

**SCHOOL
FACILITIES
STUDY**

LEXINGTON

A REPORT SUGGESTING A MEANS OF PROVIDING EQUAL
EDUCATIONAL OPPORTUNITY AS THIS MAY RELATE TO PHYSICAL
PLANT IN THE TOWN OF LEXINGTON, MASSACHUSETTS

DRUMMEY ROSANE ANDERSON / ARCHITECTS
WELLESLEY MASSACHUSETTS

DRA

CONTENTS

I. Forward	Pg. 2
II. Background	Pg. 4
III. Educational Programming	Pg. 5
IV. Existing Facilities	Pg. 10
V. Alternative Path	Pg. 13
V. Proposed Alterations	Pg. 13
VII. Alternates	Pg. 34
VIII. Recommendations	Pg. 35

Appendix A

Excerpts from the Enrollment
Projection Sub-committee of
the School Building Project.

Appendix B

Enrollment by Grades and
Projections.

Appendix C

Building Plans for Parker,
Adams, Munroe, Hancock and
Muzzey Schools.

I. FORWARD

On February 19, 1974, the firm of Drummeey Rosane Anderson, Inc., Architects/Engineers entered into a contract with the Town of Lexington, Massachusetts acting by and through the Lexington School Committee. We were required to survey the existing public schools to determine what degree of equality of educational opportunity was afforded each child as this may relate to the existing physical plant. We were then to make recommendations, where necessary, as to how this equality could be economically achieved.

It is to be stressed that this report of that survey does not constitute a final solution. It does describe guidelines for an ongoing process of programming/planning/implementing/evaluating.

Lexington, like other communities throughout the United States, is bound by today's economic realities. Education vies with many community programs for its

share of the present tax dollar. Taxes have risen to meet these needs. If educational opportunities in Lexington are to continue to grow, the value of every educational dollar spent must increase.

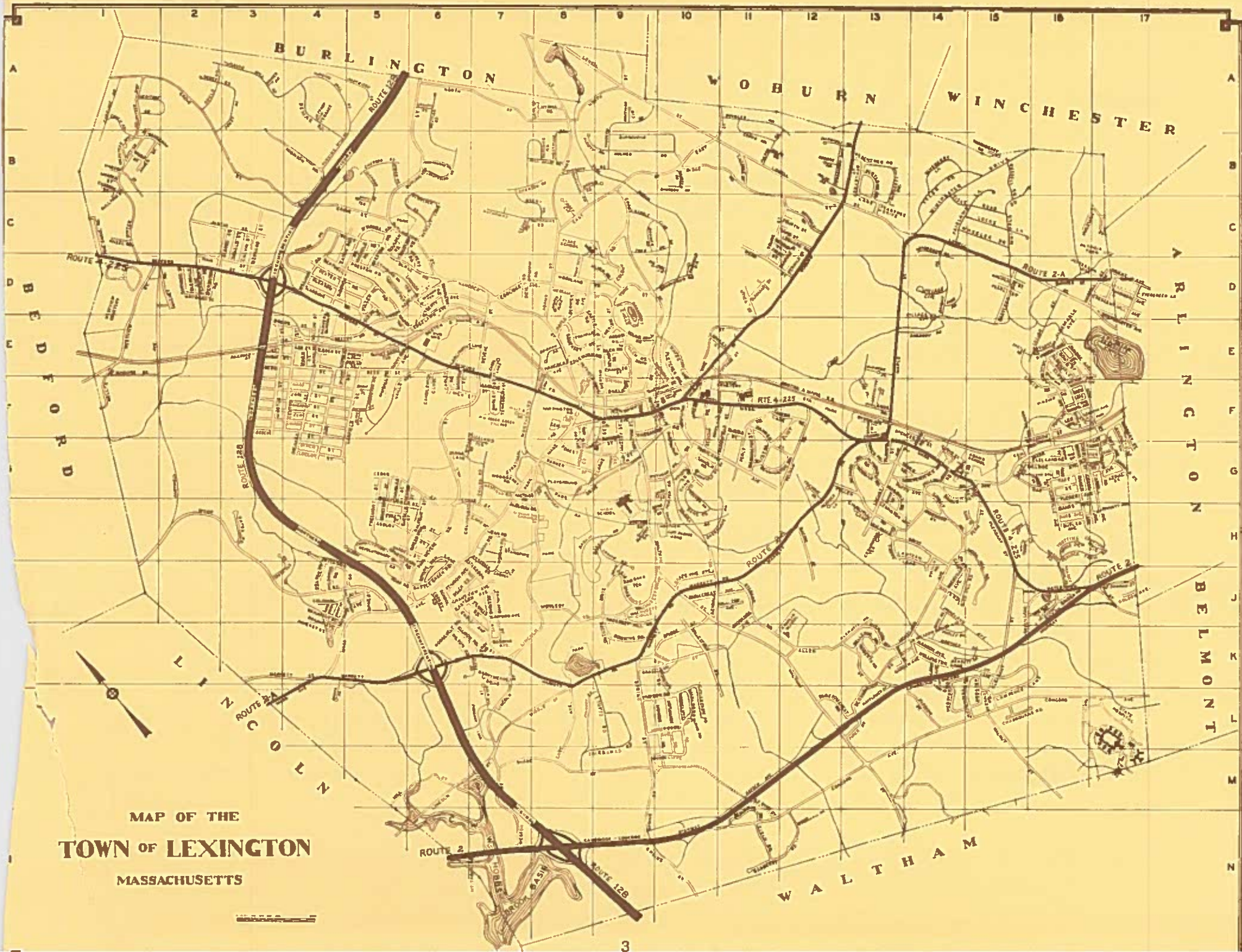
The school physical plant is a small percentage of the total cost of education in any community. The continued operation of that plant far exceeds its initial cost. Our study was directed toward minimizing these costs while equalizing educational opportunity.

Our work benefited from a continuous input from the staff and administration of the Lexington School System. At the outset, we received the "Report of the Enrollment Projection Subcommittee of the School Building Survey Project" as a data base on which our projections were made. We received comments and evaluations from the staff of every school in Lexington. These were compared for equality of facilities. We visited all of the schools in Lexington. We benefited from the evaluations of the Subcommittee with whom we worked, repre-

senting the School Committee through Jane Berchtold, the Permanent Building Committee through Otis Brown and the School Administration through Rudolph Fobert. Our suggestions and recommendations were subject to their valued criticism.

As a result of that study, this report outlines a recommended course of alterations, minimum additions, consolidations and re-assignment of a minimum of 5 buildings. This is directed toward equalizing the educational facilities throughout the Lexington School System for every child by 1980.

It is intended that through the continued process of programming/planning/implementing/evaluating, described in this report, the Town of Lexington will be able to follow a flexible course that will provide the physical facilities to permit equalized educational opportunity for each and every child while maximizing the value received from the annual educational budget.



MAP OF THE
TOWN OF LEXINGTON
MASSACHUSETTS

II. BACKGROUND

Since World War II, the Town of Lexington has grown from a population of 14,452 in 1945 to 33,412 in 1971. In that time period, nine of the presently operated fifteen schools were constructed. Route #128 was established as a major circumferential highway and Route #2 has been enlarged as a principal feeder highway, all as part of the Metropolitan Boston Master Plan. This construction while bringing growth to the town has created divisions within the Town's neighborhoods, as shown on the preceding town map.

During this same period of time, building regulations and codes have been expanded at both the local and state levels. Attention has been focused upon the public safety, the handicapped, the disadvantaged, the public health and an increased awareness of the protection of our environment. These are continuing processes. As each new school has been added to the Lexington system, it has complied with this growing list

of regulations. There have equally been changes in teaching philosophies, techniques and requirements. As a result, there is a wide variance in the physical design of the oldest school, the Hancock, built in 1891 and the newest, the Jonas Clarke built in 1972.

The Town has not neglected its physical plant. It has maintained and to a degree, updated these buildings to insure a continued return from its earlier investments. We have not found in our survey, conditions which we feel jeopardize the safety of the inhabitants. We have found conditions which we feel limit the educational opportunities of the pupils.

We now look to the future. Regulations, restrictions, codes, philosophies and techniques will continue to change. On January 1, 1975, a new State Building Code will go into effect. We do not pretend that the updatings of today will satisfy the recommendations of tomorrow. Continuous updating is a requirement if equality is to be offered

the students of Lexington.

As the regulatory requirements have changed over the past years, so have the population demands. Not only has the number of inhabitants in Lexington increased, but the distribution of each grouping within this population has changed. We all realize we are growing older but also, the average inhabitant in Lexington is growing older. This is the result of fewer young people moving into town than in the past 20-year period. The report of Enrollment Projection Subcommittee of the School Building Survey Projection completed in March 1974, showed the results of this change in the population. That report was based on records from October 1, 1960 through October 1, 1973. Portions of that report are appended hereto. As part of the continuing process of this survey, we are also appending hereto enrollment data as of October 1, 1974. Our survey has reflected this updating of data.

direct your attention to the appended regular presentation of enrollment grades from October 1, 1960 through October 1, 1974, which showed the total Lexington School System, Grades 1 through 12, climbing from 6,280 in 1960 to a figure of 8,264 in 1966. Then with the inclusion of kindergartens in 1967, enrollment jumped to 9,110 pupils, rising to a maximum of 9,609, kindergarten through 12 in 1969 and falling now to a total enrollment of 8,397, kindergarten through 12 as of October 1, 1974.

Due to the change in the age groupings of the citizens of Lexington the Town has presently realized a decrease in school population during the past five years of 1,212 children. At the same time the total town population increased. A study of enrollment projections in the appended report will show the assumptions that have been made concerning Metco pupils and vocational students, which are being provided for on a regional basis.

Acknowledging the challenges which

may be raised for any system of projections, the appended material indicates without question a continuing decline in the school age population. We have taken that material and extended it further than the authors so that we might project the school population for 1980. These Figures do not have the same degree of accuracy but they are indicative. Through the continuing process of review, we would expect each year to further develop these figures so that any change in the present trend could be incorporated at the earliest possible time. It is also of the utmost importance that any decisions reached as a result of this survey will provide a flexibility that will accommodate these statistical revisions. Our projections to 1980 show:

October 1, 1974		
Grades K -12	Total Enrollment =	8,397 pupils
October 1, 1980		
Grades K - 12	Total Enrollment =	<u>5,542 pupils</u>
	NET LOSS =	2,855 pupils

This is the equivalent of all the students housed in either the Junior

High Schools, or the Senior High School plus the students housed in the Hastings Elementary School as of 1973. It is the equivalent of 114 classrooms filled with children at an average number of 25 students per room. It is based upon this history of growth and change that we start our survey.

III. EDUCATIONAL PROGRAMMING

The educational philosophy of the Town of Lexington is the responsibility of its School Committee implemented through and with the assistance of its Superintendent of Schools. We have not endeavored to influence that philosophy. We have seen its most recent physical embodiment in the Bridge and Bowman Elementary Schools, the Clarke Junior High School and the most recently renovated portions of the Senior High School. Though these schools are all relatively new, the constant process of change requires us to view even these schools differently than when they were constructed.

Our first task was to develop program criteria with your superintendent of Schools, Dr. Rudolph J. Fobert. We developed suggested minimum space requirements for elementary, junior high and senior high levels. These were presented within an area range so that they might be applied with a degree of flexibility and for a variety of class sizes. A copy of those requirements are included herein. For the most part, the elementary space requirements listed were developed for the Bridge and Bowman Schools in 1965. The space requirements for junior high schools were developed for the Clarke School in 1971. High School requirements have been updated during this survey with the help of your Superintendent, Dr. Fobert, the Principal, Mr. Charles C. Johnson and his staff.

The intent has been to provide a continuance of flexible spaces for a curriculum designed to enable individual advancement at a variable rate from the elementary through the high school level for each Lexington student. Variety of spaces was stressed in each school. Availability

of specialized spaces to allow for a well balanced program was also stressed. The inclusion of the handicapped and the exceptional child is now mandated by State Law. Equally, the exclusion of vocational education has been reflected as a result of the Town's membership in the Minuteman Regional Vocational Technical School District. Areas reflect class sizes ranging from 35 pupils per class in physical education down to tutorial and remedial groupings of two to three pupils. However, the majority of areas were assigned on the basis of a maximum of 25 pupils per class. This figure provides for additional flexibility by increasing or decreasing class sizes.

SUGGESTED MINIMUM SPACE REQUIREMENTS

I. ELEMENTARY SCHOOLS

<u>SPACES</u>	<u>EQUIVALENT AREAS</u>
Classrooms	
(a) Medium	600-750 sq. ft.
(b) Large	850-1000 " "
Kindergarten (with self-contained lavatory)	1200-1300 " "
Remedial/Tutorial	150-500 " "
(a) Guidance Counselor	150-200 " "
(b) Reading Specialist	150-200 " "
(c) Learning Disabilities	150-200 " "
(d) Speech & Hearing	150-200 " "
Special Education	850-1000 " "
Art	1000-1200 " "
Learning Lab	1200-1500 " "
Music	1000-1200 " "
(a) Practice	150-200 " "
Media Center (Related to school population)	1600-2500 " "
Teacher/Aid Work Center	1600-2500 " "
Cafeteria/All Purpose	12-15 sq.ft.per child per seating
(a) Platform	1000-2000 sq. ft.
Gymnasium	
(a) Twelve-room or larger school, separate gymnasium	3500-5500 " "
(b) Smaller school, all-purpose room	2000-3000 " "
Administration and Health	500-800 " "

II. HIGH SCHOOL

Classrooms	
(a) Small Group (5-10 pupils)	300-500 sq. ft.
(b) Regular (20-25 pupils)	750-850 " "
(c) Large Group (80-100 pupils)	1500-2000 " "
Computer Center	1500-2000 " "

SUGGESTED MINIMUM SPACE REQUIREMENTS CONT.

