering office indicated that there is an approval process for systems that do not meet this requirement in events where existing conditions, including subsurface conditions, make it impractical or infeasible to comply.

Planning for proposed improvements to, or redevelopment of the Site should include provisions for subsurface soil investigations such as test pits and percolation tests to evaluate the potential for infiltration of storm water back into the subsurface. Planning should also include provisions to reserve space for storm water management controls such as storage/detention/retention structures. In the case that containment/recharge of all of the storm water from a 25-year storm proves to be infeasible, this would need to be demonstrated to the Town of Brookline. At their discretion, it might then be possible that Best Management Practices (BMPs) could be used to provide qualitative treatment of storm water runoff before sending it to municipal drainage systems along Harvard and/or Stedman Streets.

Attachments:

1. Photo Log
2. 1952 Utility Plan
3. 1974 Utility Plan
4. Brookline Drainage Plan
5. Brookline Site Plan
6. Brookline GIS Figure
7. Catchment Area Plan
8. Town of Brookline, Massachusetts Department of Public Works Requirements for the Approval of Sanitary Sewer, Storm Drain and Water Supply Connections

PHOTO LOG

Photo 1 – Catch Basin in Northern Portion of Ball Field, Looking South

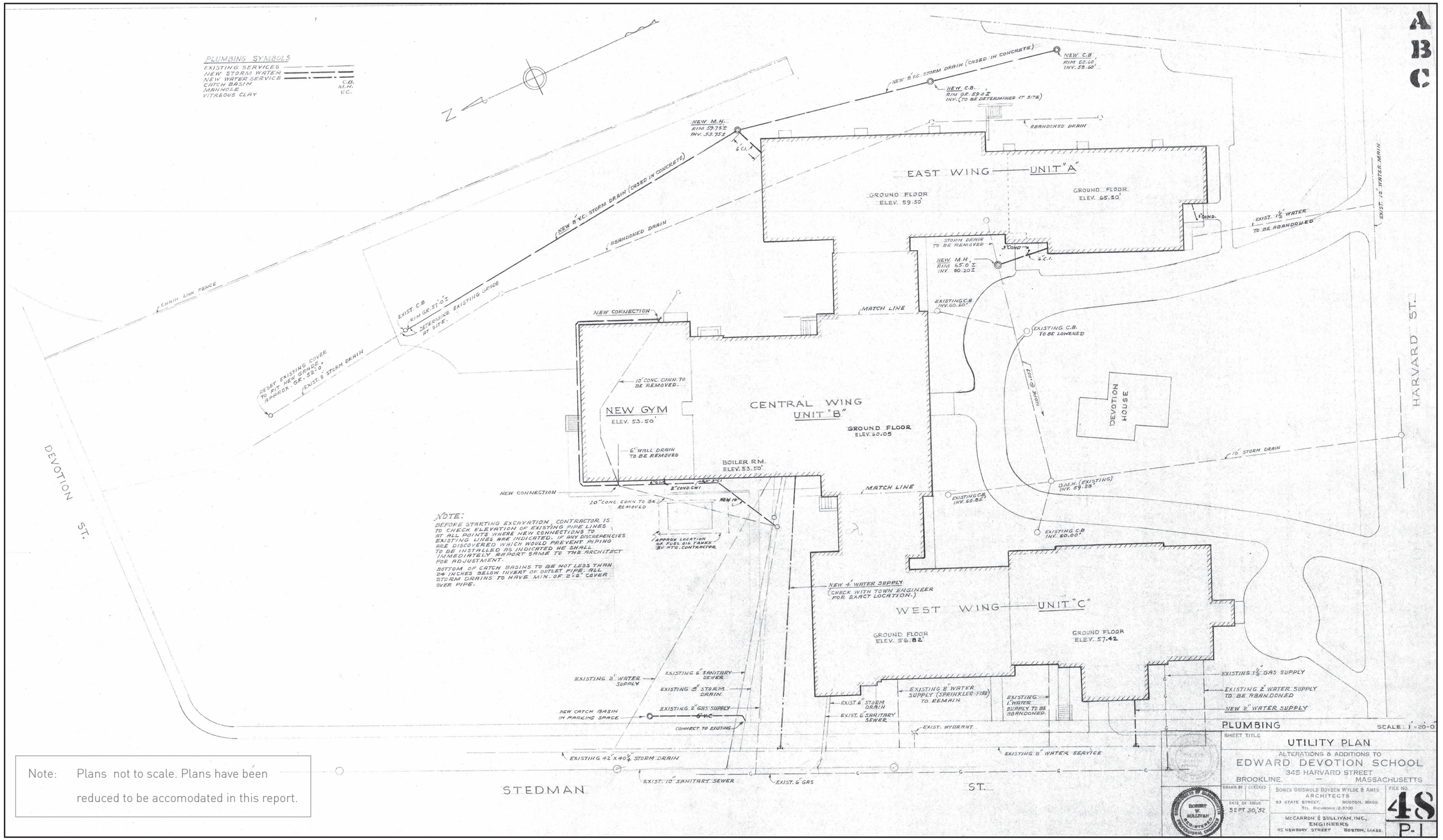
Photo 2 – Catch Basin Behind Home Plate in Ball Field

Photo 3 – Southwestern Front Patio, Looking South.

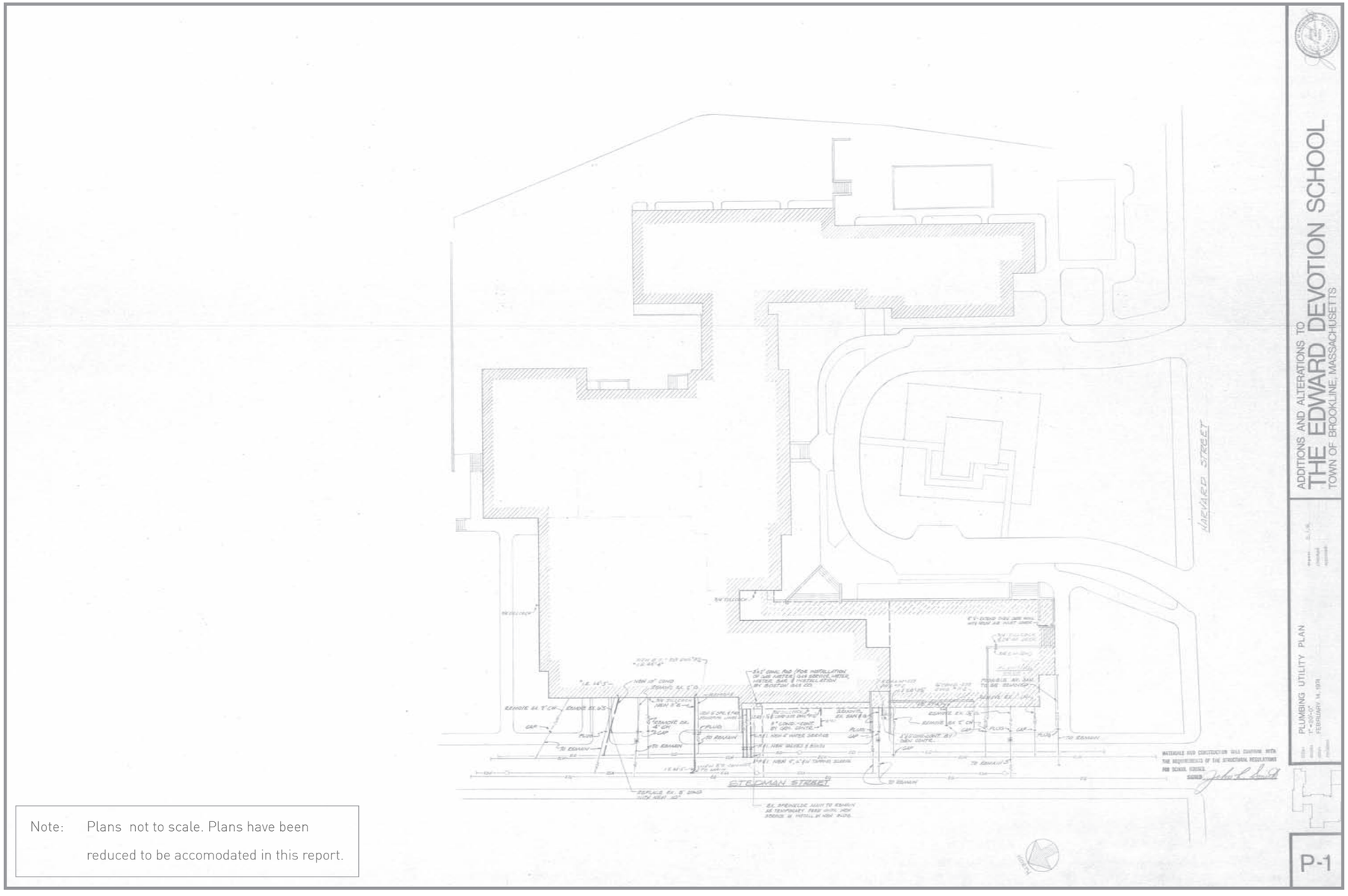
Photo 4 – Drain in Southwestern Front Patio

Photo 5 – Grate Drain in Western Driveway

Photo 6 – Catch Basin in Front Driveway, Looking North



Note: Plans not to scale. Plans have been reduced to be accomodated in this report.