Art			
	(a)General Area	1200-1400 "	"
	(b)Specialized Areas	600-1000 "	"
Music			
	(a)Band	1400-1600 "	"
	(b)Chorus	1000-1200 "	"
	(c)Practice Rooms	75-130 "	"
Commercial Education			
	(a)Bookkeeping	850-950 "	"
	(b)Typing	1000-1200 "	"
	(c)Transcription	750-1000 "	"
	(d)Office Machines	750-1000 "	"
Home Economics			
	(a)Food Area	1200-1400 "	"
	(b)Home Management - Depending on nature of program-can also be in regular classroom)	2400-2600 "	"
	(c)Clothing	1200-1400 "	"
Industrial Arts			
	(a)Shops (including storage)	100-125 "	"per pupil
	(b)Mechanical Drawing	900-1000 "	"
Science			
	(a)Lecture-Laboratory	1200-1400 "	"
	(b)Demonstration	900-1000 "	"
Cafeteria			
	(a)Per pupil in seating	15 "	"
Physical Education			
	(a)Gymnasium (2stations) (Dependent in part on planned bleacher seating)	6300-8000 "	"
	(b)Additional Teaching Station	2500-3500 "	"(each)
Library (Instructional Material Center)			
	Reading room - 15% to 30% of enroll- ment X 40 sq.ft. (other areas to be added, if planned, i.e., office, con- ference, etc....)		
	Professional Library	2500-3000 sq. ft.	
Auditorium			
	(a)Allow per person (not including stage)	7 "	"
Administration		600-1000 "	"
Guidance		800-1000 "	"
Health		500-600 "	"

III. JUNIOR HIGH SCHOOLS

(Will generally follow the requirements for a Senior High School subject to the following adaptations)

<u>SPACES</u>	<u>EQUIVALENT AREAS</u>
Science (not including Prep & Storage)	900-1000 sq. ft.
Physical Education	4500-5500 " "
Industrial Arts (not including Storage)	1500-1800 " "
Learning Lab	1200-1500 " "

IV. EXISTING FACILITIES

During our survey, we visited each of the existing schools in the Town of Lexington. They are listed with their date of opening and, where applicable, with the date of their additions, as well as pupil enrollment in 1973 as follows:

Elementary Schools	Opened	Additions	Pupil Enrollment
Adams 739 Mass. Ave.	1913	1931	400
Bowman Philip Rd.	1967	-----	583
Bridge 55 Middleby Rd.	1966	-----	538
Joseph Estabrook 117 Grove St.	1961	-----	455
Fiske 34 A Colony Rd.	1949	-----	466
Franklin 7 Stedman Rd.	1931	1956	395
Hancock 33 Forest St.	1891	-----	215
Harrington 146 Maple St.	1956	1958	383
Maria Hastings 2618 Mass. Ave.	1955	1958 & 1926	449
Munroe 1403 Mass. Ave.	1904	1915	185
Parker 314 Bedford St.	1924	1950	313

Junior High Schools

William Diamond 99 Hancock St.	1959	-----	747
Muzzey 1475 Mass. Ave.	1902	1958	560
Jonas Clarke Stedman Rd.	1972	-----	770

High School

Lexington Senior High School	1953	1956 1964 1965	2134
---------------------------------	------	----------------------	------

These buildings are distributed throughout the Town as shown in the following two maps (1) for elementary schools and (2) for secondary schools. The maps indicate the district lines of the elementary schools only. As a result of this districting approximately 30% of the students have buses available for transporting them to school. No student lives more than 2-1/4 miles from their assigned elementary school and a hot lunch program is available for every student in every school.

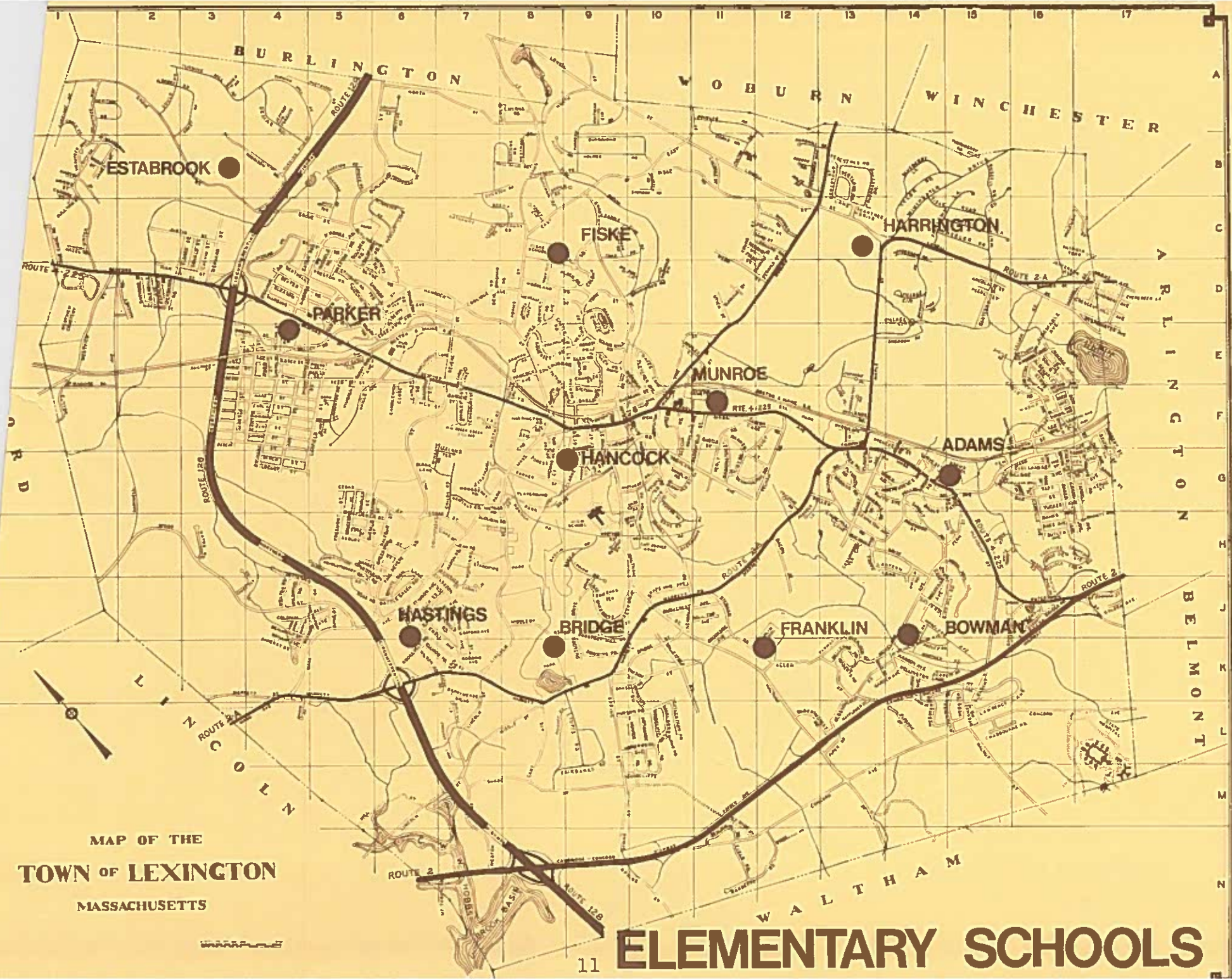
Each of the present buildings was surveyed as to its conformity with the program spacial requirements previously listed. The buildings were also surveyed with respect to their structural capacity

and mechanical condition. The status of the existing sites on which each building is located was evaluated with respect to the Commonwealth's recommended minimum site criteria.

Having completed the review of the existing facilities, we met with Dr. John Calabro and members of his staff at the School Building Assistance Board to discuss implications of this survey and to determine what assistance, both planning and financial, might be forthcoming from the State, should this report be implemented. As Lexington is among the first communities in the Commonwealth to approach an overall plan for equalization of educational opportunities within their schools, it was not possible to describe all of the possibilities, let alone to determine the State's posture with respect to each. However, we were assured that at the time of implementation of any recommendations included in this survey, each school would be considered as a separate project and support would be offered based on the Commonwealth's current criteria.

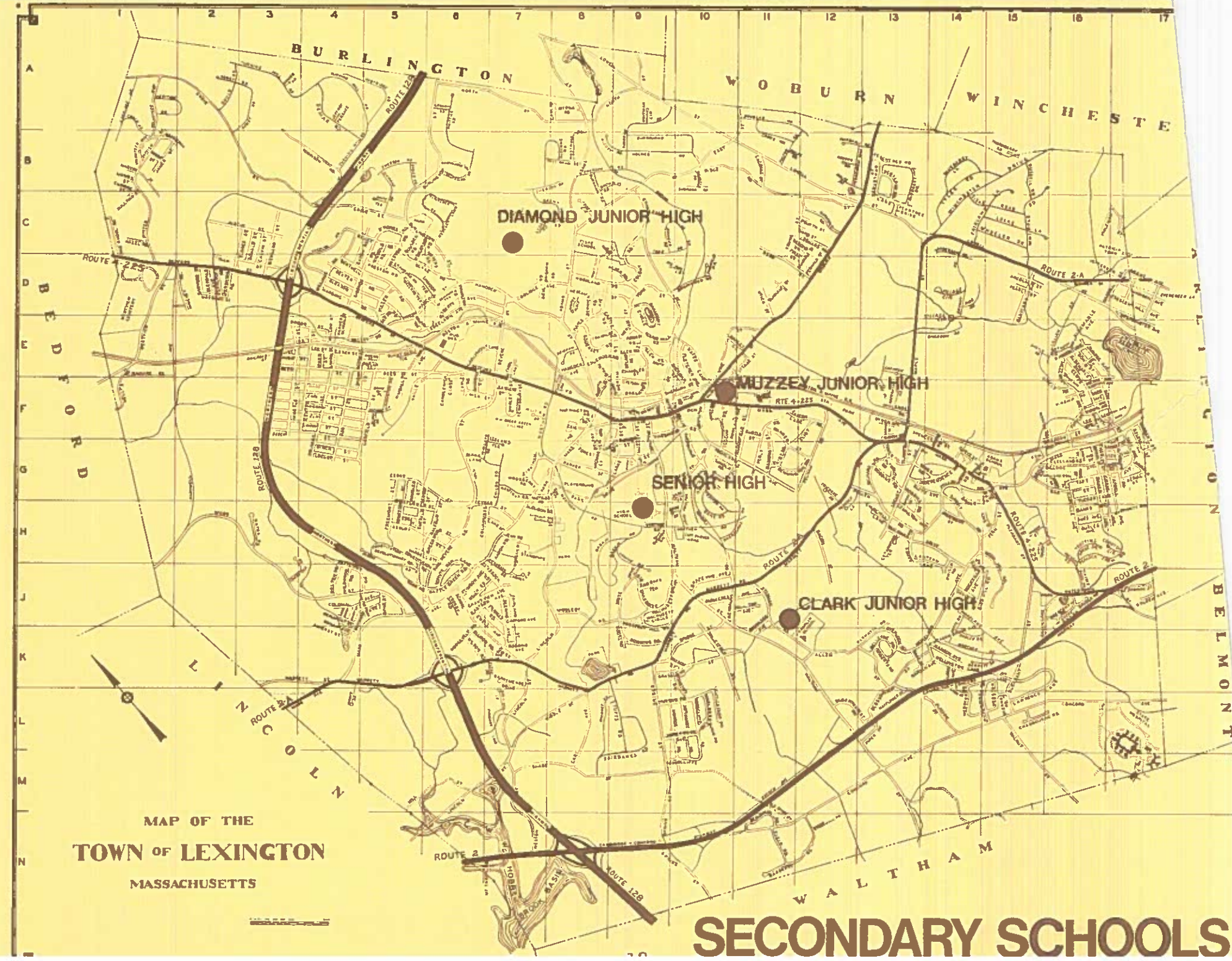
MAP OF THE
TOWN OF LEXINGTON
MASSACHUSETTS

ELEMENTARY SCHOOLS



MAP OF THE
TOWN OF LEXINGTON
MASSACHUSETTS

SECONDARY SCHOOLS



ALTERNATIVE PATHS

Lexington has developed a present school system consisting of eleven elementary schools containing Grades K through 6, three junior high schools, Grades 7 through 9 and a high school, Grades 10 through 12. As the system has grown and pressures have been placed upon it, there have been variations in these groupings. These were discussed with Mr. Fobert, and the School Committee, however, it was established that the present system should be continued. Therefore, we will direct our recommendations to the existing groupings. Nevertheless, flexibility should be provided in the physical buildings to accommodate not only the present but also possible future groupings. This should not be difficult if this study is reviewed annually.

Alternative grade groupings would provide for a 4-year high school rather than 3, the option for a 2-year junior high school rather than 3 and a 6 or 8-year elementary school rather than 7. These options would provide for the following grade groupings:

1. K through 6, 7 through 9, and 10 through 12.
2. K through 5, 6 through 8 and 9 through 12.
3. K through 6, 7 through 8 and 9 through 12.
4. K through 7, 8 through 9 and 10 through 12.

With the above flexibility, an increase or decrease in any given age grouping could be accommodated without great difficulty.

We, have therefore, directed our attention to the present grouping with allowance for the alternatives. This was selected based upon the educational benefits derived therefrom not by physical necessity. Accepting the selected grade grouping and our projections which carry forward to 1980 the report of the Enrollment Projection Subcommittee, we anticipated 1,576 pupils in Grades 10 through 12; 1,587 pupils in Grades 7 through 9; and 2,568 pupils in Grades K through 6. The Enrollment Projection updatings of October 1, 1974, indicate these figures may further decrease as much as 189 pupils. This is compared with the 1 October 1974 enrollments of 2,163 pupils in grades 10 through 12; 2,104 pupils in

grades 7 through 9; and 4,130 pupils in grades K through 6.

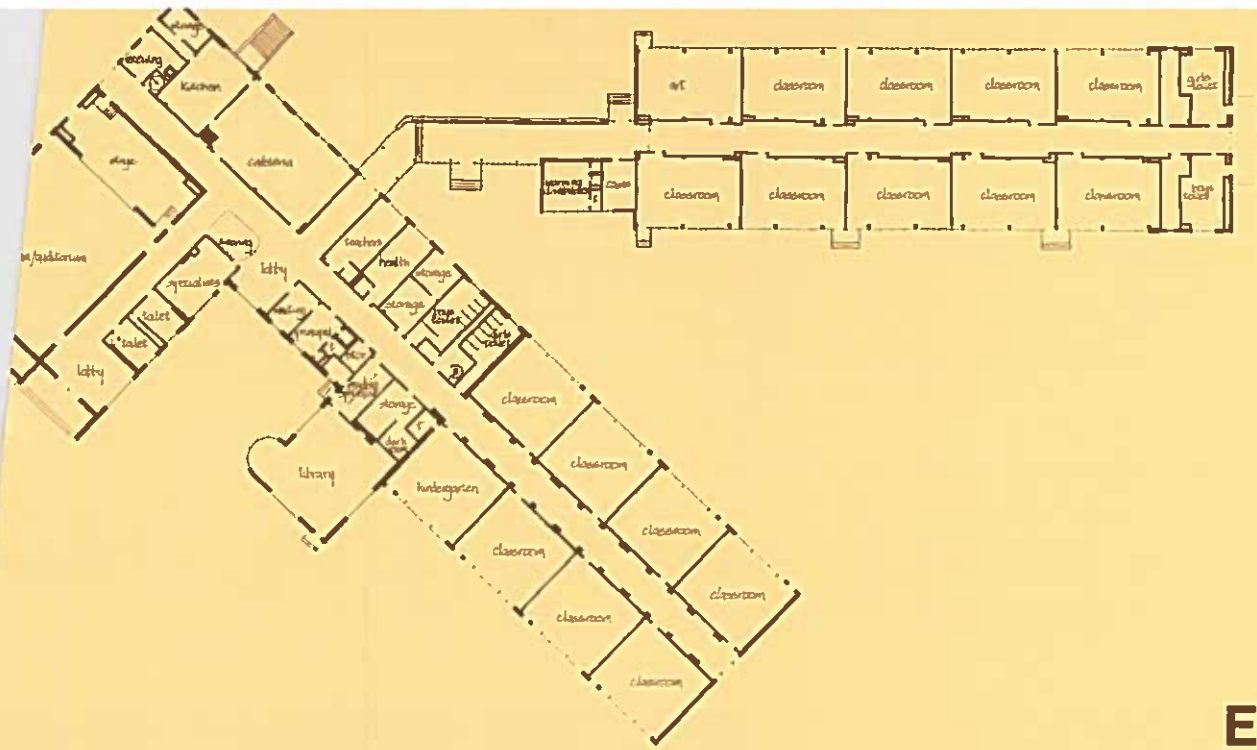
VI. PROPOSED ALTERATIONS

Each school in Lexington, after the initial survey, has been reviewed with respect to the educational programming previously given. As the projections have shown a declining school population, the attempt was made to incorporate the program requirements within the shell of the existing buildings. Simultaneously, provisions for the handicapped, the disadvantaged, the exceptional child and changes in various codes were incorporated. The cost of these revisions and, where required, additions were computed, based on September 1, 1974 prices. As a result of these revisions, new capacities were established for each school. The total capacity of all the school buildings when these alterations and additions would be completed was projected as 6916 students.