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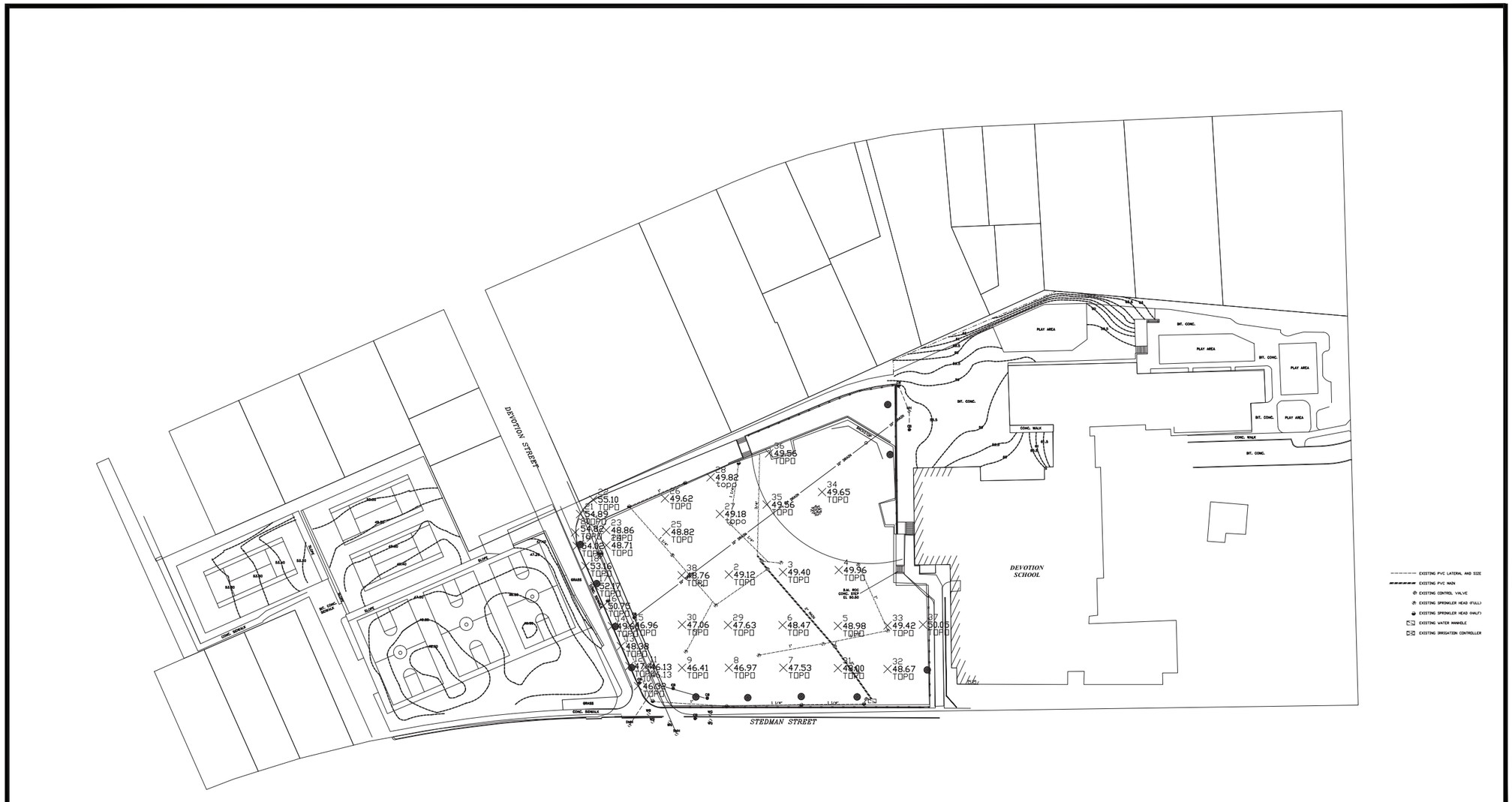


Note: Plans not to scale. Plans have been reduced to be accomodated in this report.

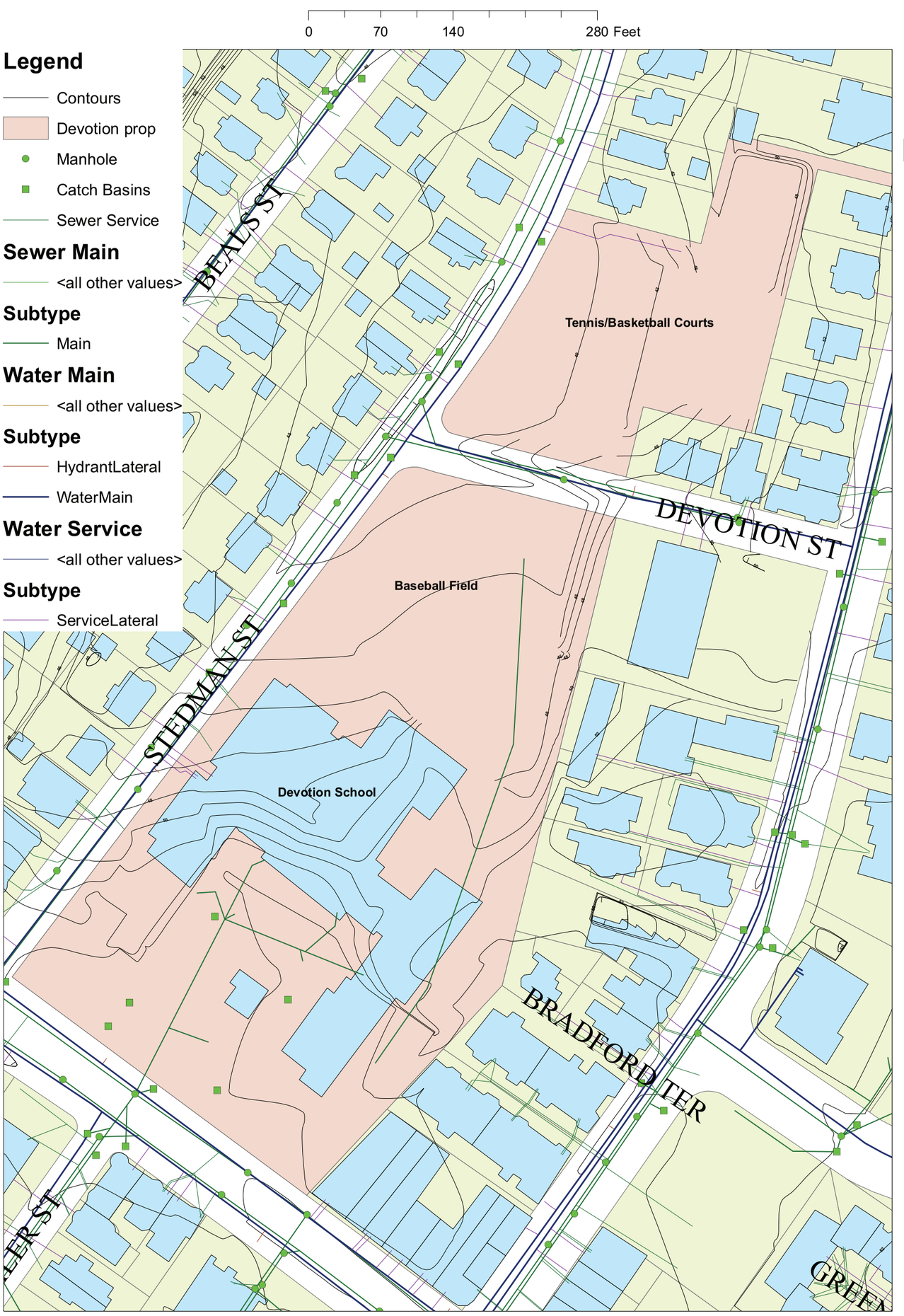
TOWN OF BROOKLINE
DEPARTMENT OF PUBLIC WORKS

DEVOTION SCHOOL

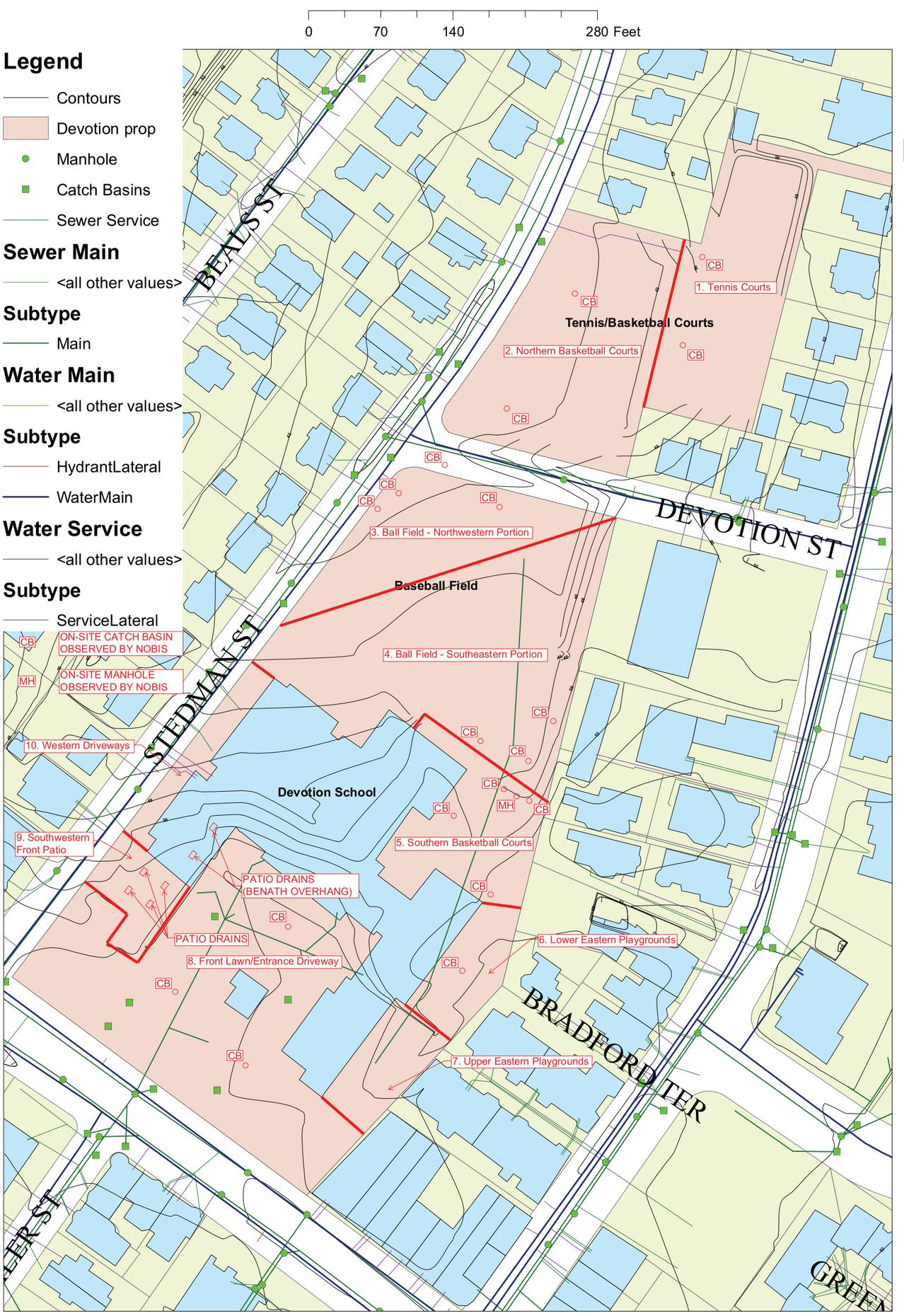
DRAWN BY : W.HESS	DATE : JANUARY 2012
CHECKED BY :	SCALE : 1" = 40'
APPROVED BY :	SHEET 1 OF 1

DIRECTOR OF ENGINEERING/TRANS. | COMMISSIONER OF PUBLIC WORKS

Devotion School



Devotion School



TOWN OF BROOKLINE, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

Requirements For The Approval Of
Sanitary Sewer, Storm Drain And Water Supply Connections

GENERAL:

Information on record street lines and grades; size, locations, and elevations of sanitary sewers and surface water drains; locations of sewer Y's or T's; size and locations of water mains; and benchmarks is available at the office of the Engineering Division (the Division), Brookline DPW. The Town of Brookline cannot vouch for the accuracy of this information; therefore field investigation is necessary.

PLAN REQUIREMENTS:

General:

An original signed and stamped site plan **SPECIFICALLY DRAWN FOR THIS PURPOSE**, prepared by both a Professional Engineer and a Professional Land Surveyor and endorsed by them as to their area of responsibility shall be submitted to the Division for approval. After approval, this original site plan will be returned to the submitter. It shall be drawn on **one (1) 36" x 24"** sheet to an engineering scale of **1" = 10' or 20'**. If the size of the lot or complexity of the proposed construction precludes using either one sheet or this scale, then a waiver of one or both conditions shall be applied for from the Division **before** the plan is submitted. It shall show the scale, true north point and the description and elevation of the Town benchmark used to determine grades shown on the plan. A 4" by 4" area on the plan in the vicinity of the title block shall be reserved for the DPW approval stamp. Plans not meeting these requirements may be returned for correction and resubmission.

Site:

The plan shall show: 1) A boundary line survey made by the surveyor who shall certify that the lot corners, lengths and bearings of the lot lines and elevations, as shown on the plan, are from an actual survey on the ground performed by him. This certification may be on a separately submitted plan, but all the lot information must be shown on the site plan with reference being made to the Professional Surveyor's plan. 2) The size of lot in square feet. 3) The Assessors' Block and Lot number. 4) The proposed street sideline, curb and gutter grades (which shall conform to the record grades of the street) and finish grades immediately adjacent to the proposed building(s) or structure(s). Existing and proposed contour lines may suffice for this information and are preferred. 5) The locations and dimensions of driveway(s) and curb cut openings. 6) The location and dimensions of any parking spaces. 7) The name(s) and width(s) of abutting streets and ways. 8) All easements within the lot or abutting thereon whether public or private, their nature and any of their restrictions which could have an effect on the proposed construction. 9) All public sidewalks abutting the lot of industrial, commercial, or apartment buildings (3 or more units) which shall be rebuilt with concrete (including the resetting and/or installation of granite curb, if necessary) regardless of existing sidewalk material, and shall have wheelchair ramps installed where specified. 9a) All public sidewalks abutting the lot of a residential (one or two unit) building which shall have as a minimum two 2' radius granite curb returns with six foot long backup stones at curb cuts and a six foot long landing stone at the extension of the house walk. The driveway apron and walk landing may be constructed of the same material as the existing walk but shall not be gravel. 10) The location, size and type of all trees within 20 feet of the proposed locations of the sewer, drain and water services. If there are no trees within this locus, then a statement to that fact shall be included on the plan. 11) The location, size and type of all Erosion and Sediment Control (ESC). 12) The location, size and type of all temporary and permanent storm water management structures.

Building(s):

The plan shall include the location and dimensions of the foundation(s) of any proposed building(s) on the lot and the house number(s) as assigned by the Engineering Division. The elevation of the basement and all below grade parking levels (the lowest level of which shall not be less than 17.47' without approval of the Board of Selectmen) shall be shown.

Water, Sanitary Sewer and Surface Water Drain:

The proposed locations, sizes and materials of the domestic water, fire supply, sanitary sewer, and surface water drain connections shall be shown. Neither domestic nor fire supply water services shall be closer than ten feet to the sewer and drain services at any point unless otherwise specifically authorized by the Director of the Water and Sewer Division. Proposed sewer and drain locations shall include the distance from a manhole in the Town sewer or drain to the point of the connection. In general, connections to the Town's storm drain system will not be allowed and approval of connections to the Town's storm drain system will be made on a case-by-case basis. The site plan shall show how storm and ground water is to

be disposed of on site. Calculations by a Registered Professional Engineer shall be provided to show that the disposal system is of sufficient design and capacity. System shall be designed to retain the 25 Year/24 Hour (5.5" of rain) storm event. If it is determined, for whatever reason, that the on site storm water disposal system is incapable of taking the entire on site storm drainage, then an overflow connection from the on site disposal system to the Town's storm drainage system may be allowed. Any on site surface storm drainage must pass through a drain manhole or catch basin having a minimum three (3) foot sump and a trap of MHD design (or approved equal) before entering the on site storm water disposal system. If the sewer and or drain connections are to be made to the Town mains by other than by the use of existing branches, they shall be made by core drilling the mains and affixing an Inserta Tee®, or other approved means **specifically approved by the Commissioner of Public Works**. Details of these connections shall be shown on the plan. Profiles of the sewer and drain connections showing the length, slope, elevation at each end, existing and proposed ground elevations, location of all utilities being crossed and the clearance between the connections and these utilities must be shown. The horizontal scale of the profile shall be the same as the plan scale. The vertical scale shall 10 times the horizontal scale (e.g. 1"=10' Horizontal to 1"= 1' vertical)

DOCUMENTS:

1. A completed Sewer / Drain Permit Application along with the required inspection fee.
2. Any site plan for an industrial or commercial building, apartment house, parking lot or any structure other than a one or two family residential building shall be accompanied by calculations made by a registered Professional Engineer showing proposed Sewer and Storm flows and justifying the size, slope, and strength class of the sewer and drain connections and the sizing of the domestic water line and fire supply.
3. An Erosion and Sediment Control Plan prepared in accordance with Town of Brookline By-Law 8.26
4. A Storm Water Management Plan prepared in accordance with Town of Brookline By-Law 8.26

AS BUILT PLAN AND CERTIFICATIONS:

The Engineer and Land Surveyor shall submit to the Division an as built copy of the approved site plan in both hard copy and digital format (preferably an AutoCAD dwg file). Since much of the information required to be on this plan will be the location of buried pipes and structures, the plan should contain a note informing the contractor that he should notify the Engineer/Surveyor whenever such underground work is being done. It shall show the locations and dimensions of the building foundation(s), sanitary sewer and storm drain connections and water service(s). The location(s) of the building foundation(s) shall be shown with offsets to the lot lines. The locations of the sewer and/or drain connections and the on site storm water disposal system shall include the elevation, size and material of the connections; the distance from the points where the services leave the foundation to the nearest foundation corner; swing ties from at least two foundation corners to any sewer or drain structure or change in horizontal or vertical line of the services and the distances from the nearest Town manhole to the points of connection to the Town mains. The location of the water service(s) shall include the size and material of the service, the distance from the point where the service enters the foundation to the nearest foundation corner and swing ties from at least two foundation corners to any bends, valves, fittings, curb stop and the corporation stop or tapping sleeve and valve. The distance between the water main and the curb stop or shutoff valve shall also be shown.

The Engineer shall certify that the construction substantially conformed to the approved site plan or approved modifications thereto. He shall further certify that a dyed water test of the sewer and drain lines has been performed and that they are each connected to the correct Town main. This certification shall be on the Engineer's letterhead and include the date tested, the name of the tester and the Engineer's stamp.

Both the above as built plan and the certification must be received and approved by the Division prior to DPW sign off of the Certificate of Occupancy.

Approved:

_____

Andrew M. Pappastergion
Commissioner of Public Works

INSPECTION FEE SCHEDULE

250 - Residential (up to two units)
600 - Apartments or Condominiums (3 or more units)
1000 - Commercial or Industrial

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offices in:
Newton MA
Manchester NH
Atlanta GA
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EDWARD DEVOTION SCHOOL
Brookline, MA

Existing Conditions Structural Report
June 15, 2012

INTRODUCTION

Foley Buhl Roberts & Associates, Inc. (FBRA) is collaborating with *HMFH Architects, Inc. (HMFH)* in the review and evaluation of structural issues/conditions at the Edward Devotion School in Brookline. The purpose of this report is to identify and describe the structural systems of the various wings of the facility and to comment on the structural issues/conditions observed. General comments relating to potential renovations, alterations and additions to the school (governed by the Massachusetts Existing Building Code (MEBC – 8th Edition)) are presented as well. The evaluation of potential renovation/addition schemes will be addressed in a separate, future structural narrative.

The Edward Devotion School is located at 345 Harvard Street in Brookline, MA. The present school consists of the original building, along with the 1954 and 1974 additions on the east and west sides, respectively. The Edward Devotion School is the largest elementary school in Brookline and is home to over 700 Pre-K through 8th Grade students. The facility was constructed on a sloping site (downwards to the north and west, approximately one story) and has a gross floor area of over 134,000 square feet on three levels. Increased enrollments have created overcrowded conditions in the school and building systems are in need of replacement.

Structural conditions at the Edward Devotion School were reviewed at the site on February 24, 2012. Our observations of the existing floor and roof structure were limited, as many areas were obscured by finishes.

The following documents were reviewed in the preparation of this Existing Conditions Structural Report:

Alterations & Additions to Edward Devotion School: Structural Drawings S-1 through S-11, prepared by John R. Nichols and Paul W. Norton Structural Engineers, Boston, Massachusetts, dated September 30, 1952.

Alterations & Additions to Edward Devotion School: Plot Plan, prepared by Somes, Griswold, Boyden, Wilde & Ames Architects, Boston, Massachusetts, dated February 9, 1953.

Additions & Alterations to The Edward Devotion School: Structural Drawings S-1 through S-5 and selected Architectural Drawings, prepared by the joint venture of Peirce & Pierce and Korslund, LeNormand & Quann, Inc., Boston, Massachusetts, dated February 14, 1974. These drawings appear to be a progress set and are incomplete.