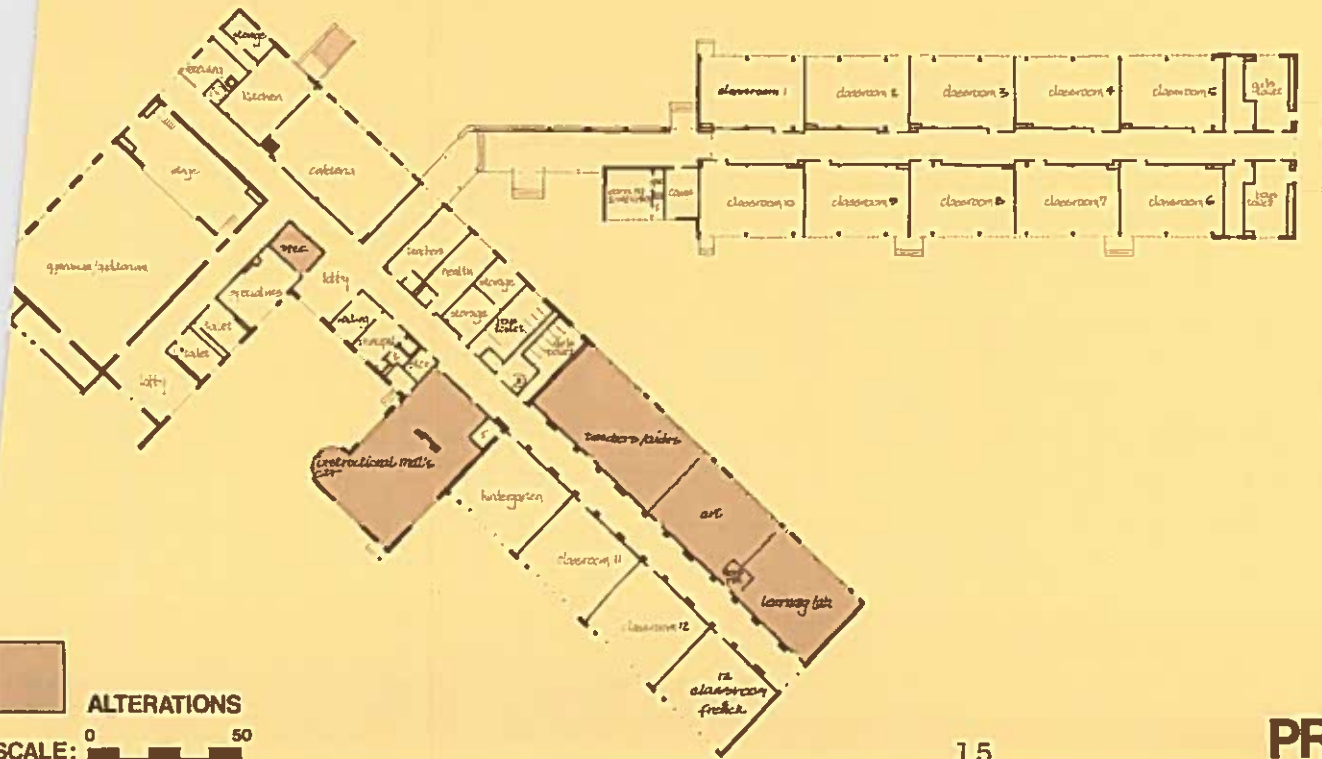
This is 1,185 students more than our enrollment projections for 1980. The

variation allows for flexibility in grade groupings, should an unforeseen "Bulge" occur anywhere in the system and for flexibility in programming within the individual schools. As an example, the size of any single grade between 1975 and 1980 is projected at a maximum of 750 pupils. With a total planned capacity of 1,185 pupils above the projected school population, we have provided the flexibility where an additional class could be moved to change to any one of the grade groupings shown above. Furthermore, building re-assignment could be rescheduled should the annual projection updating indicate a trend change. The attached plans show "before" and "after" renovation drawings for ten of the existing schools. The remaining five are appended to this report.