No exploratory demolition or structural materials testing was performed in conjunction with this review. Subsurface soils and groundwater conditions have not been investigated by a Geotechnical Engineer at this early phase of the project; soil boring data was not included in the above-mentioned documents.

GENERAL DESCRIPTION

The Edward Devotion School was founded in 1894, on land bequeathed to the Town of Brookline by Edward Devotion. Edward Devotion's dwelling (Circa 1680) remains on the property, in the forecourt of the school, and is one of the oldest colonial structures in Brookline.

The original school building (Central Wing) is a concrete and steel framed structure with areas of wood framed floor and a wood roof, supported by (unreinforced) brick masonry bearing walls and by steel beams and columns (in limited locations). The date of this construction is unknown; however, it is thought to be circa 1913. The building is presumably supported on a spread footing (perhaps granite block) foundation.

Several additions to the original building were constructed in 1954. A split-level, concrete and steel framed, two and three-story classroom addition (south section and north sections, respectively) was constructed to the east of the original school. The southern section of the 1954 East Wing was constructed over the footprint of the original wing (Circa 1892) and re-used certain, existing foundation walls. The existing slab on grade was locally demolished to accommodate new, interior spread footings supporting the columns of the new addition. The Ground Floor of this section was structured with reinforced concrete slabs and beams (supported at the building perimeter by the existing foundation walls), creating a 6+/- feet deep crawl space. The Ground Floor of the northern section was similarly framed over a 4+/- feet deep crawl space; however, all foundations/walls were new construction. A new, steel framed Gymnasium was also constructed in 1954, located on the north (back) side of the original school building (Central Wing). Limited renovations to the original building were also conducted. Localized renovations to the original West Wing (Circa 1898) were undertaken in 1954 as well.

The original West Wing was subsequently damaged by fire and replaced with new construction in 1974. The 1974 West Wing is a three-story, concrete (cast-in-place and precast plank) and steel framed structure with an enclosed parking level below and a Mechanical Penthouse at the roof level. Foundations for this wing are conventional spread footings. Two Cafeterias are located at the First Floor of this wing and open classroom spaces are located at the Second and Third Floors above. An elevator was installed in this wing, adjacent to the original school building. A new floor was constructed in the double-height assembly space in the original building in 1974 as well, creating a Library at the Second Floor (Entry) level and a large group assembly/instruction space at the Third Floor.

Story heights vary throughout the different wings of the school. At the 1954 East Wing, typical story heights range from 9'-3" (lower roof, north section) to 13'-6". Story heights at the 1974 West Wing vary from 10'-0" in the Garage to 13'-6" (Second Floor to Third Floor). The Second and Third Floor levels of the original school align with those in the East and West Wings (13'-6" story height).

STRUCTURAL SYSTEMS DESCRIPTION

Original Building (Central Wing)

Structural Materials: No original Structural Drawings were available; however, based on historical information and the Building Code in effect at the (assumed) time of construction, the material strengths are expected to be the following:

Concrete:	2,500+/- psi compressive strength
Steel Reinforcing:	16,000+/- psi allowable tension stress
Structural Steel:	16,000+/- psi allowable tension stress (bending)
Wood:	1,200+/- psi allowable bending stress

Design Live Loads: No original Structural Drawings were available; however, the Building Law of the City of Boston (Early 1900's) required the following loads:

Roofs:	40 psf (No provision for drifting snow)
Classrooms	60 psf
Stairs:	70 psf
Balconies:	70 psf
Assembly Areas:	125 psf

As details of the existing structure could not be determined in the field and no original Structural Drawings were available, FBRA was not able to run structural calculations to determine/confirm the design live loads. A program of structural investigations would need to be conducted (beyond the scope of this report) to make such a determination. Note that buildings constructed during this era were not designed for lateral (wind and seismic) loading.

Expansion Joints: There are no internal expansion joints in the building; however, the 1974 West Wing is separated from the original building by a 1" expansion joint (inadequate width, with respect to current Building Codes). The 1954 East Wing appears to be structurally connected to the original building.

Roof Construction: The front (south) section of the roof is sloped and is wood framed, with wood (board) sheathing, rafters, beams and trusses. Snow guards (rail type) are present at the roof perimeter. A wood framed, copper clad clock tower was constructed at the east-west center of this roof section. There are double, masonry chimneys at the east and west ends of the front roof. To the north, the roof is generally flat; presumably wood framed as well. The masonry boiler flue is at the northern edge of this roof section, at the interface of the roof and the 1954 Gymnasium addition.

Upper Floor Construction (Second and Third Floors): Original Floor construction at these levels appears to be a mixture of concrete slab and wood framed construction, supported masonry bearing walls. The 1974 Third Floor construction (infilled over the present Library) is steel framed, with a 3" thick concrete slab on steel forms, supported by open web steel joists (spaced at 2'-6" o.c.) which span to wide flange steel beams. Steel beams are supported on the original (unreinforced) masonry bearing walls and new, interior steel columns. consists of a 4" thick, one-way reinforced concrete slab supported by reinforced concrete beams.

First Floor Construction: Original First Floor construction appears to be a concrete slab, with areas of wood framing, similar to the levels above. A new floor was constructed over the old Gymnasium, when the larger Gymnasium was added in 1954. This infilled construction consists of a 4" thick, one-way, reinforced concrete slab, supported by steel beams. Steel beams rest on the original masonry bearing walls and two, interior steel columns.

Lowest Level Floor Construction: Floor construction at the Boiler Room, Mechanical Rooms and the small Gymnasium is presumably a concrete slab on grade (thickness unknown).

Exterior Wall Construction is a solid brick masonry barrier wall. Wall thickness varies; actual thicknesses were not determined at the site.

Subsurface Soils: No subsurface soils information was available; however, foundations for the 1954 and 1974 additions are conventional spread footings, suggesting that the existing soils are satisfactory.

Design Live Loads: No original Structural Drawings were available; however, the Building Law of the City of Boston (Early 1900's) required the following loads:

Roofs:	40 psf (No provision for drifting snow)
Classrooms	60 psf
Stairs:	70 psf
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Lowest Level Floor Construction: Floor construction at the Boiler Room, Mechanical Rooms and the small Gymnasium is presumably a concrete slab on grade (thickness unknown).

Exterior Wall Construction is a solid brick masonry barrier wall. Wall thickness varies; actual thicknesses were not determined at the site.

Subsurface Soils: No subsurface soils information was available; however, foundations for the 1954 and 1974 additions are conventional spread footings, suggesting that the existing soils are satisfactory.

construction in the north section (at the Third Floor level) is similar to that used at the south section.

Upper Floor Construction (Second and Third Floors) typically consists of a 2" concrete slab supported by steel bar joists spaced at 20" o.c. Steel bar joists are supported by wide flange steel beams and steel columns (6" WF and 5" Lally Columns).

First Floor Construction in the north and south sections typically consists of a 5" thick, one-way reinforced concrete slab spanning 13'-4" to reinforced concrete beams. Concrete beams are supported by reinforced concrete columns and foundations walls.

Crawl Space Floor Construction consists of a 4" thick, reinforced concrete slab on grade in the north section and an existing slab on grade (4"+/- thick) in the south section.

Exterior Wall Construction is a 4" brick veneer, with an (unreinforced) concrete block (CMU) backup wall.

Subsurface Soils: No subsurface soils information was available; however, a conventional spread footing foundation was constructed, suggesting that the existing soils are satisfactory.

Foundations: Spread footing foundations in this wing were proportioned on the basis of a four tons per square foot (4.0 TSF) allowable bearing capacity.

Drainage: Perimeter foundation drainage was provided along the north and east sides of this wing, as indicated on the referenced Plot Plan..

Fire Resistance*:* Reinforced concrete First Floor construction has a fire resistance rating of at least 1 hour. The Structural Drawings indicate that a rated ceiling was installed below the upper floor and roof construction, providing a 1 hour rating. Details of the enclosure/protection of the supporting columns were not determined. The building is partially sprinklered.

Lateral Load Resistance: The 1954 wing was designed and constructed prior to the introduction of seismic design codes. Wind loads were not considered in the design of low-rise buildings of this era. Accordingly, there is no defined lateral load resisting system. Interior and perimeter masonry walls (unreinforced) provide lateral force resistance; however, the construction of these walls does not meet current Code requirements. Lateral force resistance and unreinforced masonry wall issues would need to be addressed in conjunction with a future renovation of the building.

1974 West Wing

Structural Materials: Material strengths are not noted on the original Structural Drawings (General Notes appear to be missing). The following strengths are assumed:

Concrete:	3,000 psi	compressive strength
Steel Reinforcing:	40 ksi	yield strength
Structural Steel:	36 ksi	yield strength

Design Live Loads: Design live loads are not noted on the Structural Drawings; however, the 1974 addition was constructed in accordance with the Massachusetts School House regulations, which stipulated the required design live loads. Representative structural calculations generally confirm that the floor design is consistent with the structural requirements at the time of construction. Note that seismic design was not required for buildings designed and constructed under these regulations.

Expansion Joints: There are no internal expansion joints in the 1974 wing. A 1" expansion joint separates this wing from the original building (inadequate width, with respect to current Building Codes).

Roof Construction: Typical flat roof construction in the 1974 wing consists of a 1½" deep steel roof deck spanning 4 to 5 feet to open web steel bar joists. Steel joists typically span 30+/- feet in the east-west direction and are supported by wide flange steel beams. Steel beams are supported by interior and perimeter wide flange steel columns (8" or 10").

Upper Floor Construction (Second and Third Floors): Typical floor construction at these level consists of a 3" deep concrete slab on 28 gauge steel forms, spanning 2'-6" feet to open web steel bar joists. Steel joists typically span 30+/- feet in the east-west direction and are supported by wide flange steel beams. Steel beams are supported by interior and perimeter wide flange steel columns (8" or 10").

First Floor Construction over the Parking Garage consists of 10" deep precast, prestressed concrete plank (with a 2" concrete topping), typically spanning 30+/- feet to interior reinforced concrete beams and reinforced concrete foundation walls at the building perimeter. Beams are supported on (circular) reinforced concrete columns in the Parking Garage.

Parking Garage Floor Construction consists of a 5" thick concrete slab on grade reinforced welded wire fabric. The slab is pitched for drainage.

Exterior Wall Construction is a 4" brick veneer, with an 8" thick (unreinforced) concrete block (CMU) backup wall. Rigid insulation (1" thick) was provided in the cavity leaving an air space of approximately ¾".