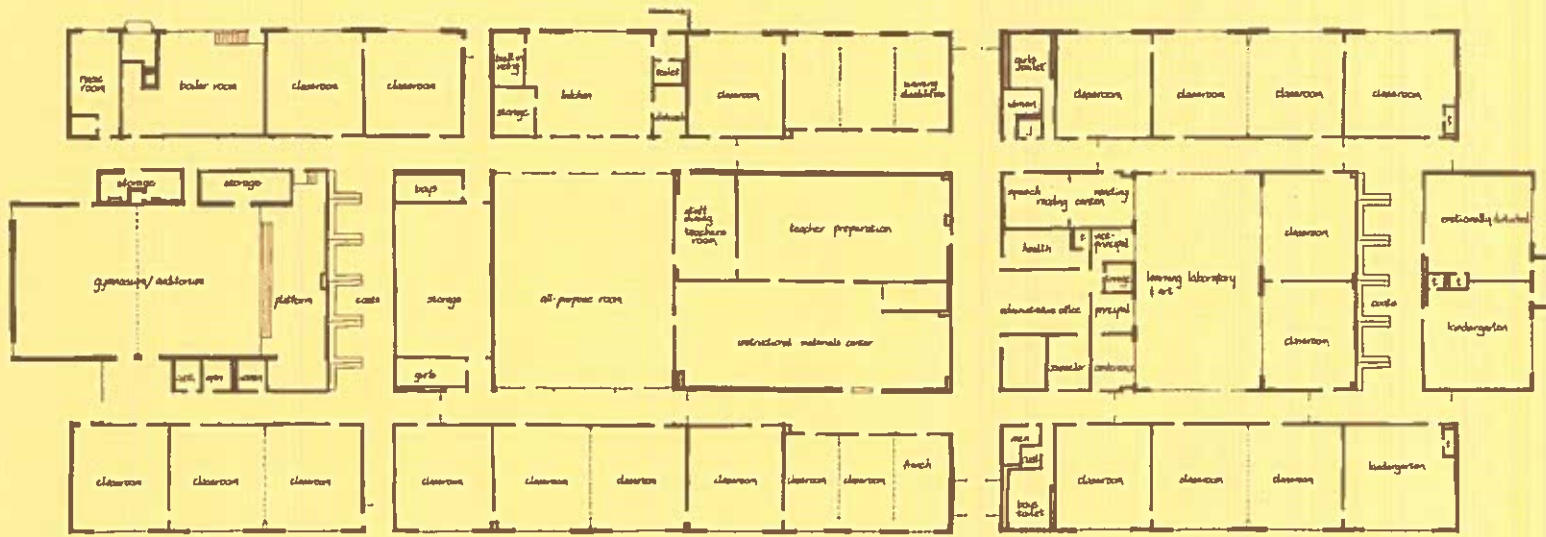
ELEMENTARY SCHOOLS



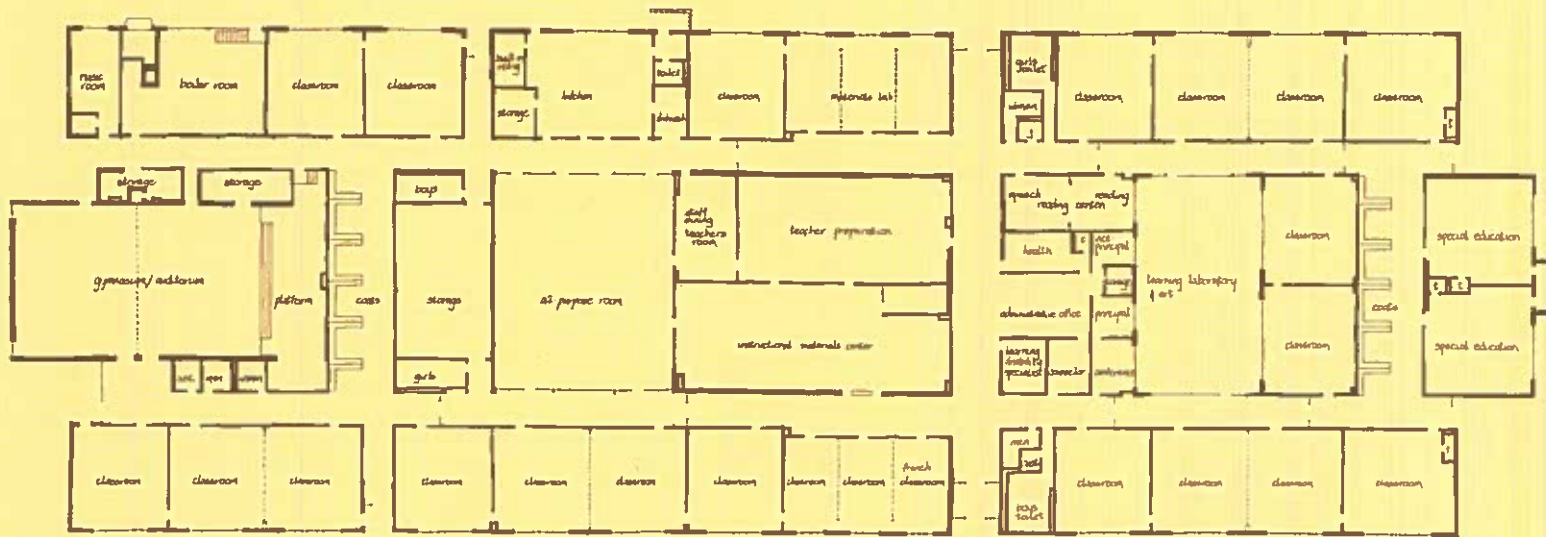
EXISTING FISKE SCHOOL



PROPOSED FISKE SCHOOL

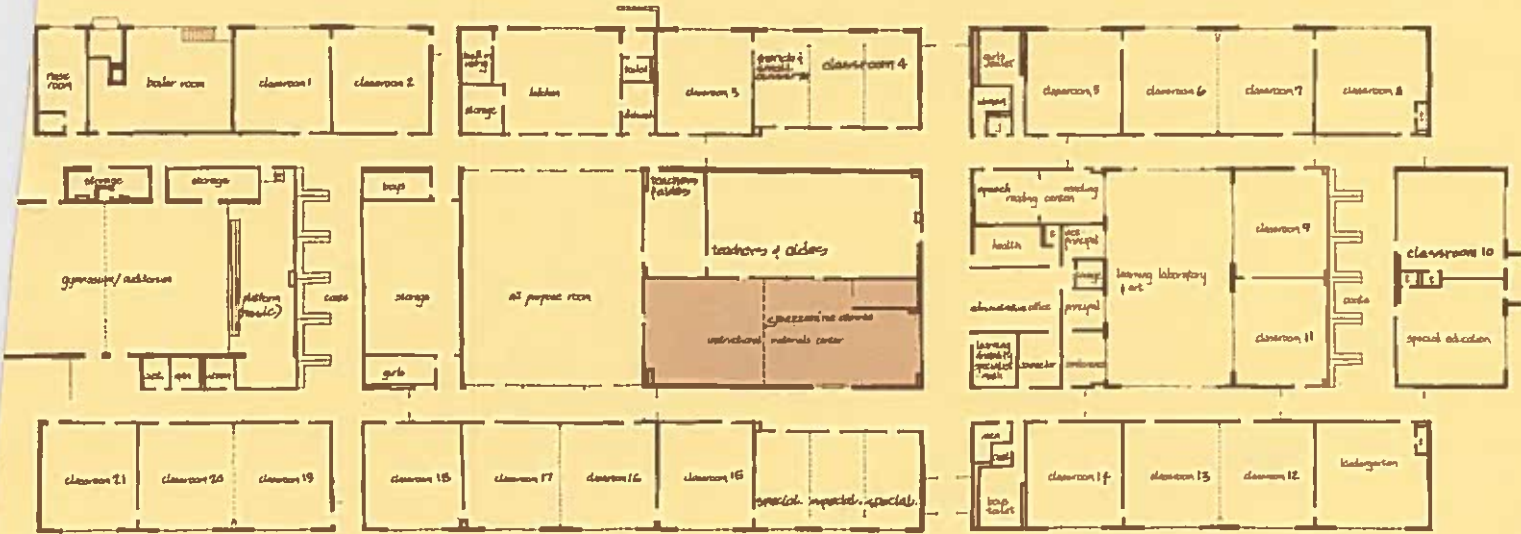


EXISTING BOWMAN SCHOOL



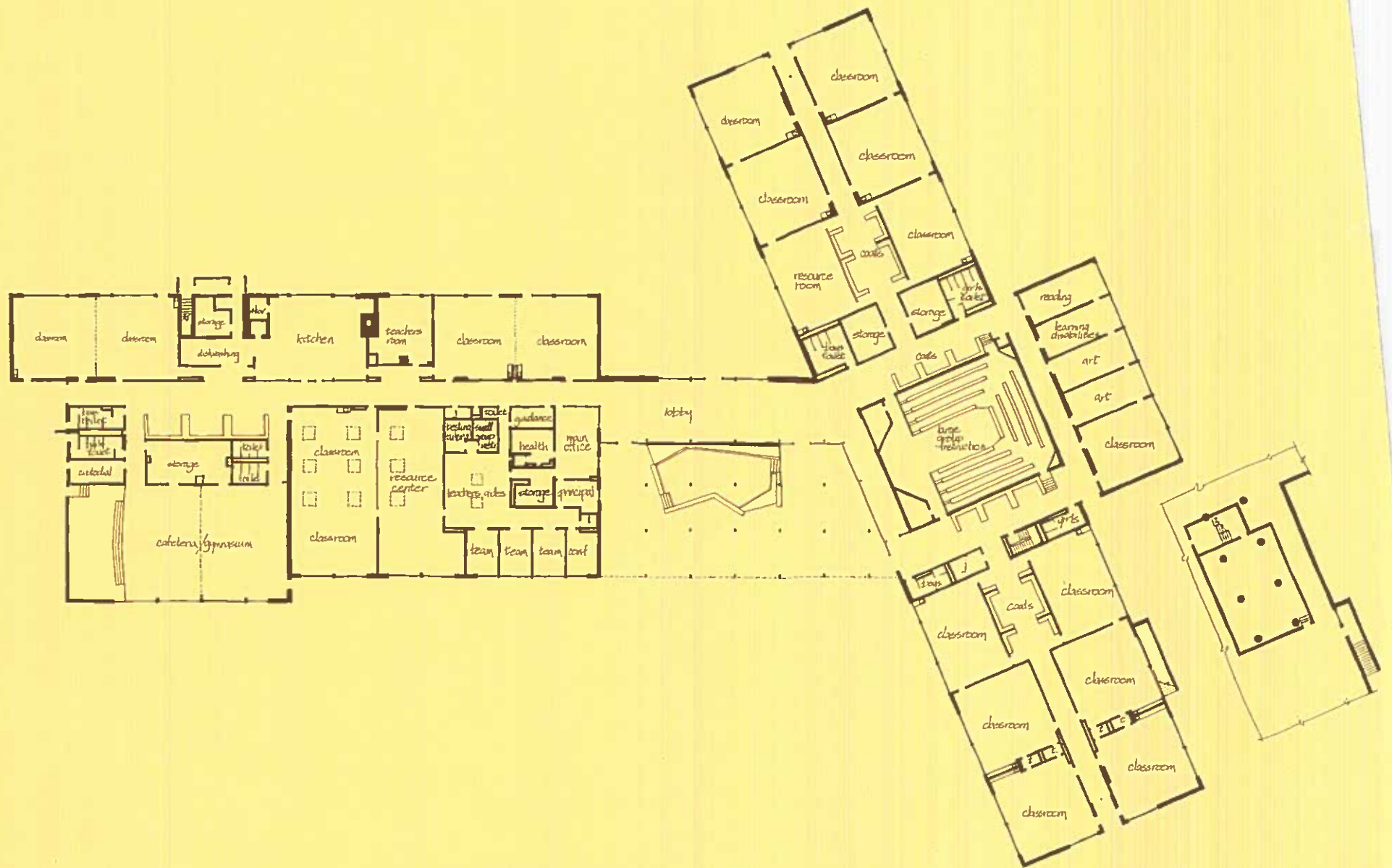
EXISTING BRIDGE SCHOOL

SCALE: 0 50



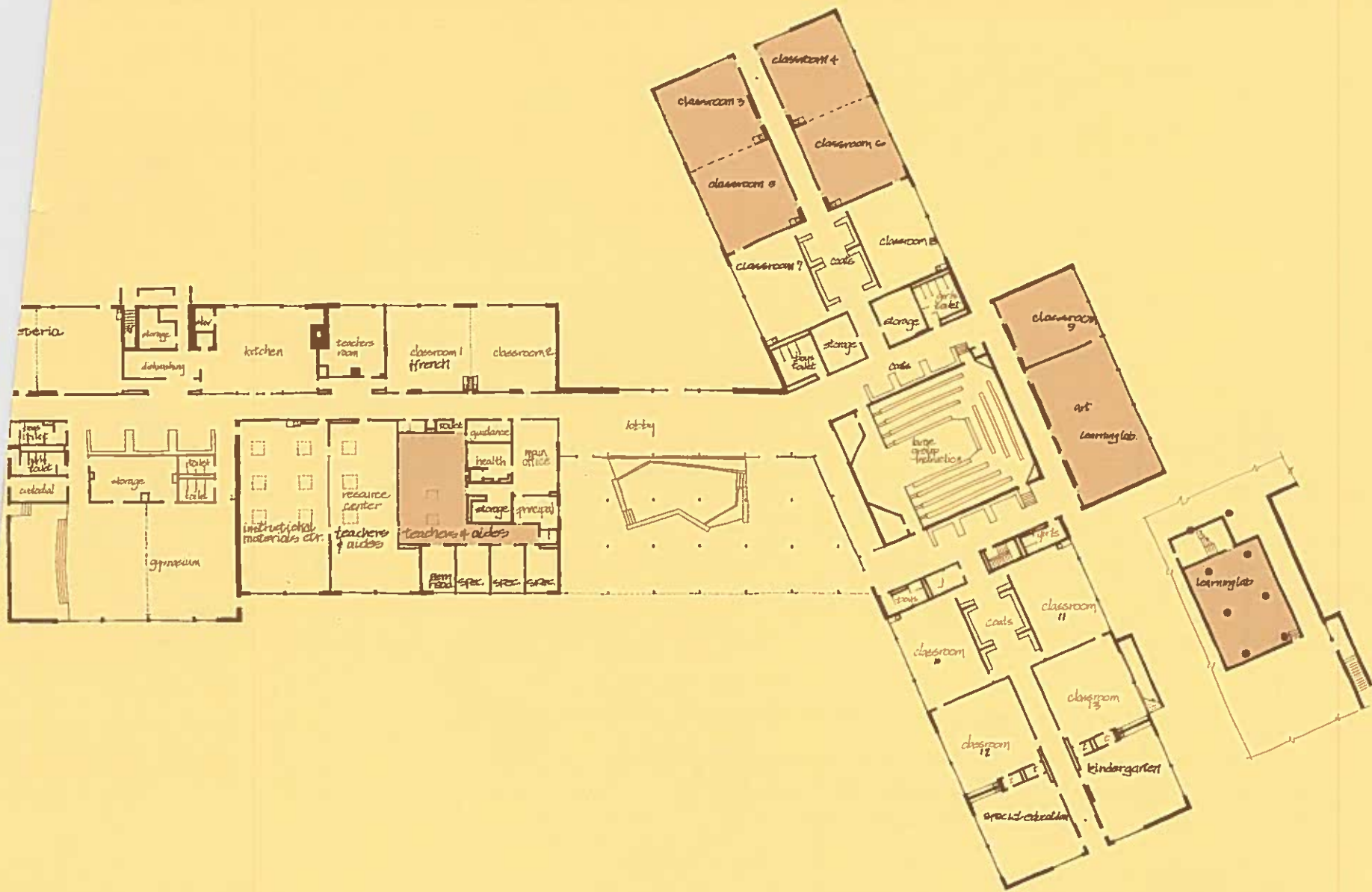

ALTERATIONS
 SCALE: 0  50

PROPOSED
BRIDGE & BOWMAN SCHOOLS
 ALTERATIONS COST (MEZZANINE): \$45,000

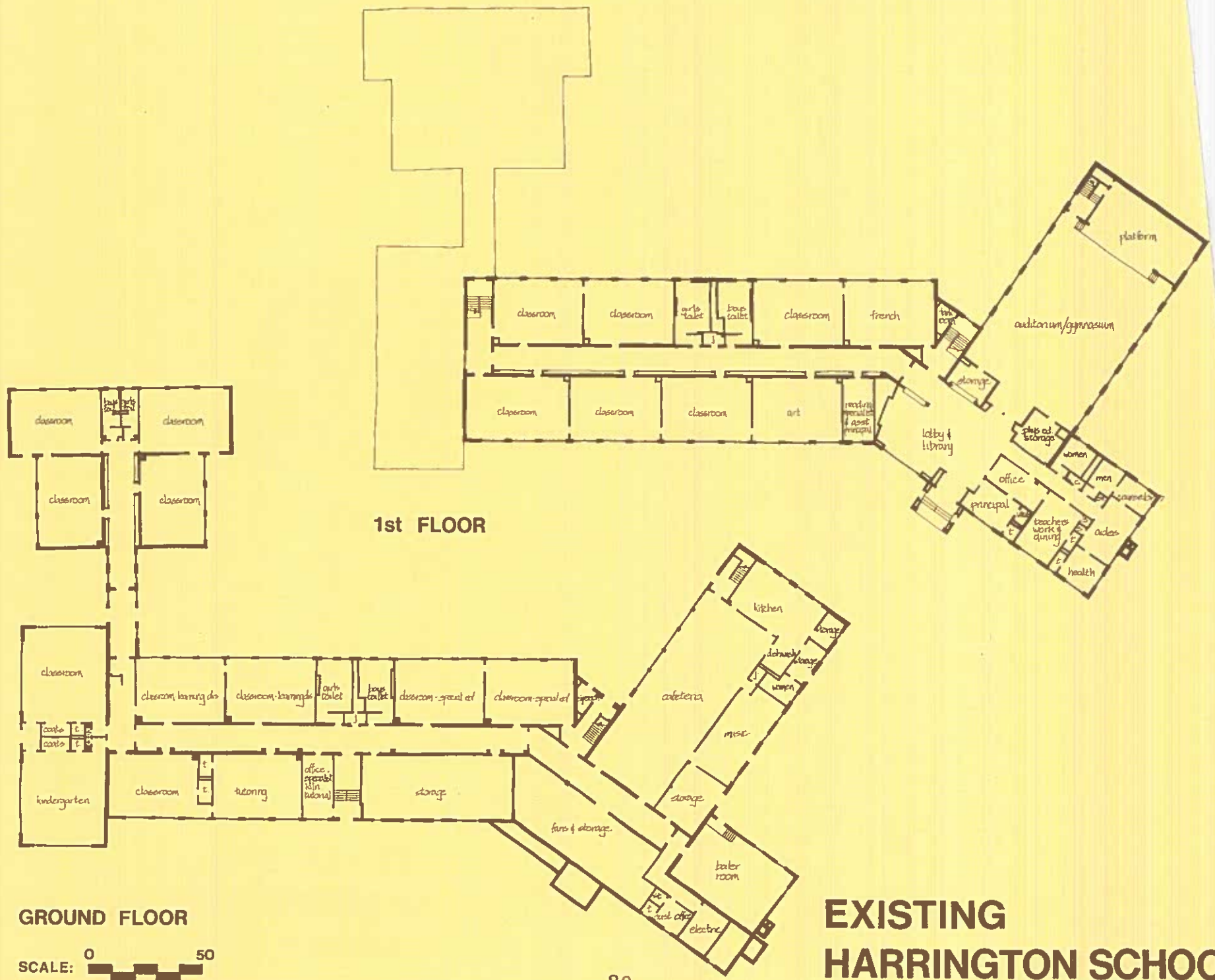


SCALE: 0 50

EXISTING ESTABROOK SCHOOL



**PROPOSED
ESTABROOK SCHOOL**
ALTERATIONS COST: 50,000

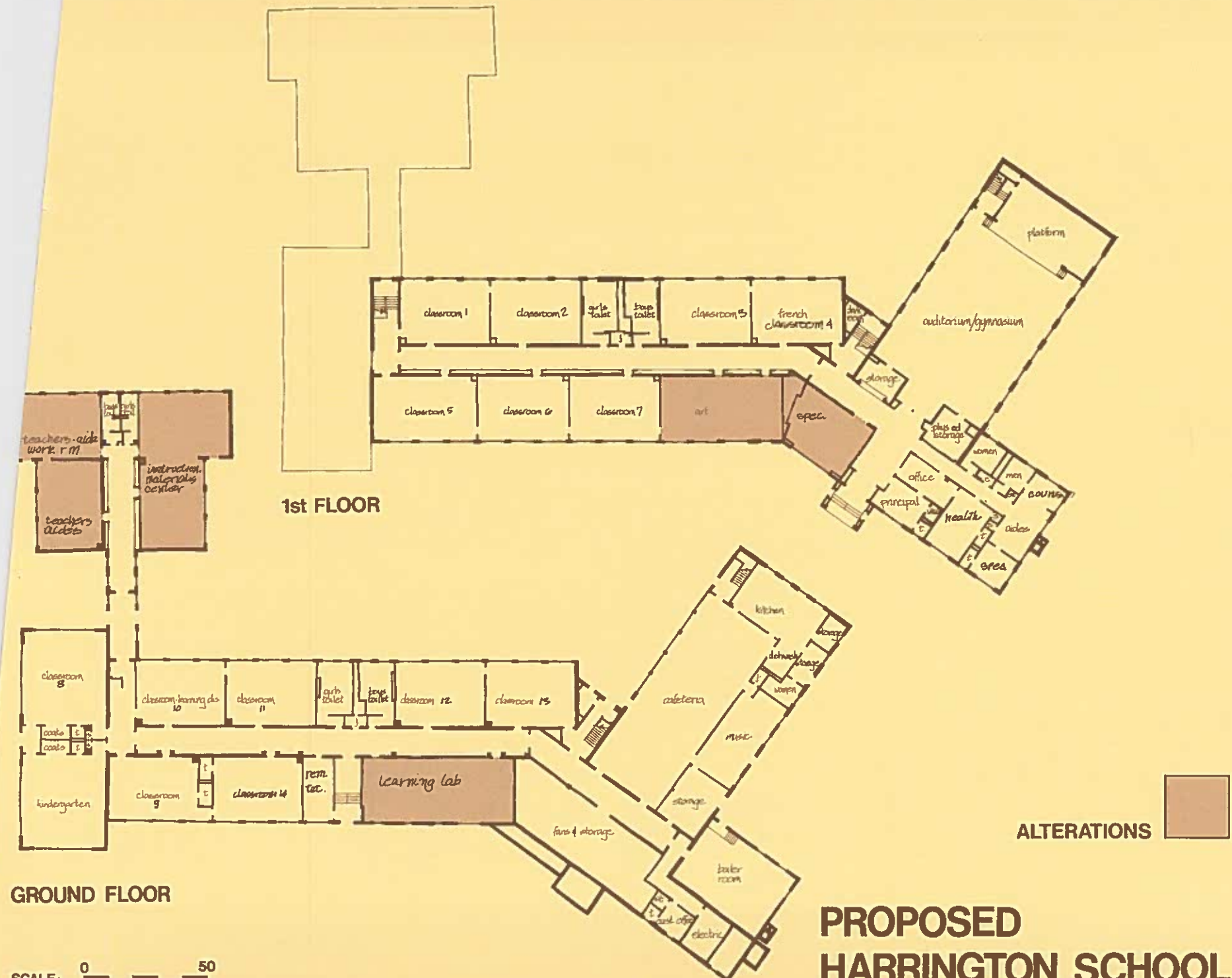


1st FLOOR

GROUND FLOOR

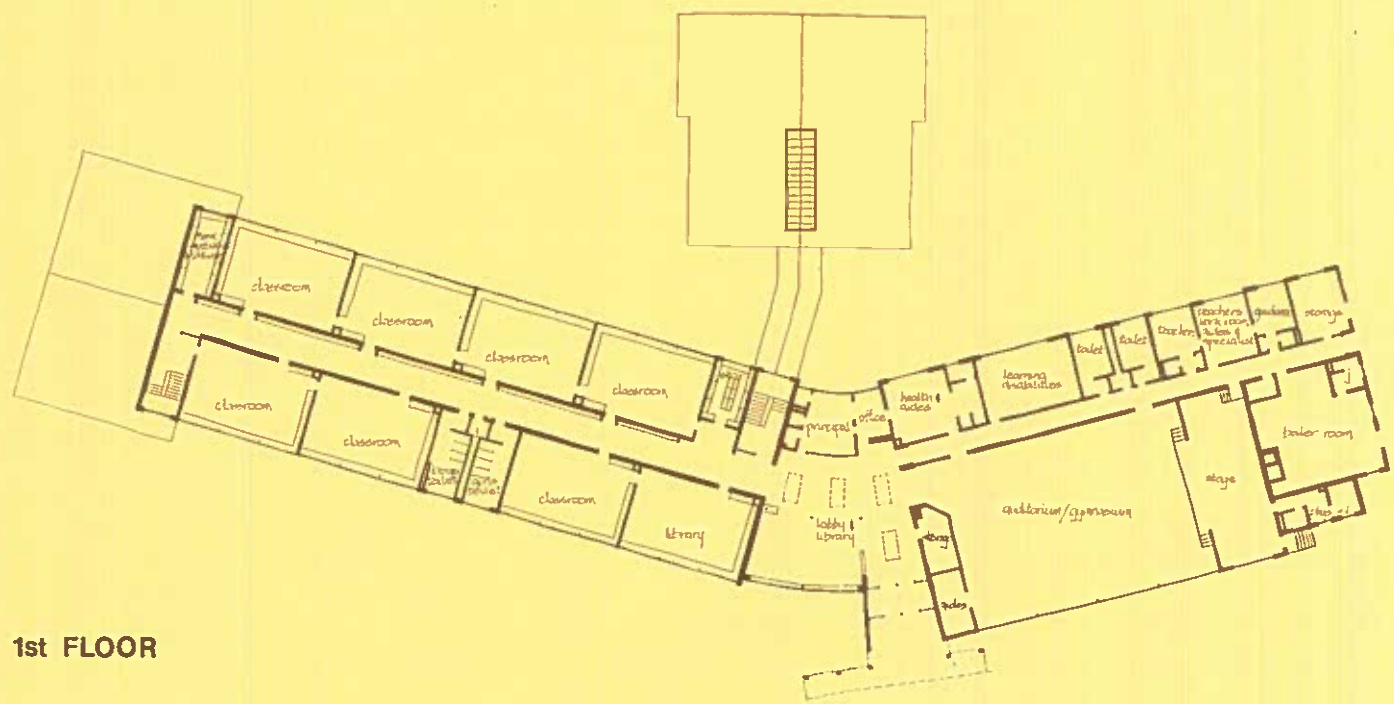


EXISTING HARRINGTON SCHOOL

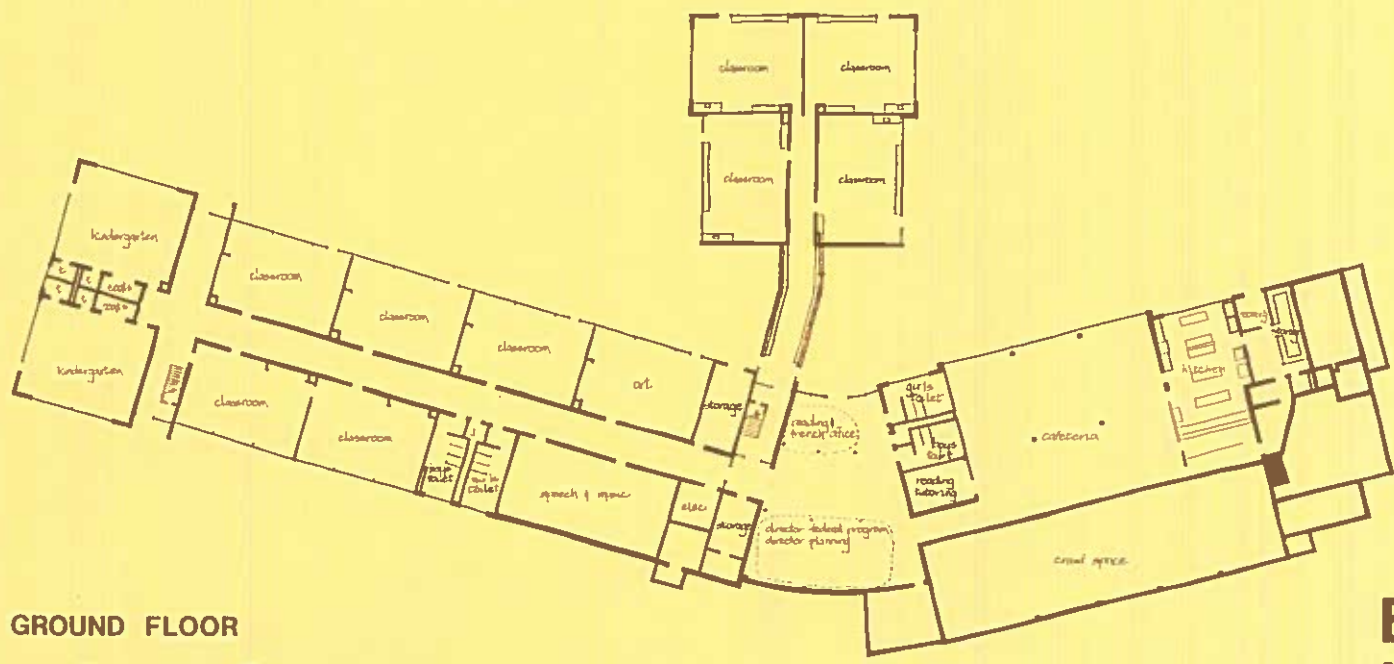


**PROPOSED
HARRINGTON SCHOOL
ALTERATIONS COST: \$55,000**

1st FLOOR

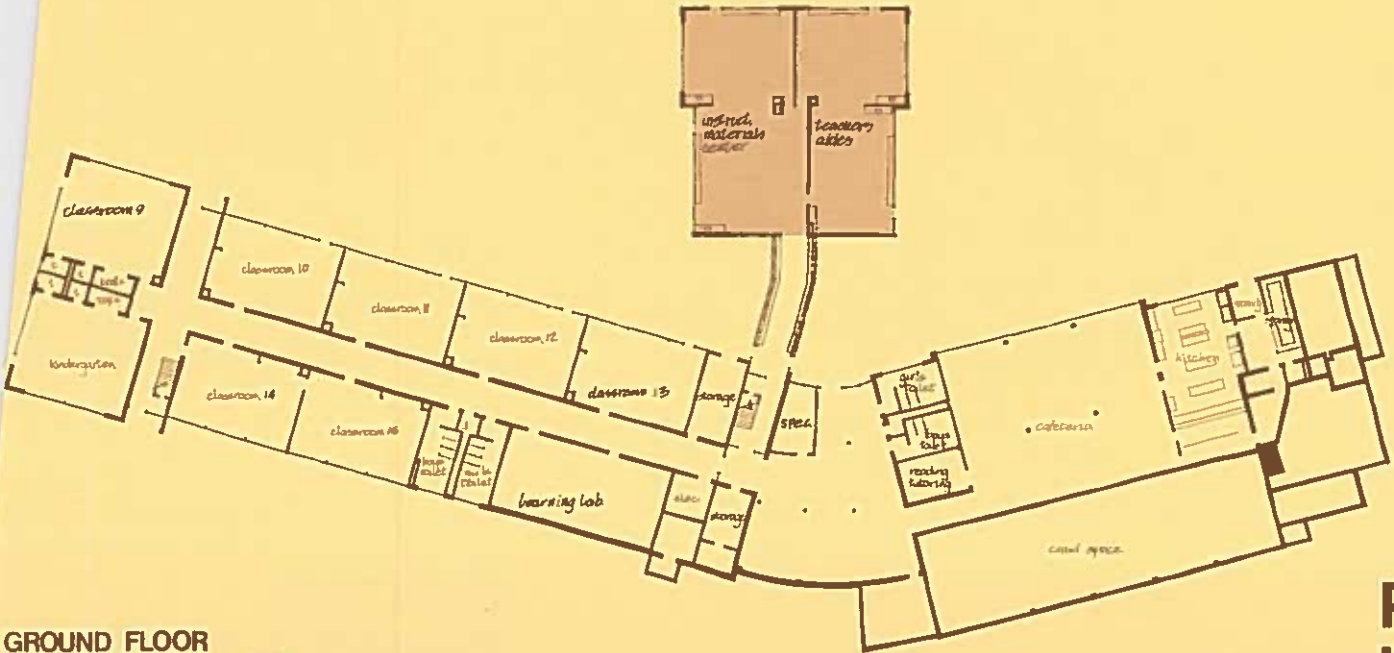


GROUND FLOOR



EXISTING HASTINGS SCHOOL

FLOOR

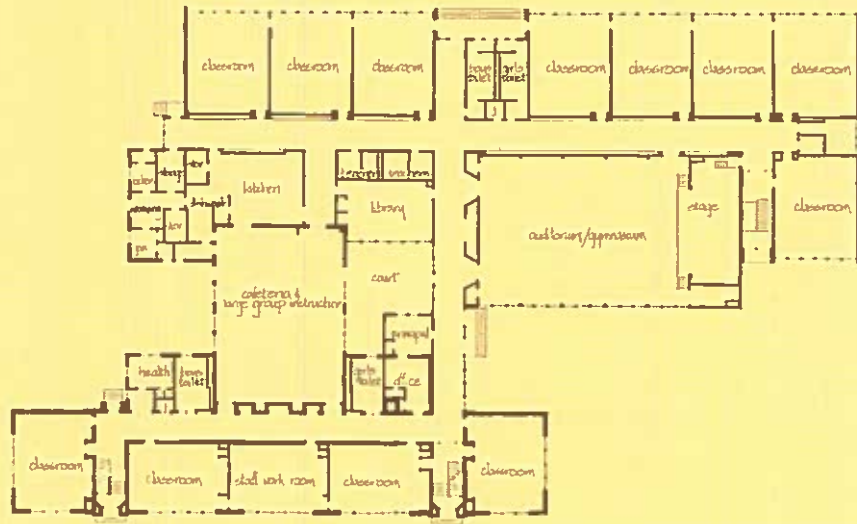


ALTERATIONS

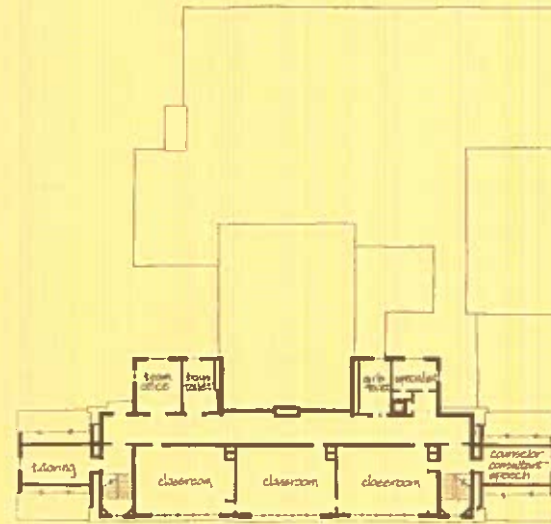


GROUND FLOOR
 SCALE: 0 50

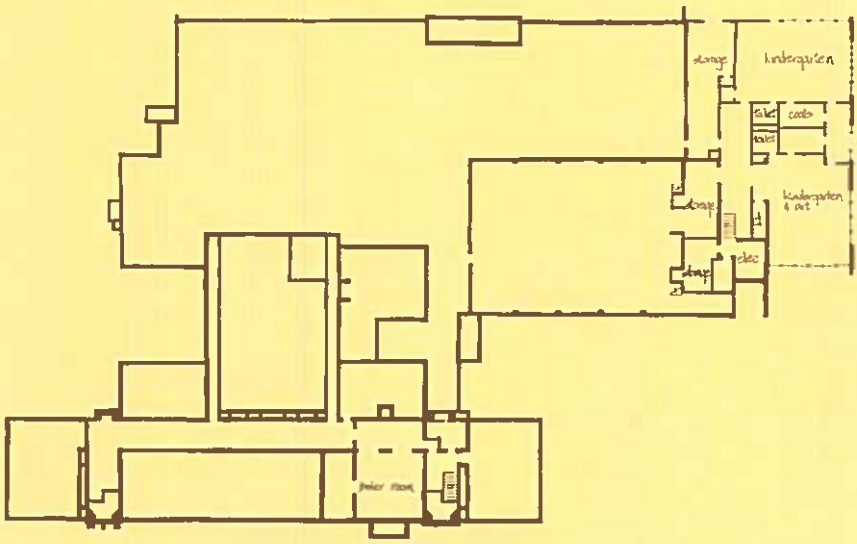
**PROPOSED
 HASTINGS SCHOOL**
 ALTERATIONS COST: \$55,000



1st FLOOR



2nd FLOOR



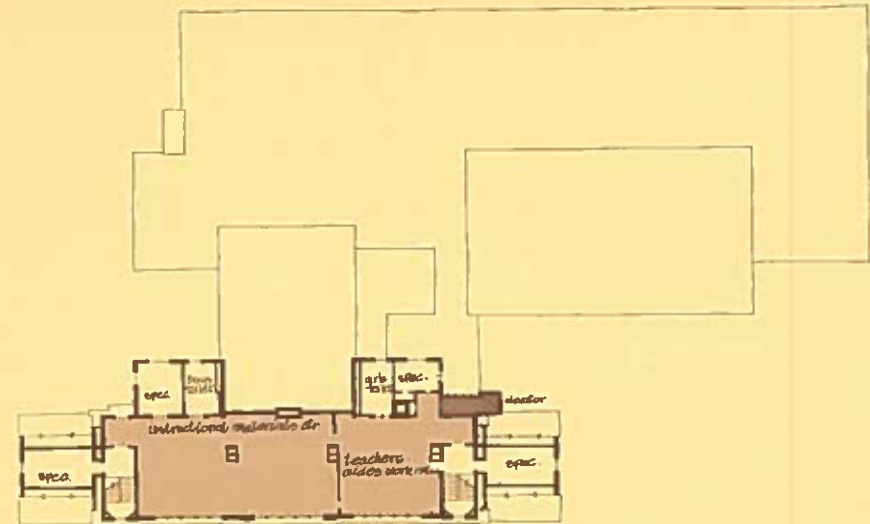
GROUND FLOOR



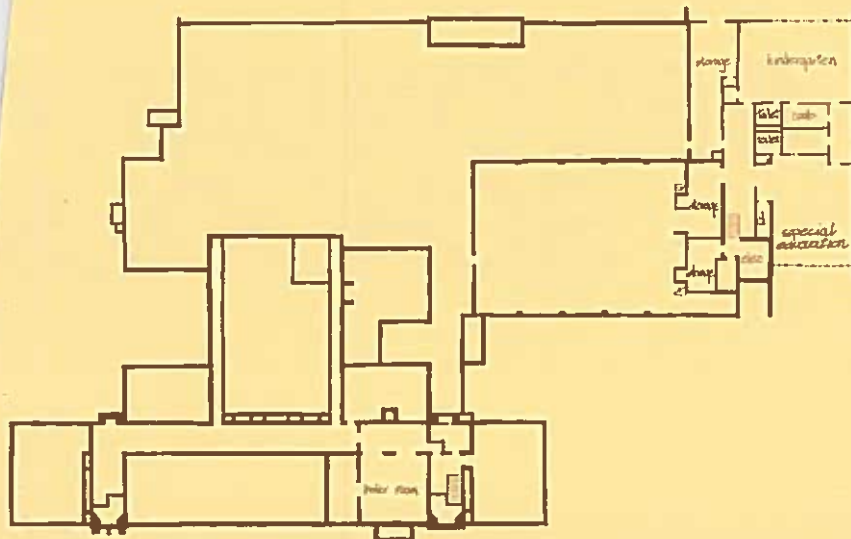
EXISTING FRANKLIN SCHOOL



1st FLOOR



2nd FLOOR



GROUND FLOOR

SCALE: 0 50

NEW CONSTRUCTION
 ALTERATIONS

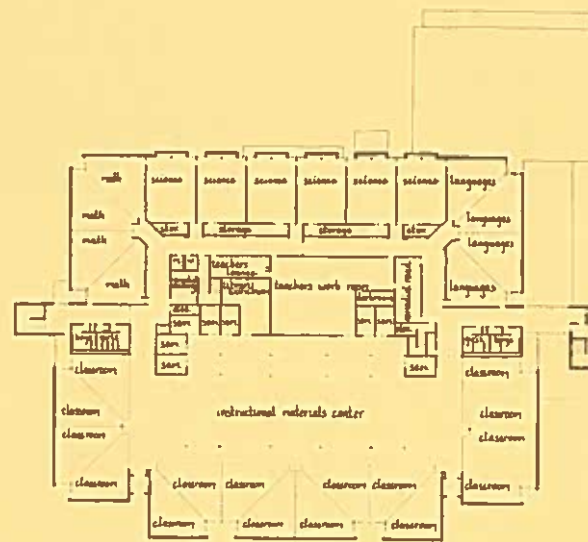
PROPOSED FRANKLIN SCHOOL

ALTERATIONS COST: \$200,000

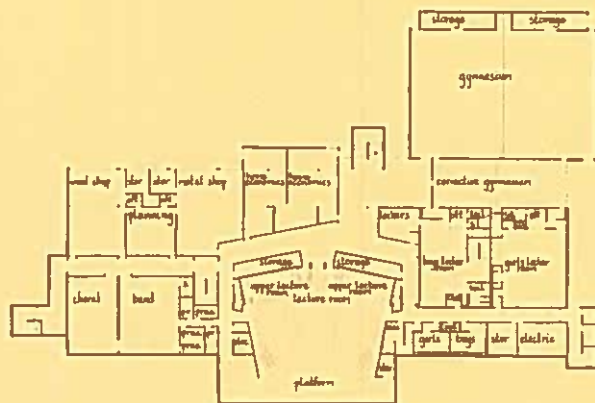
SECONDARY SCHOOLS



LEVEL 2



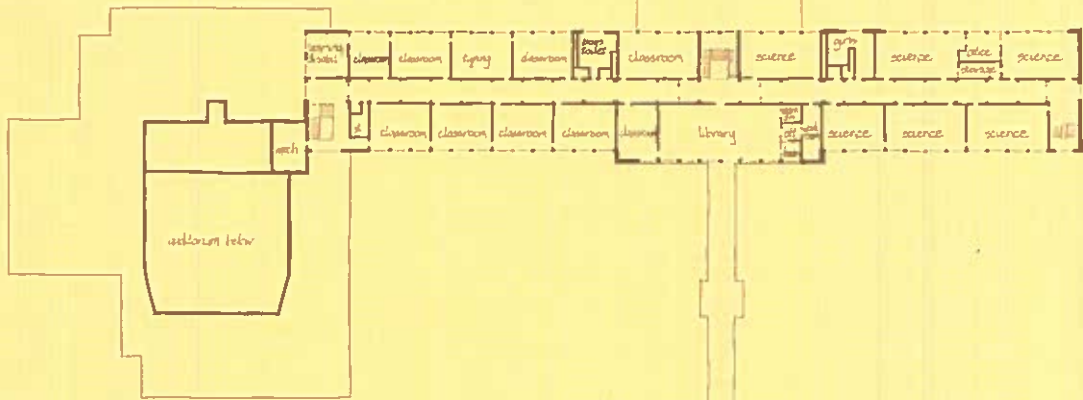
LEVEL 3



LEVEL 1

SCALE 0 50

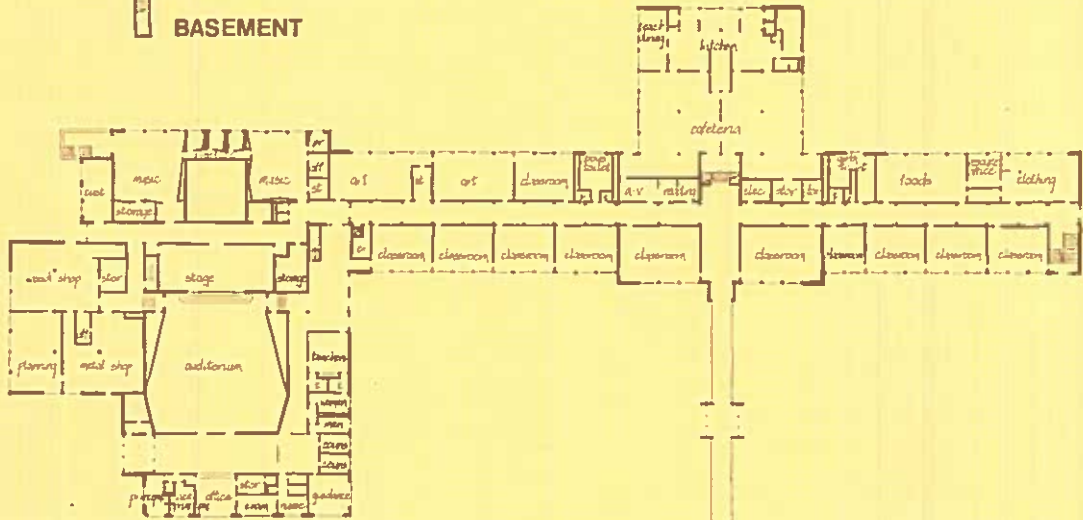
EXISTING CLARK JUNIOR HIGH SCHOOL



2nd FLOOR



BASEMENT



1st FLOOR

4th FLOOR

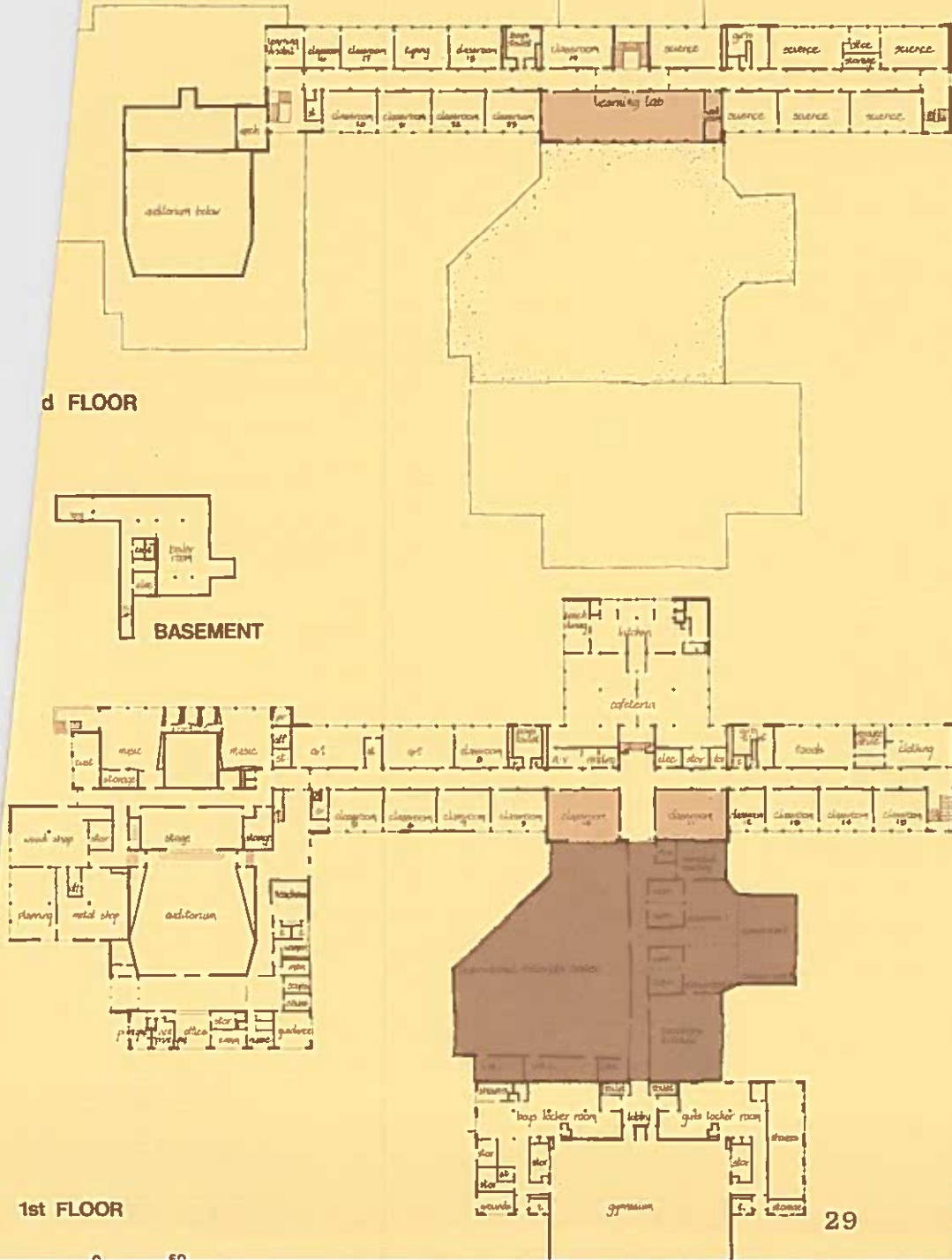
BASEMENT

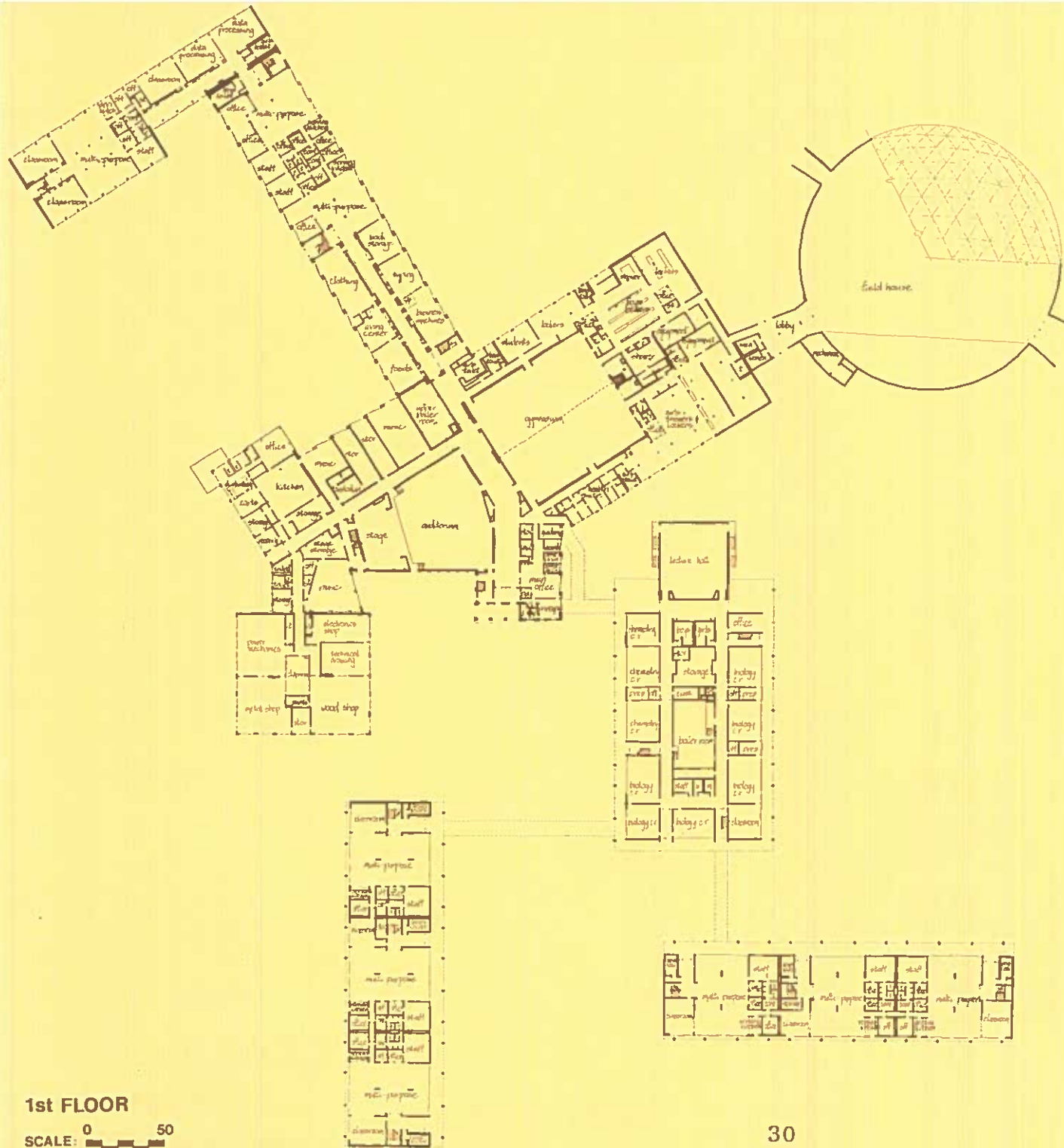
1st FLOOR

ALTERATIONS

NEW CONSTRUCTION

PROPOSED DIAMOND JUNIOR HIGH SCHOOL

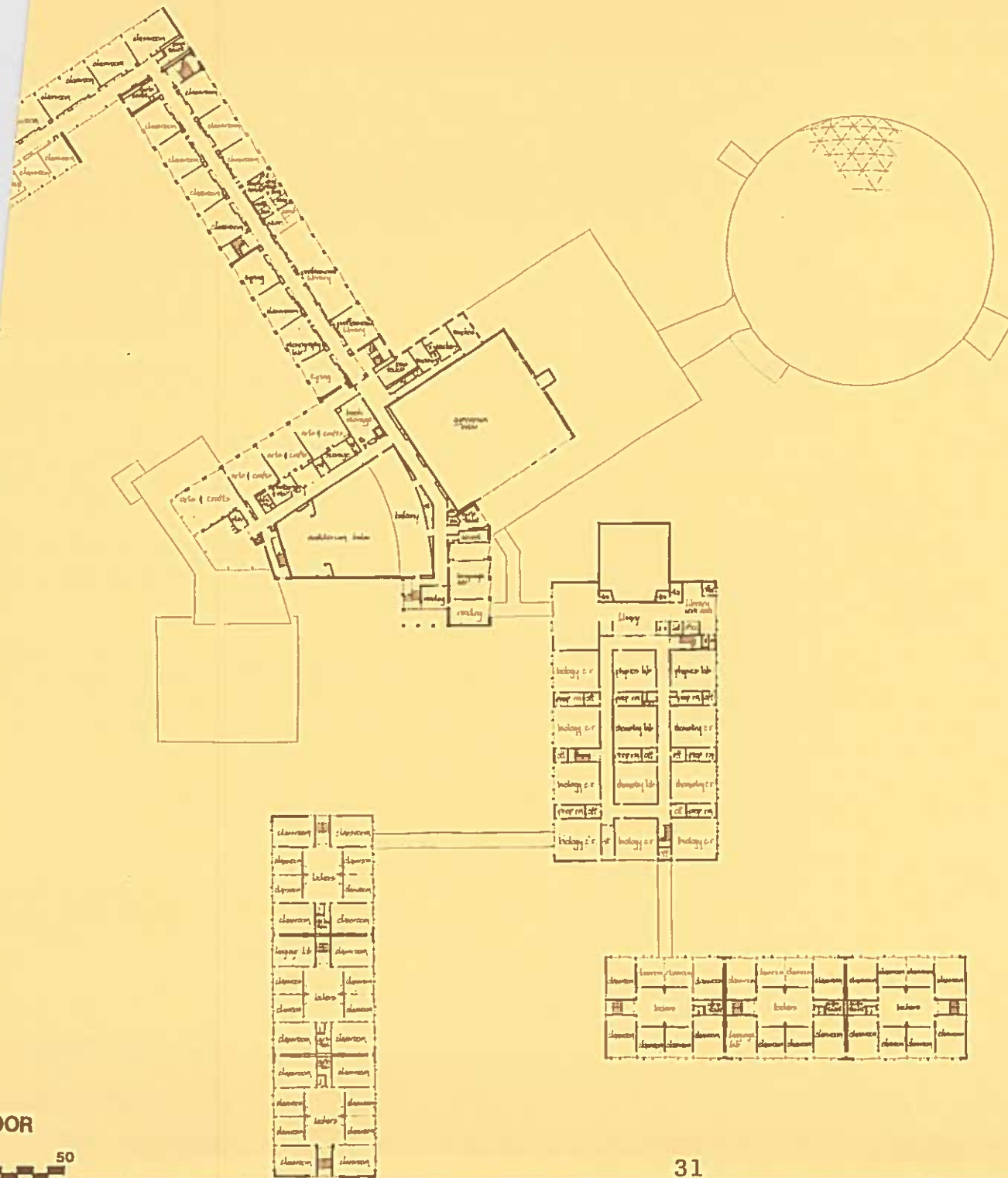




1st FLOOR

SCALE: 0 50

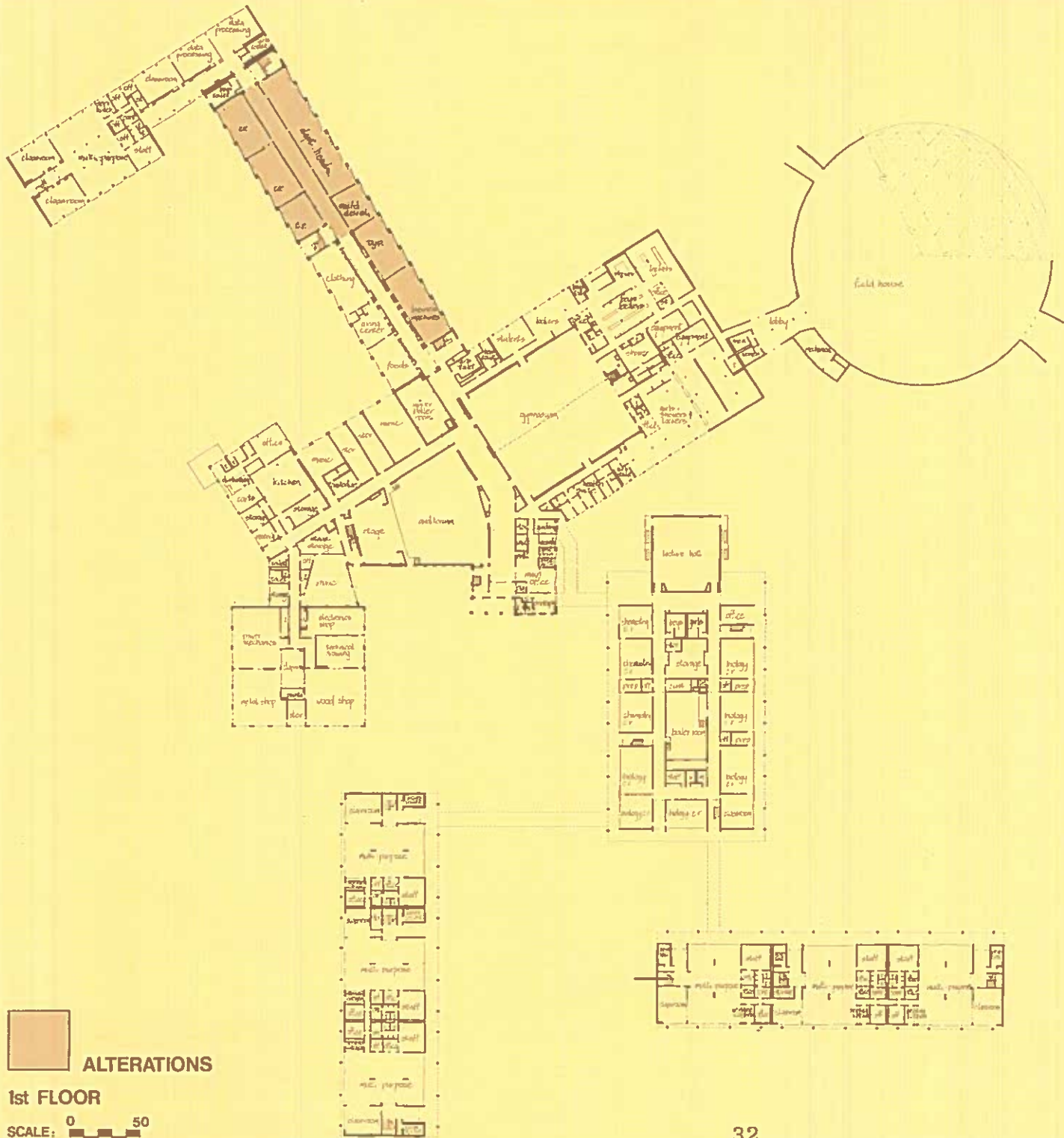
EXISTING LEXINGTON HIGH SCHOOL




2nd FLOOR

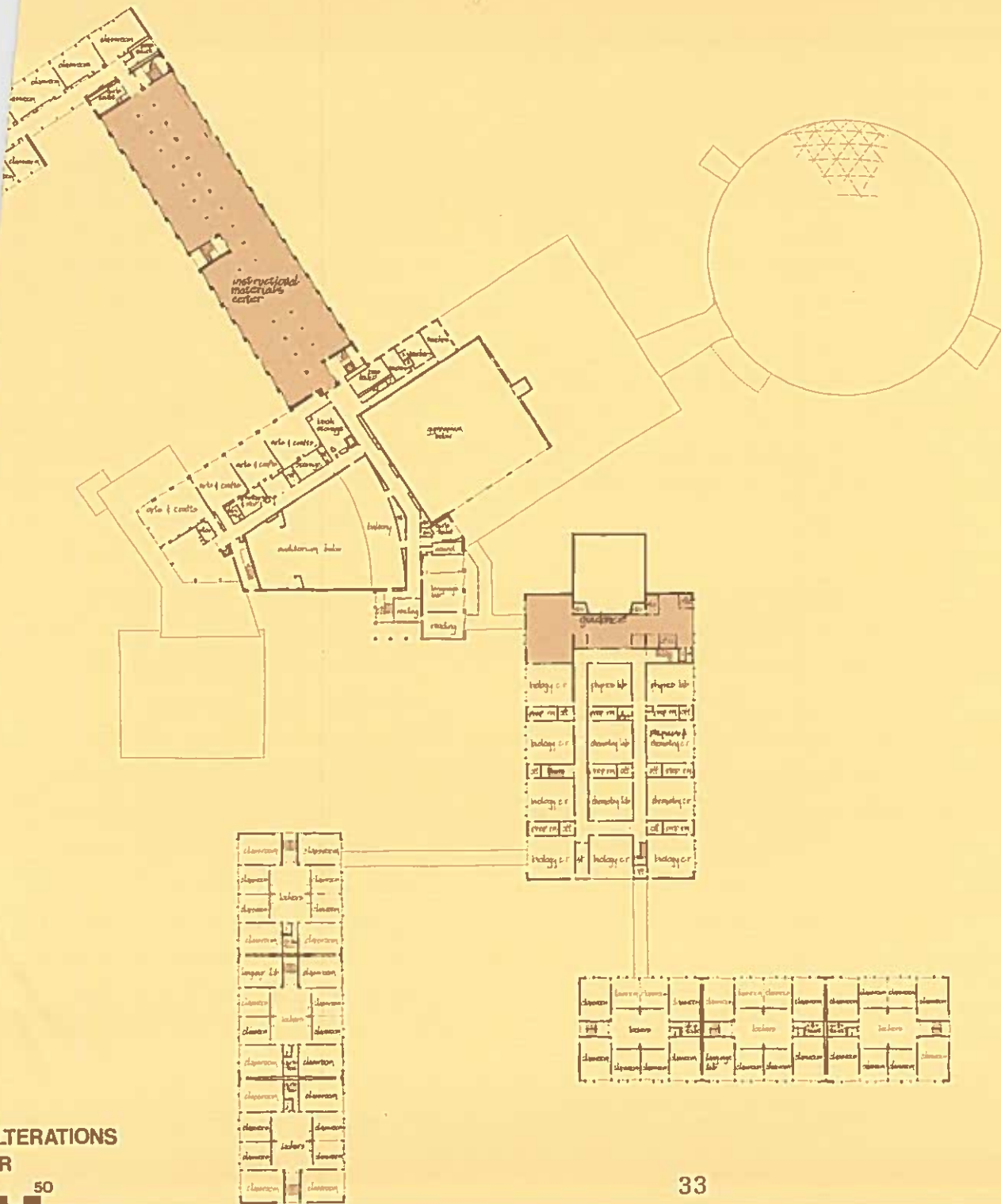
SCALE : 0 50

**EXISTING
LEXINGTON
HIGH SCHOOL**




ALTERATIONS
1st FLOOR
SCALE: 0 50

PROPOSED LEXINGTON HIGH SCHOOL



PROPOSED LEXINGTON HIGH SCHOOL

VII. ALTERNATIVES

Having surveyed the existing buildings and determined their new capacity with relation to the educational program, we reviewed a series of alternatives available for the Town's consideration.

One alternative with falling enrollments is to ignore the concept of providing equivalent spaces in each school. As different spaces become available, faculty and staff may make use of them as they wish. This results in different students being offered different opportunities, dependent upon where they live in the community. This may be economical or costly but not equitable.

A second alternative is to maintain the existing programs and facilities in certain schools, while adopting a plan for reassigning other schools as enrollments fall below an acceptable minimum number of students. This will minimize the physical plant costs but will not offer each child an equivalent program.