Subsurface Soils and Foundations: No subsurface soils information was available; however, a conventional spread footing foundation was constructed, suggesting that the existing soils are satisfactory. The design allowable bearing capacity is not noted on the original Structural Drawings.

Drainage: It is not known if perimeter foundation drainage was provided; there is no indication of a drainage system on the Structural Drawings.

Fire Resistance*:* Precast, prestressed concrete plank First Floor construction has a fire resistance rating of at least 1 hour. At the upper floor and roof levels, steel beams and columns have apparently been protected by applied fireproofing. It is not clear in the documents, how the open web steel bar joists are protected (ceiling construction does not appear to be fire rated). The 1974 construction is sprinklered.

Lateral Load Resistance: The 1974 wing was designed and constructed prior to the introduction of seismic design codes. There is no clearly defined lateral load resisting system. Interior and perimeter masonry walls (unreinforced) provide lateral force resistance; however, the construction of these walls does not meet current Code requirements. Lateral force resistance and unreinforced masonry wall issues would need to be addressed in conjunction with a future renovation of the building.

STRUCTURAL CONDITION/COMMENTS

Structural Conditions at the Edward Devotion School were reviewed at the site (to the extent possible) on February 24, 2012. Generally speaking, floor and roof construction appears to be in satisfactory condition; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated or failed structural members.

Foundations appear to be performing adequately; there are no signs of significant, total or differential settlements.

Floors and roofs appear to have been constructed in general accordance with the original framing drawings.

Structural/structurally related conditions observed during the January 18, 2012 site visit are noted below:

1. Building Exterior: Conditions observed include the following:
    - Repointing of the brick veneer is required at various locations.
    - Control joints were observed in the brick facades of both 1954 and 1974 construction. Control joints appear to be performing as intended.
    - Site walls and entry stairs associated with the 1974 construction have cracked and deteriorated - repair is required.
    - There are a few areas where the face of the brick veneer has spalled.
2. Roof: Access to the roof was gained through a stairway in the 1974 addition. A membrane roof was observed in most locations and appears to be in satisfactory condition (age unknown). The various roofs drain to internal drains (limited locations); typically, there are no parapets at any of the wings. Roof drainage issues should be further studied in conjunction with future renovations to the school.
3. Reportedly, there were structural/stability issues with the clock tower in the early 2000's that have been rectified. Water stains were observed on the wood framing in a number of locations; however, the presence of moisture damage to members was not determined. Further review of the clock tower construction is recommended, in conjunction with future renovations to the school.
4. Foundation Drainage: As noted earlier, foundation drainage does not appear to have been provided at the original building or the 1974 West Wing construction. Water issues were not discussed with school personnel; groundwater/drainage issues should be further reviewed/studied in conjunction with future renovations to the school.
5. Snow Drifting: Snow drift loading on the original building was not likely considered in the original structural design, at the junction of the front (sloping) roof and the flat roof to the north. Similarly, it does not appear that snow drift loading was considered at the lower roofs in the northern section of the 1954 East Wing. The structural evaluation of these conditions is beyond the scope of this report, but will need to be addressed if the school is renovated in the future. The 1974 West Wing addition was designed under the School House Structural Regulations in effect at the time, which required design for snow drift loading. The original Structural Drawings reflect that the roof was designed

for increased loads due to drifting where required (i.e. adjacent to the rooftop Mechanical Penthouse).

6. Floor Loading Issues: The original design live loads (where known) for the framed floors of the various wings are appropriate and meet current Code requirements. There do not appear to be any issues relating to excessive loading. Floor construction is performing as intended. Loading in the Library (original building – former assembly space) appears to be reasonable and likely does not exceed the original (assembly) design load. However, since this area was not originally designed to be a Library, book loading should be controlled and monitored on a continuing basis.

7. Interior Masonry Walls: Interior (non-bearing) masonry walls are typically in satisfactory condition. The anchorage/bracing of interior masonry walls as well of the height-to-thickness ratios will need to be evaluated (per Code) if the school is renovated in the future. Masonry walls in the original building (interior and perimeter walls) will need to be anchored to the roof construction and the wood framed floor construction (limited areas in the latter case).

8. There are a number of level changes in the original school (Central Wing) which present accessibility issues. Modifications to framing may be required to address such issues if the building undergoes a significant renovation in the future.

RENOVATIONS AND ADDITIONS – MEBC REQUIREMENTS

General comments relating to potential renovations, alterations and additions to the Edward Devotion School are presented in this section. Renovations, alterations, repairs and additions to existing buildings in Massachusetts are governed by the provisions of the Massachusetts State Building Code (MSBC – 8th Edition) and the Massachusetts Existing Building Code (MEBC). These documents are based on amended versions of the 2009 *International Building Code (IBC)* and the 2009 *International Existing Building Code (IEBC)*, respectively.

The MEBC defines three (3) compliance methods for the repair, alteration, change of occupancy, addition or relocation of an existing building. The method of compliance is chosen by the Design Team (based on the project scope and cost considerations) and cannot be combined with other methods.

Regardless of the compliance method chosen, the MEBC currently requires that buildings with unreinforced masonry walls be evaluated with respect to the provisions of Appendix A1 of the IEBC (applicable to this project). An assessment of masonry shear stresses, wall slenderness, parapets, wall anchorage, diaphragm anchorage, etc. is required; and the existing building must be capable of resisting at least 75% of the seismic loading required by the Code for new construction. Note that Massachusetts BBRS has voted to remove this Amendment (Section 101.10 in Chapter 34); however, this change to the Code has not been enacted into law.

The *Prescriptive Compliance Method* (IEBC Chapter 3) duplicates Sections 3403 through 3411 of Chapter 34 in the IBC and prescribes specific minimum requirements for construction related to additions, alterations, repairs, fire escapes, glass replacement, change of occupancy, historic buildings, moved buildings and accessibility. A complete structural evaluation of the building is required by the Massachusetts Amendments. If the impact of the proposed alterations and additions to structural elements carrying gravity loads and lateral loads is minimal (less than 5% and 10% respectively), seismic upgrades to an existing building are generally not required, except for buildings with masonry walls in Massachusetts (as in this case), which must comply with the requirements of IEBC Appendix A1.

The *Work Area Compliance Method* (IEBC Chapters 4 through 12) is based on a proportional approach to compliance, where upgrades to an existing building are triggered by the type and extent of work. The Work Area Compliance Method includes requirements for three levels of alterations, in addition to requirements for repairs, changes in occupancy, additions, historic buildings or moved buildings. A complete seismic evaluation of the existing building is required for the following: Level 2 alterations where the demand to capacity ratio of lateral load resisting elements has been increased by more than 10%, all Level 3 alterations, a change in occupancy to a higher category and where structurally attached additions (vertical or horizontal) are planned. A full renovation of the Edward Devotion School (i.e. any individual wing) would be classified as a Level 3 alteration. As the building has interior and exterior masonry walls, compliance with the requirements of IEBC Appendix A1 is also required.

The *Performance Compliance Method* (IEBC Chapter13) duplicates Section 3412 of Chapter 34 in the IBC and provides for evaluating a building based on fire safety, means of egress and general safety (19 parameters total). This method allows for the evaluation of the existing building to demonstrate that proposed alterations, while not meeting new construction requirements, will maintain existing conditions to at their current levels (at a minimum) or improve conditions, as required. A structural investigation and analysis of the existing building is required to determine the adequacy of the structural systems for the proposed alteration, addition or change of occupancy. A report of the investigation and evaluation, along with proposed compliance alternatives must be submitted to the code official for approval.

As the 1974 addition is separated from the original building by an expansion joint, it is considered structurally independent and the MEBC provisions would apply separately to each building. The 1954 addition, while not structurally separated from the original building has a limited interface and could be structurally separated by constructing and independent steel support frame adjacent to the original building and cutting in a new expansion joint.

Additions:

The design and construction of any proposed addition to the Edward Devotion School would be conducted in accordance with the Code for new construction. Additions should be structurally separated from the existing, adjacent construction by an expansion (seismic) joint to avoid an increase in gravity loads or lateral loads to existing structural elements.

Renovations/Alterations:

Where proposed alterations to existing structural elements carrying gravity loads result in a stress increase of over 5%, the affected element will need to be reinforced or replaced to comply with the Code for new construction. Proposed alterations to existing structural elements carrying lateral load (i.e. masonry walls) which result in an increase in the demand - capacity ratio of over 10% should be avoided, if possible. Essentially, this means that removal of, or major alterations to the existing, unreinforced masonry walls in any of the wings should be minimized. Although the 1954 and 1974 additions have complete, gravity load carrying steel frames and the masonry walls are non-bearing, the removal or alteration of the masonry walls (particularly perimeter walls) would reduce the lateral load resistance capacity.

End of Existing Conditions Structural Report

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Mechanical

Electrical

Plumbing

Fire Protection

Technology Design

Commissioning

Code Consulting

Energy Conservation

EDWARD DEVOTION SCHOOL
EXISTING CONDITIONS REPORT
BROOKLINE, MA

Submitted to: **HMFH ARCHITECTS**

April 26, 2012

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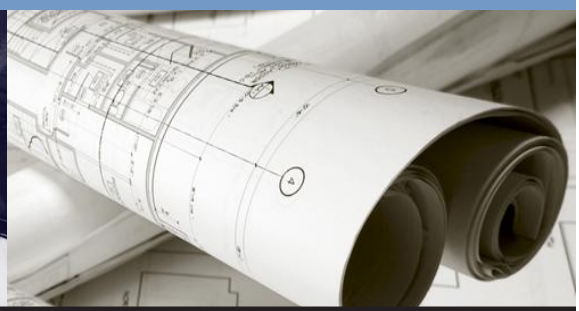

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INTRODUCTION

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INTRODUCTION

As part of the Feasibility/Concept Study for the Edward Devotion School project, RDK Engineers has prepared an existing conditions report. This report is based on a February 24, 2012 site walkthrough with the school facilities staff and HMFH Architects, review of the existing conditions drawings provided by HMFH and review of the 1992 Boiler Replacement project by RDK Engineers. The Feasibility/Concept Study includes evaluation of options for renovation and/or addition to the existing building and construction of a new school. This existing conditions report is a summary of the current plumbing, fire protection, HVAC and electrical systems at the school and intended to be used to evaluate renovation, addition and new construction options as the study progresses.

The 150,000 square foot Pre-Kindergarten through 8th grade school is located at 345 Harvard Street in Brookline, MA. The structure is a four floor (Basement/Parking Garage, 1st, 2nd and 3rd) building originally constructed in 1910 and includes two additions. The East Wing was constructed in 1954, and the West Wing was constructed in 1974. The 1974 addition included a partial renovation of the 1910 building.

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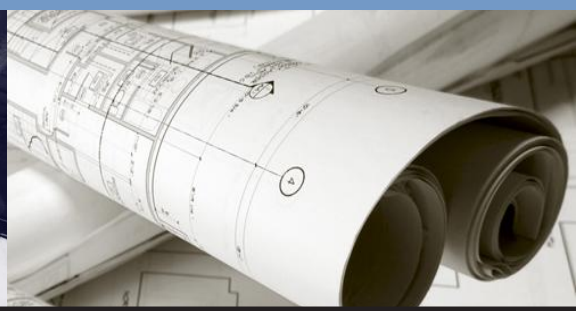
PLUMBING



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Plumbing Systems

Natural Gas:

A (6”) six inch 2 PSI high pressure gas line enters the parking garage level adjacent to the water service room. The 6” line runs horizontally along the foundation wall approximately 15 feet within an area enclosed and secured by chain link fencing. From this 6” service are two tee connections that drop down to the floor and connect the gas service to a gas booster. The gas service has an inline full size bypass. The gas service at the bypass is labeled "Gas Booster Discontinued 9-17-10" indicating that the bypass valve is open and that the gas booster is offline. The school janitor indicated that the booster is still fully functional and used as a back up in the event that the gas pressure in the main line drops below acceptable levels for the proper operation of the Schools gas fired equipment. (boilers, water heaters etc). The 6” high pressure gas line then runs horizontally out of the secured fence along the underside of the garage ceiling to supply the existing gas fired equipment within the school. The gas piping and booster pump appear to be in very good condition. The existing gas service is adequate to supply the current requirements of the school.

Water Service Room:

Located within the water service room are two 6” fire protection services and one 4” domestic water service. Both fire protection services enter the water service room thru the concrete floor slab and transition horizontally above the floor to separate floor mounted double check valve assemblies. One service is labeled ‘Stand Pipe Supply’ and appears to serve the schools wet fire protection system. The other fire protection service exits the double check valve assembly and continues on to a dry alarm valve located within the water the service. The dry alarm valve appears to feed the dry sprinkler system located in the garage area. Both fire protection services, double check valve assemblies and the single dry alarm valve in the water service room appear to be in good condition.
The domestic water service enters the water service room thru the concrete floor slab and transitions above the floor to a control valve, strainer, meter and a shut off valve on the downstream side of the meter. The domestic water service is piped with a bypass and shut off valve around the meter. The flanged connections on the inlet side of the meter show moderate to heavy rusting. The flanged connections on the outlet side of the meter do not exhibit rusting. The domestic water piping is fully insulated from the outlet flange of the shut off valve downstream of the water meter. The insulation appears to be in fair to good condition.

A single floor drain is located within the water service room.

Domestic Hot Water:

Domestic hot water is generated via heat exchangers that are supplied with boiler water/steam from the building main gas fired boilers.

A secondary A.O. Smith gas fired domestic hot water heater is located within the gymnasium. The janitor indicated that this gas fired water heater was used only during the summer months when the main boilers are off line. The janitor also indicated that he was not aware of any shortages of domestic hot water within the building.

A single electric hot water heater is located adjacent to the kitchen in a service room. The janitor indicated that this electric water heater serves the kitchen only and that the kitchen is not fed off the school's main domestic hot water supply.

Garage:

Located on the bottom floor of the school is an enclosed parking garage drained via a series of trench drains. Located within the garage is a single manhole. This manhole accessed a sand and gasoline interceptor which is in agreement with the existing record drawings and required by code.

Kitchen:

The existing kitchen consists of various pot sinks, floor drains, gas fired cooking equipment, kettles, two hand wash sinks and one recessed grease interceptor. The domestic hot water supply appears to be at a single temperature. The gas fired equipment is located under a kitchen exhaust hood with the gas supply dropping down from the ceiling adjacent to the hood. There is no visible master gas shut off installed. Only the three pot sink is piped to the recessed grease interceptor. Current MA State plumbing code requires all grease generating waste with the exception of the garbage disposer to be piped to a grease interceptor including any applicable floor drains. The gas supply is also required to have an accessible master shut off as well as a solenoid operated shut off valve with a manual reset that is controlled via a carbon monoxide sensor. The domestic hot water for the kitchen is supplied via a dedicated electric hot water storage heater located in a service room adjacent to the kitchen area.

Toilet Rooms:

Approximately ten toilet rooms located mainly within the center core have been renovated with new fixtures since 2008. The urinals and water closets incorporate hands free operation via sensor operated flush valves while the lavatories use metered flow controlled faucets. The renovated fixtures are in good condition. The existing floor drains within the renovated toilet rooms require trap primer connections to be code compliant and it is not clear at this time if they were installed when the toilet rooms were renovated. The remaining toilet room fixtures are no longer code compliant and require replacement. ADA accessibility will be determined by the architect.

Storm Drainage:

The 1910 building's pitched roof is drained via external gutters and down spouts. The down spouts are piped to cast iron rain leaders where they transition below grade. The flat roofs are drained via roof drains and internal rain water leaders. There are no parapets on the flat roof and no secondary roof drainage is installed or required by code. The roof drains and dome strainers appear to be in good condition.

The roofs for the 1954 and 1974 wings are drained by a mixture of roof drains on the flat roofs and external gutters and down spouts that are piped below grade on the pitched roof. The roof drains appear to be in condition

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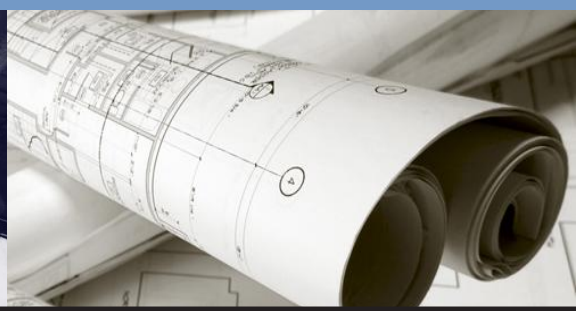
FIRE PROTECTION



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Fire Protection Systems

Water Service Room:

Located within the water service room are two 6" fire protection services and one 4" domestic water service. Both fire protection services enter the water service room thru the concrete floor slab and transition horizontally above the floor to separate floor mounted double check valve assemblies. One

service is labeled 'Stand Pipe Supply' and appears to serve the schools wet fire protection system. This same piping extends to the original building and feeds the second dry alarm valve located in the main floor storage room. It has a double check valve assembly as well. We believe this system feeds the attic dry sprinkler system. The other fire protection service exits the double check valve assembly in the garage water service room and continues on to a dry alarm valve located within the water service room. The dry alarm valve appears to feed the dry sprinkler system located in the garage area. Both fire protection services, double check valve assemblies and the single dry alarm valve in the water service room appear to be in good condition. The double check valve assembly and the single dry alarm valve in the storage room of the original building appear to be in good condition.

Garage:

The garage is protected with a dry sprinkler system throughout and is protected with a combination of exposed piping with upright heads and concealed piping with ceiling pendants. There is a heated ceiling plenum located below the kitchen area at the garage ceiling.

Egress Corridors:

A limited coverage wet sprinkler system is installed that covers the egress corridors of the three floors of the original building, first floor mechanical rooms and service areas of the lower and first floor, and the lower level. Sidewall heads are installed in the first and second floor front lounge and meeting rooms of the original building.
Sprinkler coverage was noted as being inadequate in most areas covered by the sidewall heads.

Standpipes:

Class 1 standpipes are located in the main stair off of the cafeteria and hose valves are located in other interior stairs off of the original wing.

Summary of preliminary walkthrough:

It appears that there is an existing fire service entrance sufficient to feed the entire school with a fully sprinkled building system design. Rezoning of the building into fire zones will need to be completed and identified as part of the study. Egress stairs will need to be identified and provided with compliant enclosures. Standpipe systems would be added and combined standpipes would be utilized to serve the defined sprinkler zones identified in the overall building feasibility study with floor control assemblies. Upgrades and integration with the building fire alarm system for zone and supervisory control will become a part of the overall building study.

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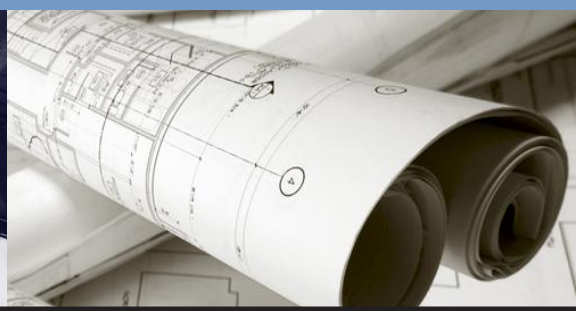
HVAC



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HVAC

Boiler and Chiller Plants

The three wings of the Devotion School (1910, 1954 and 1974) are served by a central boiler plant located in the 1910 wing. Two 7,500 MBH input sectional cast iron steam boilers with dual fuel burners were installed in 1992. The low pressure steam (LPS) boilers feed the garage, steam absorption chiller, steam to hot water (HW) shell and tube heat exchangers, unit ventilators in the 1954 wing and AC-1 and 2.

A 325 ton steam absorption chiller and 325 ton cooling tower were installed during the 1974 addition. The chiller is located adjacent to the parking garage, and cooling tower is located on the roof of the 1974 addition. The chiller was operated for one year and has not been used since according to the school's facilities staff.

LPS currently serves the steam coils in the garage, heat exchangers in the boiler plant, unit ventilators in the 1954 wing and the AC-2 steam heating coil in the mechanical penthouse. In addition to the chiller, the AC-1 and 2 humidifiers are no longer operated either. The HW side of the heat exchangers have three pumps with three distribution loops for: duct mounted reheat coils, fin tube radiation (FTR) and cabinet unit heaters (CUH), and unit ventilators (UV). The chiller and AC-1 and 2 humidifiers are no longer operated.