A third alternative is to maintain all of the existing schools in operation with alterations being made to insure equal opportunity. Then, after the pupil population decreases, portions of the buildings are closed. This is a more expensive course of action. It includes the initial cost of school plant facilities, and increases operational costs through the continuance and maintenance of unused spaces within the buildings.

A fourth alternative is to renovate and make additions to all schools and continue to fully utilize all spaces. This means with a declining school population that class sizes will effectively drop. This is the most expensive possible consideration as it maximizes both physical and operational costs. However, it should be reviewed with respect to the educational advantages it may provide.

A fifth alternative is to complete the additions and alterations to those buildings necessary to provide only

the required educational spaces based upon projected enrollment. Unused buildings are reassigned for other purposes. This minimizes the cost of physical facilities, yet giving equity to all children regardless of where they live in the community.

At the same time, it reduces operating costs as the pupil population is reduced. Classes are maintained at their present size. Buildings are temporarily diverted from school use and turned over to other uses as the Town may elect. Should they not be required for Town functions, the option for either leasing or selling these buildings is available. Should the declining trend change and once again, Lexington be faced with an increasing school population, the leasing alternative of un-needed buildings at this time would provide flexibility in reclaiming these structures for school use in the future. This alternative is the most economical solution while providing equal facilities for each child.

VIII. RECOMMENDATIONS

After reviewing the alternatives in our survey with respect to our initial charge, we have developed a recommended path for the Town of Lexington to follow. We believe that this will offer the flexibility necessary to accommodate possible future changes as well as the present population trend. However, we stress the need of continuing process of programming/ planning/implementing/ evaluating. We believe that every child in Lexington should be offered an equal program, which is not restricted by where the child may live. Therefore, we recommend that the Town implement a selected program of additions and alterations to their present schools. At the same time, assuming the continuance of a falling school population, we recommend a plan of reassigning certain existing school buildings to either other school needs, community needs or private needs. We do not recommend their demolition. These reassignments, coupled with a program of alteration and addition, carefully monitored with

respect to changes in school population would result in a minimum of redistricting. A program to accomplish this, also attached in chart form, is as follows:

HIGH SCHOOLS:

The present high school capacity of 2,065 is projected to drop to 1,548 by 1980. By 1979, the enrollment will be low enough (projected 1,683) to permit internal renovations while the school is in operation. During the years 1977-1978, a selected group of 9th graders could utilize the building to better facilitate renovations at the Diamond Jr. High School, avoiding overcrowding in both Clarke and Muzzey.

JUNIOR HIGH SCHOOLS:

In 1977, the total junior high population is projected at 1,828. These students could be accommodated in Clarke and Muzzey, permitting alterations and additions to the Diamond Junior High. These changes would provide equal facilities at Clarke and Diamond. In 1978 with the reopening of Diamond, the work having been completed, Muzzey would

no longer be required to satisfy the junior high school demands. Starting in September 1978, Muzzey would be available for use by elementary grades during renovations in the various elementary schools. On the completion of this renovation work, by 1980 Muzzey could be reassigned for other purposes.

ELEMENTARY SCHOOLS:

The present elementary school population of 3,880 is projected to drop to 2,450 by September 1980. This decreasing enrollment will permit the reassignment of one elementary school per year, commencing in September 1976 and still insure enough elementary space to provide equal additional opportunities through interior renovation in the remaining elementary schools. Some of the alteration work, such as in the Harrington and Hastings Schools is minor enough to permit it to be completed during the summer recess. Other work such as in Estabrook, Fiske and Franklin would require the building being closed for one-half year plus the summer recess. We believe that Muzzey should be the

facility utilized during these periods of closing. By utilizing Muzzey for this purpose, the children and staff of the elementary school could be retained as a unit, avoiding the reassignment of children to other elementary schools and then back to their own.

By utilizing an extended period of time during which individual buildings would be reassigned for other purposes, we have provided the opportunity for the continual updating of pupil population estimates. Should the projected trends change, this program could be accelerated or decelerated. Under the present projections, any delay in following these recommendations would result in a lesser utilization of the existing buildings.

The costs of alterations and additions would also be programmed over the years of 1977, 1978 and 1979. We believe that the Adams, Hancock, Munroe, Muzzey and Parker Schools would be the first to be reassigned. The cost of the additions and alterations in each of

the buildings is given with their attached plans. These plans show basic recommendations for each building. These recommendations should be reviewed prior to implementing each project. They are given here only as guidelines. We feel that the costs are realistic as they relate to the magnitude of work to be done in each building. The total for those buildings which we would recommend to proceed based upon the 1980 pupil projections is approximately \$2,500,000.00.

Our attention has also been directed to a request for additional physical educational facilities at the high school. These would provide for both indoor swimming and hockey activities which are now not included in the school system. We estimate their costs to be \$2,600,000.00. As these facilities are not required by the falling enrollment, the decision to implement them, we believe, is separate from this report.

The renovations and additions which we investigated for those schools,

which we believe can be reassigned for other purposes are appended to this report. Their costs are not included in the total cost given above. They are listed here so that others may evaluate the continuance of these buildings in their present use.

Operational savings have not been addressed by this report. Those must be provided by Dr. Fobert and his staff.

Each year the enrollment projects upon which this study has been based can be updated through actual counts in school population. It is intended by implementing these recommendations through the continuing process of programming/planning/implementing/evaluating, the Town of Lexington will be able to proceed with confidence in equalizing the educational opportunities offered each of its children while maximizing the value received from the annual educational budget.

RECOMMENDED DEVELOPMENT PATH

SCHOOL	CAPACITY	YEARLY POPULATION							RENOV. YEAR
		1974	1975	1976	1977	1978	1979	1980	
<u>H.S.</u> (10-12)	2100	2163	2065	1888	1812 (300)	1751	1683	1548	(1979)
<u>JR. HIGH</u> (7-9)									
Clark	900	774	765	740	915	852	814	772	
Diamond	900	839	733	703		851 <u>1703</u>	814 <u>1628</u>	772 <u>1544</u>	(1977)
Muzzey	600	<u>491</u> 2104	<u>545</u> 2043	<u>528</u> 1971	<u>613</u> 1828	370/360	300/R**	R**	
<u>ELEMENTARY</u> (K-6)									
Bridge	577	508	481	475	471	471	471	500	
Bowman	577	518	520	510	495	500	500	500	
Estabrook	377	439	406	390	370	(370)	370	353	(1978)
Harrington	390	366	342	325	322*	355	355	364	(1977)
Hastings	415	417	402	385	345*	340	340	389	(1977)
Fiske	365	434	416	400	370	(360)	344	344	(1978)
Franklin	<u>315</u> 3016	386	350	340	330	325	(300)	(R**)	
Parker		284	280	270	255	250	R**	R**	
Munroe		190	167	165	R**	R**	R**	R**	
Adams		379	322	318	305	R**	R**	R**	
Hancock		<u>209</u> 4130	<u>194</u> 3880	<u>R**</u> 3578	<u>R**</u> 3263	<u>R**</u> 2971	<u>R**</u> 2680	<u>R**</u> 2450	

* Summer Renovation

** Reassigned

APPENDIX
REPORT
OF THE
ENROLLMENT PROJECTION SUB-COMMITTEE
OF THE
SCHOOL BUILDING SURVEY PROJECT

MARCH 1974

Committee Members:

Eric Clarke

John Deutch

Jack Monderer, Chairman

I. Projected Enrollment

This report presents Lexington school enrollment projections compiled by the Enrollment Projection Sub-Committee of the 1973-74 Lexington School Facilities Study. The sub-committee has met frequently over the past five months and critically examined the present technique for projecting school enrollments and the uncertainty that may be anticipated from this technique based on the past history of projected and actual enrollment. The sub-committee is in agreement that the conventional cohort survival method (with five-year averaging for survival ratios) provides a sensible basis for projecting expected system-wide enrollment by grade.