The UV pipe loop was designed as a two pipe changeover system for heating and cooling, and the heating and cooling are isolated with valving. This loop is tied into the chiller but has not been used for cooling because the chiller is not operated. Within the past fifteen years, supplemental cooling to the following rooms:

Main Office, Teachers' Lounge, Computer Room, Nurse's Office, Library, and Classrooms 207, 223, 224, 307, 323, 338, 339 and 340.

The Main Office and Library each have an AHU with DX cooling coil. The remaining spaces listed above are served by split system DX units. Condensing units are located on the roof and at grade.

Air Side Equipment

Air handlers, AC-1 and 2, located in the mechanical penthouse of the 1974 Addition provide heating and ventilation air to interior spaces in the 1910 and 1974 wings, Library and Auditorium/Multi-purpose room. An air handling unit also serves the main gymnasium.

The Cafeteria, Classrooms and perimeter offices are served by unit ventilators. The unit ventilators in the 1910 and 1974 wings have hydronic coils, and those in the 1954 wing have the original steam coils. Perimeter rooms also have hydronic or steam fin tube radiation.

The building has multiple exhaust fan systems serving garage, toilet, dishwasher, kitchen, kiln, offices, classrooms, storage, transformer vault and mechanical spaces. These fans are typically located in the garage and mechanical penthouse.

Fuel Oil

Two fuel oil systems were installed during the 1994 boiler replacement. One 15,000 gallon underground tank is located between the building and the park on the north side of the building. This serves the boilers, and the system is only operated for testing each year. Normally the dual fuel boilers operate as gas fired. The other system is a 300 gallon above ground tank in the garage. This serves the generator located adjacent to the garage.

Controls

The HVAC controls are a pneumatic system. A building management system (BMS) for the boiler plant and mechanical penthouse was installed in 1994 and is monitored/controlled at City Hall. The remaining HVAC equipment including unit ventilators is controlled locally.

Overall Condition

HVAC systems in the 1954 wing are primarily original to the construction. HVAC systems in the 1910 and 1974 wings are primarily original to the 1974 Addition and Renovation. The 1992 boiler renovation and the supplemental cooling systems are the only major equipment that has been added. The equipment is in good condition for its age but is past the expected service life. All equipment is recommended for replacement with more efficient models that use less energy and provide better control. Existing ductwork is in good condition and portions could potentially be reused for a renovation project depending on the layout and subject to cleaning.

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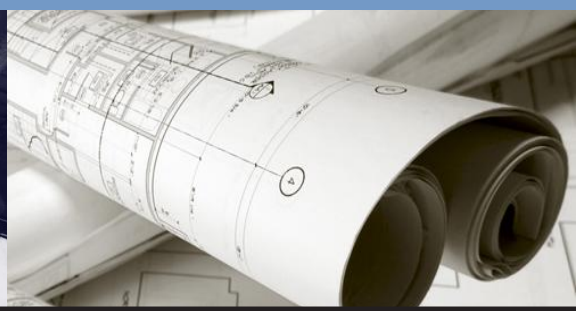
ELECTRICAL



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Power

All three wings of the building are served by a 3000 Amp, 208Y/120V, 3-phase, 4-wire Main Switchboard located in the Main Electrical Room in the basement of the 1974 wing. The switchboard was manufactured by ITE, and the nameplate date is 1975. The switchboard appears to be in good condition, but there is no evidence that circuit breakers are tested. Testing provides confidence that breakers will trip if required. Replacement breakers are difficult to find so replacement of the switchboard is recommended but not absolutely necessary. This would require an interruption of service of up to one week. Replacement would be recommended over the summer when school is not in session or during winter break.

The switchboard is fed by a bus duct connected to one or more transformers located in an adjacent vault which was locked during the survey. The transformer was provided by Boston Edison as part of the 1974 project. The equipment should be checked to verify whether carcinogenic polychlorinated biphenyls (PCB) are present. The 1974 drawings show that the transformer is fed underground from a manhole.

Lighting and power panelboards are installed at various locations throughout the facility. Most of those were manufactured by ITE and appear to be in good condition. Replacement breakers for these panel boards is also difficult so replacement of these is also recommended.

Several Westinghouse panelboards were found in the 1910 wing that predate the 1974 addition and renovation project and are in fair to poor condition. Replacement breakers and other parts are not available. These should be replaced.

There are two Motor Control Centers that were installed as part of the 1974 project, and they serve the HVAC equipment. MCC #1 is located in the Mechanical Room in the basement of the 1910 wing. MCC #2 is located in the Penthouse of the 1974 wing. Both appear to be in good condition. Replacement parts are difficult to find. Replacement of the MCC depends on the extent of HVAC system modifications.

Emergency Power

A 175kW (continuous rating) diesel generator provides backup power to the entire school through one transfer switch. The generator appears to be in good condition and well maintained. The generator was installed during the 1974 project, and replacement parts are difficult to find. The generator and transfer switch are located in the Mechanical Equipment Room basement of the 1974 wing. The transfer switch feeds one Emergency Distribution Panel "E-D". Panel E-D feeds nine smaller panelboards located throughout the school.

The emergency panel boards do not appear to be enclosed in the required 2-hour fire-rated enclosure.

Lighting and Controls

Much of the fluorescent lighting is old and likely installed before 1979. Lenses have typically yellowed throughout. Replacement of the existing lighting is recommended, and fluorescent lighting ballasts installed before 1979 may contain PCB's.

No lighting control system was found. A lighting control system for the entire building is recommended for compliance with current energy codes.

Fire Alarm

The Fire Alarm system serving the school was installed during an upgrade project in 2000 and appears to be in excellent condition. The Fire Alarm Control Panel (FACP) is located in the Electrical Equipment Room in the basement of the 1974 wing. Re-use of the existing system may be possible. Further investigation is required to determine if parts are still available and whether the system meets present code requirements.

Clock and Speaker System

The existing Simplex system was provided as part of the 1974 project. Many of the clock/speaker assemblies are not operational. A new system is recommended.

Security

The security system consists of an Altronix panel and a GE M2000 PXNPlus panel. Details and condition of the security system(s) are unknown.

Telephone

Telephone service appears to enter the building underground from a pole located on Stedman Street. Additional details of the telephone equipment are not known.

PM&C

Edward Devotion School
Feasibility Design Options
Brookline, MA

09-Oct-12

Feasibility Submission

MAIN CONSTRUCTION COST SUMMARY

	Construction Start	Gross Floor Area	$/sf	Estimated Construction Cost
OPTION A - RENOVATION				
RENOVATE EXISTING SCHOOL		162,051	$165.87	$26,880,148
REMOVE HAZARDOUS MATERIALS - Allowance		162,051	$6.00	$972,306
SITEWORK (10% of Building Costs)				$2,688,015
SUB-TOTAL	Jun-14	162,051	$188.46	$30,540,469
GENERAL CONDITIONS	10.00%			$3,054,047
BONDS	1.75%			$534,458
INSURANCE	1.00%			$305,405
PERMIT				NIC
OVERHEAD AND FEE	3%			$916,214
ESCALATION TO START - (assumed 3% PA)	6%			$1,832,428
DESIGN AND PRICING CONTINGENCY	15%			$5,577,453
TOTAL OF ALL CONSTRUCTION OPTION A	Jun-14	162,051	$263.87	**$42,760,474**
OPTION B - RENOVATION/ADDITION				
RENOVATE EXISTING SCHOOL		162,051	$163.90	$26,560,148
REBUILD EXISTING PARKING UNDER NEW ADDITION		8,000	$140.00	$1,120,000
ADDITIONS TO EXISTING BUILDING		36,702	$224.52	$8,240,244
REMOVE HAZARDOUS MATERIALS - Allowance		162,051	$6.00	$972,306
SITEWORK (10% of Building Costs)				$3,592,039
SUB-TOTAL	Jun-14	198,753	$203.69	$40,484,737
GENERAL CONDITIONS	10.00%			$4,048,474
BONDS	1.75%			$708,483
INSURANCE	1.00%			$404,847
PERMIT				NIC
OVERHEAD AND FEE	3%			$1,214,542
ESCALATION TO START - (assumed 3% PA)	6%			$2,429,084
DESIGN AND PRICING CONTINGENCY	15%			$7,393,525
TOTAL OF ALL CONSTRUCTION OPTION B	Jun-14	198,753	$285.20	**$56,683,692**

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OPTION B1 - RENOVATION/ADDITION

RENOVATE EXISTING SCHOOL			148,301	$166.92	$24,754,436
REBUILD EXISTING PARKING UNDER NEW ADDITION			8,000	$140.00	$1,120,000
DEMOLISH PORTIONS OF EXISTING BUILDING			12,689	$8.00	$101,512
ADDITIONS TO EXISTING BUILDING			42,946	$244.06	$10,481,520
REMOVE HAZARDOUS MATERIALS - Allowance			162,051	$6.00	$972,306
SITEWORK (10% of Building Costs)					$3,645,747
SUB-TOTAL	Jun-14		191,247	$214.78	$41,075,521
GENERAL CONDITIONS		39	mnths	$100,000	$3,900,000
BONDS	1.75%				$718,822
INSURANCE	1.00%				$410,755
PERMIT					NIC
OVERHEAD AND FEE	3%				$1,232,266
ESCALATION TO START - (assumed 3% PA)	6%				$2,464,531
DESIGN AND PRICING CONTINGENCY	15%				$7,470,284
TOTAL OF ALL CONSTRUCTION OPTION B1	Jun-14		191,247	$299.47	**$57,272,179**

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OPTION C - RENOVATION/ADDITION

RENOVATE EXISTING SCHOOL			113,180	$147.30	$16,671,654
DEMOLISH PORTIONS OF EXISTING BUILDING			42,690	$8.00	$341,520
ADDITIONS TO EXISTING BUILDING			81,105	$222.30	$18,029,382
REMOVE HAZARDOUS MATERIALS - Allowance			162,051	$6.00	$972,306
SITEWORK (10% of Building Costs)					$3,504,256
SUB-TOTAL	Jun-14		194,285	$203.41	$39,519,118
GENERAL CONDITIONS		27	mnths	$100,000	$2,700,000
BONDS	1.75%				$691,585
INSURANCE	1.00%				$395,191
PERMIT					NIC
OVERHEAD AND FEE	3%				$1,185,574
ESCALATION TO START - (assumed 3% PA)	6%				$2,371,147
DESIGN AND PRICING CONTINGENCY	15%				$7,029,392
TEMPORARY CLASSROOMS FOR 400 STUDENTS (for two years)					$2,450,000
TOTAL OF ALL CONSTRUCTION OPTION C	Jun-14		194,285	$290.00	**$56,342,007**

OPTION C.1 - RENOVATION/ADDITION

RENOVATE EXISTING SCHOOL			113,180	$162.38	$18,378,614
DEMOLISH PORTIONS OF EXISTING BUILDING			42,690	$8.00	$341,520
ADDITIONS TO EXISTING BUILDING			80,191	$233.28	$18,707,253
REMOVE HAZARDOUS MATERIALS - Allowance			162,051	$6.00	$972,306
SITEWORK (10% of Building Costs)					$3,742,739
SUB-TOTAL	Jun-14		193,371	$217.94	$42,142,432
GENERAL CONDITIONS (C.149)		39	mnths	$100,000	$3,900,000
BONDS	1.75%				$737,493
INSURANCE	1.00%				$421,424
PERMIT					NIC
OVERHEAD AND FEE	3%				$1,264,273
ESCALATION TO START - (assumed 3% PA)	6%				$2,528,546
DESIGN AND PRICING CONTINGENCY	15%				$7,649,125
TEMPORARY GYM BUILDING					$900,000
TOTAL OF ALL CONSTRUCTION OPTION C.1	Jun-14		193,371	$307.92	**$59,543,293**

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OPTION D - RENOVATION/ADDITION

RENOVATE EXISTING SCHOOL			38,278	$206.13	$7,890,319
NEW PARKING UNDER NEW ADDITION			19,261	$140.00	$2,696,540
DEMOLISH PORTIONS OF EXISTING BUILDING			117,592	$8.00	$940,736
ADDITIONS TO EXISTING BUILDING			142,826	$211.05	$30,143,998
REMOVE HAZARDOUS MATERIALS - Allowance			162,051	$6.00	$972,306
SITEWORK (10% of Building Costs)					$4,167,159
SUB-TOTAL	Jun-14		200,365	$233.63	$46,811,058
GENERAL CONDITIONS		27	mnths	$100,000	$2,700,000
BONDS	1.75%				$819,194
INSURANCE	1.00%				$468,111
PERMIT					NIC
OVERHEAD AND FEE	3%				$1,404,332
ESCALATION TO START - (assumed 3% PA)	6%				$2,808,663
DESIGN AND PRICING CONTINGENCY	15%				$8,251,704
TEMPORARY CLASSROOMS FOR 800 STUDENTS (for 1.5 years)					$3,650,000
TOTAL OF ALL CONSTRUCTION OPTION D	Jun-14		200,365	$333.96	**$66,913,062**

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OPTION D.1 - RENOVATION/ADDITION

RENOVATE EXISTING SCHOOL			38,278	$206.13	$7,890,319
NEW PARKING UNDER NEW ADDITION			10,566	$140.00	$1,479,240
DEMOLISH PORTIONS OF EXISTING BUILDING			117,592	$8.00	$940,736
ADDITIONS TO EXISTING BUILDING			144,675	$214.47	$31,028,628
REMOVE HAZARDOUS MATERIALS - Allowance			162,051	$6.00	$972,306
SITEWORK (10% of Building Costs)					$4,133,892
SUB-TOTAL	Jun-14		193,519	$240.00	$46,445,121
GENERAL CONDITIONS/GENERAL REQUIREMENTS (C. 149a)		22	mnths	$100,000	$2,200,000
BONDS	1.75%				$812,790
INSURANCE	1.00%				$464,451
PERMIT					NIC
OVERHEAD AND FEE	2%				$928,902
ESCALATION TO START - (assumed 3% PA)	6%				$2,786,707
DESIGN AND PRICING CONTINGENCY	15%				$8,045,696
TEMPORARY CLASSROOMS FOR 800 STUDENTS (for 1 year)					$2,450,000
TOTAL OF ALL CONSTRUCTION OPTION D.1	Jun-14		193,519	$331.41	**$64,133,667**

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OPTION E - RENOVATION/ADDITION

RENOVATE EXISTING SCHOOL			38,278	$206.31	$7,897,324
NEW PARKING UNDER NEW ADDITION			18,422	$140.00	$2,579,080
DEMOLISH PORTIONS OF EXISTING BUILDING			117,592	$8.00	$940,736
ADDITIONS TO EXISTING BUILDING			152,563	$208.90	$31,870,163
REMOVE HAZARDOUS MATERIALS - Allowance			162,051	$6.00	$972,306
SITEWORK (10% of Building Costs)					$4,328,730
SUB-TOTAL	Jun-14		209,263	$232.19	$48,588,339
GENERAL CONDITIONS		27	mnths	$100,000	$2,700,000
BONDS	1.75%				$850,296
INSURANCE	1.00%				$485,883
PERMIT					NIC
OVERHEAD AND FEE	3%				$1,457,650
ESCALATION TO START - (assumed 3% PA)	6%				$2,915,300
DESIGN AND PRICING CONTINGENCY	15%				$8,549,620
TOTAL OF ALL CONSTRUCTION OPTION E	Jun-14		209,263	$313.23	**$65,547,088**

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OPTION E1 - RENOVATION/ADDITION

PHASE 1				
ADDITIONS TO EXISTING BUILDING- 50% completed in PH1		76,282	$208.90	$15,935,082
SITEWORK (10% of Building Costs)				$1,593,508
ESCALATION (Start 4/15 end 9/16)	9.25%			$1,621,395
PHASE 2				
ADDITIONS TO EXISTING BUILDING- 50% completed in PH2		76,282	$208.90	$15,935,082
SITEWORK (10% of Building Costs)				$1,593,508
ESCALATION (Start 7/16 end 6/18)	14.00%			$2,454,003
PHASE 3				
RENOVATE EXISTING SCHOOL		38,278	$206.31	$7,897,324
NEW PARKING UNDER NEW ADDITION		18,422	$140.00	$2,579,080
SITEWORK (10% of Building Costs)				$1,047,640
DEMOLISH PORTIONS OF EXISTING BUILDING		117,592	$8.00	$940,736
REMOVE HAZARDOUS MATERIALS - Allowance		162,051	$6.00	$972,306
ESCALATION (Start 7/18 end 4/19)	19.00%			$2,553,046
SUB-TOTAL		209,264	$263.41	$55,122,710
GENERAL CONDITIONS	48	mnths	$100,000	$4,800,000
BONDS	1.75%			$964,647
INSURANCE	1.00%			$551,227
PERMIT				NIC
OVERHEAD AND FEE	3%			$1,653,681
DESIGN AND PRICING CONTINGENCY	15%			$9,463,840
TOTAL OF ALL CONSTRUCTION OPTION E1		209,264	$346.72	**$72,556,105**

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OPTION E1.2 - RENOVATION/ADDITION

PHASE 1

ADDITIONS TO EXISTING BUILDING		152,563	$208.90	$31,870,163
SITEWORK (10% of Building Costs)				$3,187,016
ESCALATION (Start 4/15 end 1/17)	10.25%			$3,593,361

PHASE 2

RENOVATE EXISTING SCHOOL		38,278	$206.31	$7,897,324
NEW PARKING UNDER NEW ADDITION		18,422	$140.00	$2,579,080
SITEWORK (10% of Building Costs)				$1,047,640
DEMOLISH PORTIONS OF EXISTING BUILDING		117,592	$8.00	$940,736
REMOVE HAZARDOUS MATERIALS - Allowance		162,051	$6.00	$972,306
ESCALATION (Start 1/17 end 10/17)	13.75%			$1,847,599
SUB-TOTAL		209,263	$257.74	$53,935,225
GENERAL CONDITIONS	30 mnths		$100,000	$3,000,000
BONDS	1.75%			$943,866
INSURANCE	1.00%			$539,352
PERMIT				NIC
OVERHEAD AND FEE	3%			$1,618,057
DESIGN AND PRICING CONTINGENCY	15%			$9,005,475
TEMPORARY CLASSROOMS (six classrooms)				$1,140,000
TEMPORARY GYM BUILDING				$900,000
TOTAL OF ALL CONSTRUCTION OPTION E1.2	Jan-00	209,263	$339.68	**$71,081,975**

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OPTION F - NEW BUILDING

NEW PARKING UNDER NEW BUILDING			16,067	$140.00	$2,249,380
DEMOLISH EXISTING BUILDING			162,051	$8.00	$1,296,408
NEW BEEP BUILDING			16,500	$236.03	$3,894,513
NEW MAIN BUILDING			168,052	$212.61	$35,730,013
REMOVE HAZARDOUS MATERIALS - Allowance					NIC
SITEWORK (12% of Building Costs)					$5,180,438
SUB-TOTAL	Jun-14		200,619	$241.01	$48,350,752
GENERAL CONDITIONS		21	mnths	$100,000	$2,100,000
BONDS	1.75%				$846,138
INSURANCE	1.00%				$483,508
PERMIT					NIC
OVERHEAD AND FEE	3%				$1,450,523
ESCALATION TO START - (assumed 3% PA)	6%				$2,901,045
DESIGN AND PRICING CONTINGENCY	15%				$8,419,795
TOTAL OF ALL CONSTRUCTION OPTION F	Jun-14		200,619	$321.76	**$64,551,761**

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This Feasibility cost estimate was produced from preliminary drawings, outline specifications and other documentation prepared by HMFH Architects Inc. and their design team dated April 13th, 2012. Design and engineering changes occurring subsequent to the issue of these documents have not been incorporated in this estimate.

This estimate includes all direct construction costs, general contractor's overhead and profit and design contingency. Cost escalation assumes start dates indicated above.

We have assumed procurement will utilize a public bid under C.149 of the MGL with public bidding to pre-qualified General Contractors and subcontractors, open specifications for materials and manufactures. If 149a CM at risk procurement is selected costs will likely be greater than those included in this report.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

Items not included in this estimate are:

- Land acquisition, feasibility, and financing costs
- All professional fees and insurance
- Site or existing conditions surveys investigations costs, including to determine subsoil conditions
- All Furnishings, Fixtures and Equipment
- Items identified in the design as Not In Contract (NIC)
- Items identified in the design as by others
- Owner supplied and/or installed items as indicated in the estimate
- Utility company back charges, including work required off-site
- Work to City streets and sidewalks, (except as noted in this estimate)
- Construction contingency

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