The result of this projection for the Lexington system is summarized in Table I which presents projected enrollment by grades in the same format that has been employed in prior years. The table clearly illustrates that Lexington will see declining school enrollments at least for the next several years. The data in Table I differs insignificantly in the K-6 grades from the data presented in the October, 1973 estimate.

The table presents complete K-6 enrollment projections for the next four years, 1974-1977; partial K-6 enrollment in the higher grades for additional years 1978 to 1983; and complete enrollment 7-12 projections for the next ten years 1974-1983. An important time horizon is determined by the principle adopted by the sub-committee that projections it presented should be accompanied, whenever possible, by quantitative estimates, based on past experience, of error bounds on the projections. Accordingly, if past data is not available to form an estimate of error, the projection should be regarded as of uncertain quality. The projections which are supported by historical data on their likely accuracy are limited to six years into the future. Furthermore, the K-6 enrollment projections beyond four years are further compromised by an absence of knowledge about future birth rates. The high quality projections that are accompanied by quantitative error estimates lie in the region on the table above the dashed line.

II. System-Wide Projections by Grade Groupings (1-6) (7-9) (10-12) with Error Bounds

A major contribution of the sub-committee is the analysis of past data to determine quantitative estimates of the error bounds on future projections. Emphasis was placed on this error analysis since it was felt that the value of a projection is considerably enhanced when it is accompanied by a quantitative estimate of its likely accuracy. Two important features of the sub-committee's analysis are: 1) the error analysis may be updated in the future as needed; 2) a data and a procedure are presented which permit one to determine the likelihood that a future enrollment in a grade will differ from the projected enrollment by a specified amount ($\pm N$). Thus the consequences of alternative error bounds may be assessed.

The following three graphs present projected enrollments for grades 1-6, 7-9, and 10-12 respectively. Included on each graph are "error bounds" that illustrate the possible range of error in the predictions. The specific bands exhibited on these graphs indicate the 90% intervals - that is, the chances are 9 out of 10 that enrollments in the future will fall inside the indicated interval. Note that the graph for grades 7-9 and 10-12 has a broadening error interval, while the grades 1-6 has a constant error interval. This simply reflects

Lexington Public Schools
Lexington, Massachusetts

3/74 corrections made on basis of 1974
census and survival ratios for ages 0-5
adjusted to apply to prediction year.
New K figures led to gr. 1-6 adj.

TABLE I

ENROLLMENT BY GRADES *

Year	K	1	2	3	4	5	6	Total 1-6	7	8	9	10	11	12	Total	
															7-12	1-12
1960		631	641	661	576	540	563	3612	567	541	512	374	361	313	2668	6280
1961		670	658	650	662	576	521	3737	568	568	524	492	366	354	2872	6611
1962		722	686	684	656	670	591	4009	532	562	556	527	474	345	2996	7005
1963		737	746	694	686	674	678	4215	607	538	544	533	516	467	3205	7420
1964		768	742	766	679	700	676	4331	695	608	548	544	524	522	3441	7772
1965		717	781	783	775	713	719	4488	680	692	599	552	537	519	3579	8067
1966		700	728	794	774	771	713	4480	724	699	704	586	548	523	3784	8264
1967	652	685	709	753	792	794	765	4498	711	736	704	683	569	557	3960	8458
1968	625	715	730	760	794	806	824	4629	782	715	746	715	666	577	4201	8830
1969	595	700	756	746	774	817	836	4629	812	788	721	723	695	646	4385	9014
1970	567	644	701	767	740	762	812	4426	796	803	775	705	709	678	4466	8892
1971	512	614	650	721	763	733	782	4263	769	787	776	757	670	720	4479	8742
1972	517	586	616	642	721	755	744	4064	755	757	789	767	760	672	4500	8564
1973	462	593	605	612	657	712	741	3920	726	732	725	771	736	728	4418	8338
1974	437	503	600	611	614	653	720	3701	716	718	643#	709	751	724	4261	7962
1975	439	475	510	606	613	610	661	3475	696	708	629#	629	691	739	4092	7567
1976	345	478	481	515	608	609	617	3308	639	688	619#	615	613	680	3854	7162
1977	280	375	484	486	517	604	616	3082	597	632	600#	605	599	604	3637	6719
1978		305	380	489	487	513	611	2785	595	590	545#	587	590	590	3497	6282
1979			309	384	490	484	519		591	588	504#	533	572	581	3369	
1980				312	385	487	490		501	584	502#	493	520	563	3163	
1981					313	382	493		473	495	498#	491	481	512	2956	
1982						311	387		476	467	410#	487	479	474	2830	
1983							315		374	470	353#	400	473	472	2610	

Actual

Projected

*METCO pupils were removed to calculate new projection ratios. They were added back as constants for this and following years as if just the same numbers as currently enrolled would be progressing through the grades.

#Assumes 75 students each year from 9th grade to MMRVHS beginning September, 1974.

Lexington Public Schools
Lexington, Massachusetts

October, 1973

TABLE I
ENROLLMENT BY GRADE GROUPINGS* #

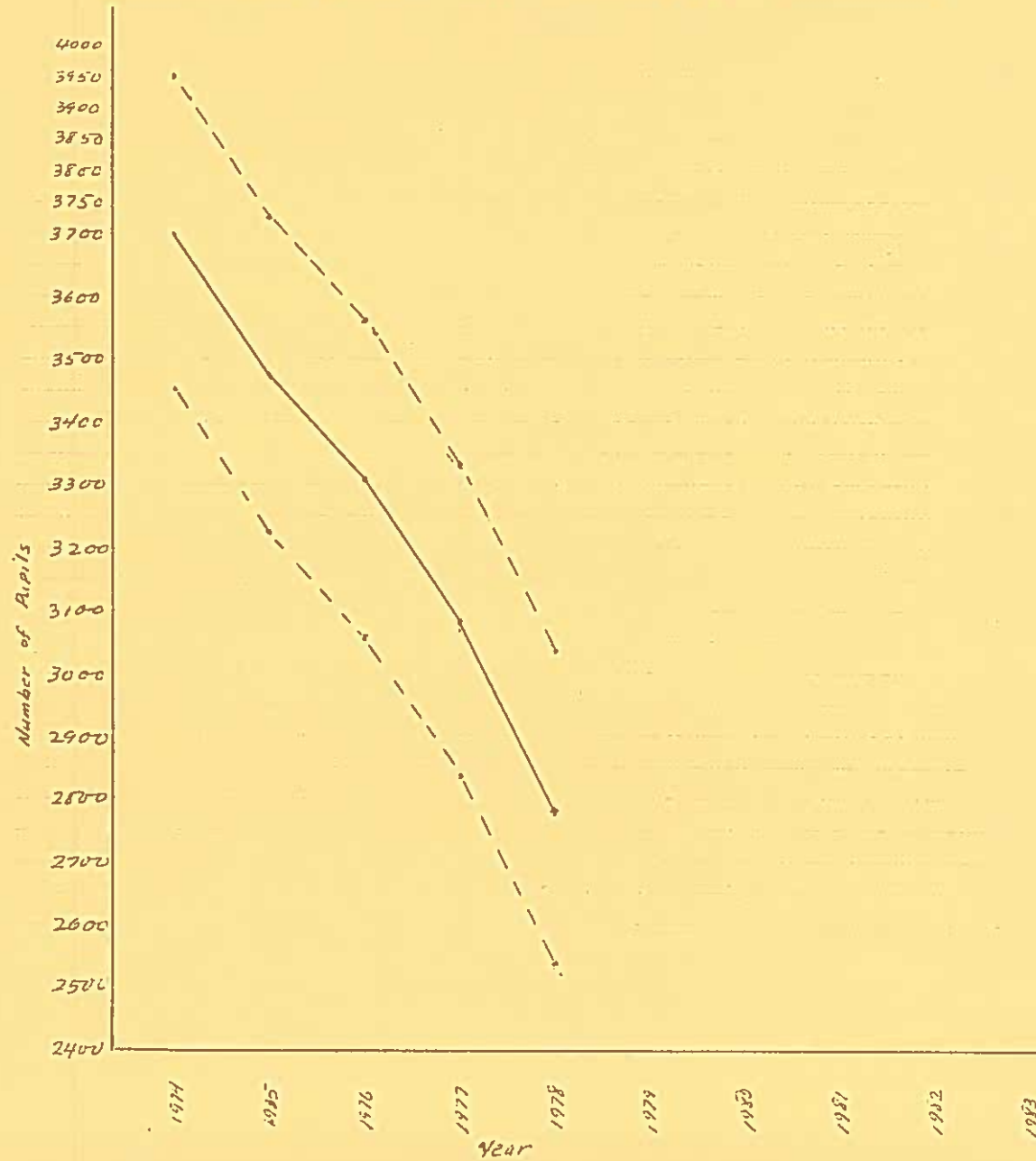
Year	K-12	1-12	K-6	1-6	7-8	7-8-9	7-12	9-10	9-12	10-11-12	11-12
1960		6280		3612	1108	1620	2668	886	1560	1048	674
1961		6611		3737	1136	1600	2872	1016	1736	1212	720
1962		7005		4009	1094	1650	2998	1083	1902	1346	819
1963		7420		4215	1145	1689	3285	1077	2060	1516	983
1964		7772		4331	1303	1851	3441	1092	2138	1590	1046
1965		8067		4488	1372	1971	3579	1151	2207	1608	1056
1966		8264		4480	1423	2127	3784	1290	2361	1657	1071
1967	9110	8458	5150	4498	1447	2151	3968	1387	2513	1809	1126
1968	9455	8830	5254	4629	1497	2243	4201	1461	2704	1958	1243
1969	9609	9014	5224	4629	1600	2321	4385	1444	2785	2064	1341
1970	9459	8892	4993	4426	1599	2374	4466	1480	2867	2092	1387
1971	9254	8742	4775	4263	1556	2332	4479	1533	2923	2147	1390
1972	9081	8564	4581	4064	1512	2301	4500	1556	2988	2199	1432
1973	8800	8338	4382	3920	1458	2183	4418	1496	2960	2235	1464
1974	8399	7962	4138	3701	1434	2077	4261	1352	2827	2184	1475
1975	8006	7567	3914	3475	1404	2033	4092	1258	2688	2059	1430
1976	7507	7162	3653	3308	1327	1946	3854	1234	2527	1908	1293
1977	6999	6719	3362	3082	1229	1829	3637	1205	2408	1808	1203
1978		6282		2785	1185	1730	3497	1132	2312	1767	1180
1979					1179	1683	3369	1037	2190	1686	1153
1980					1085	1587	3163	995	2078	1576	1083
1981					968	1466	2950	989	1982	1484	993
1982					943	1353	2793	897	1850	1440	953
1983					844	1236	2583	789	1736	1347	947

*METCO pupils were removed to calculate new projection ratios. They were added back as constants for this and following years as if just the same numbers as currently enrolled would be progressing through the grades.

#Assumes 75 students each year from 9th grade to MMRVTHS beginning September, 1974.

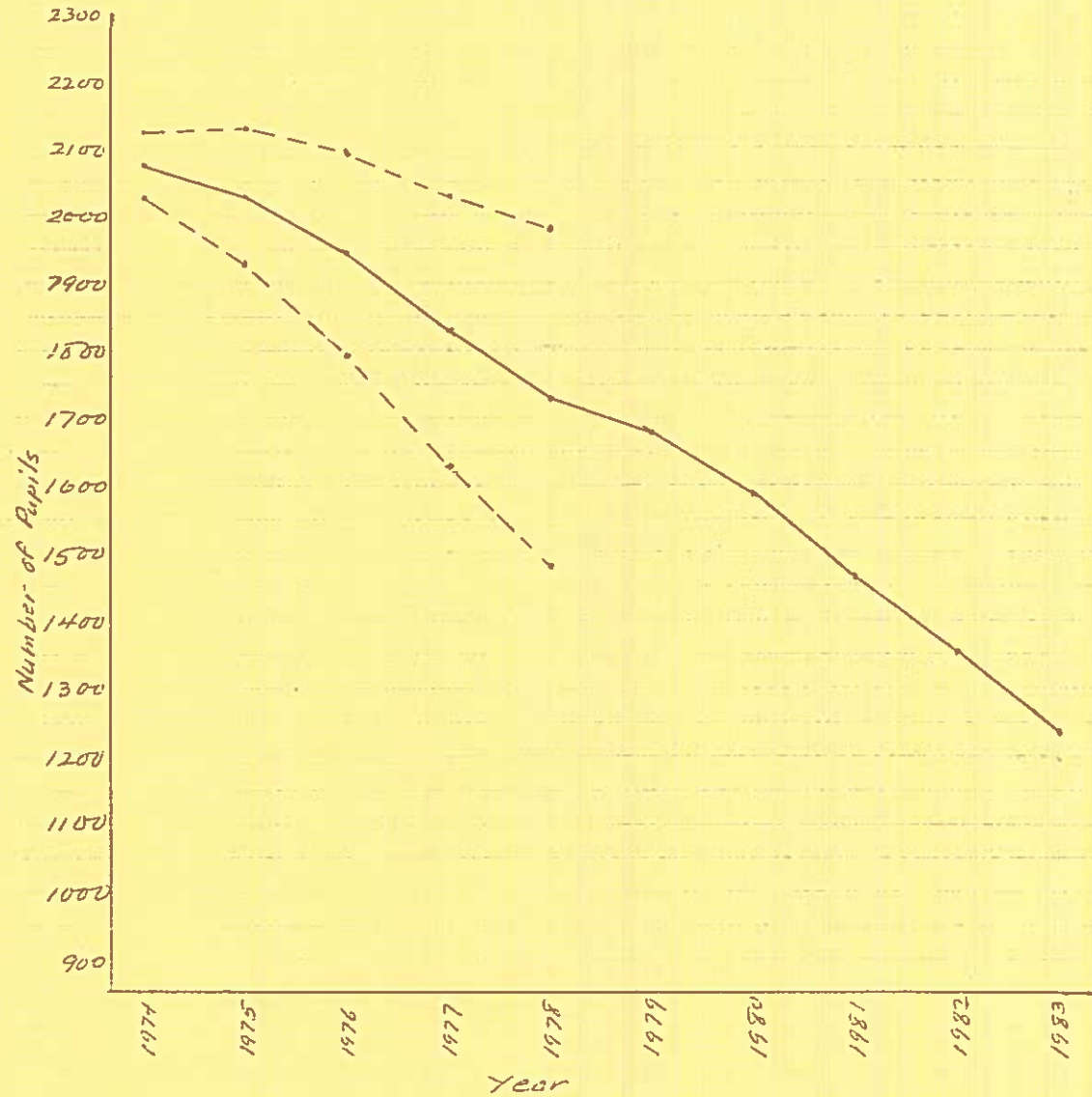
-4-

PREDICTED* ENROLLMENT - GRADES 1-6 - LEXINGTON



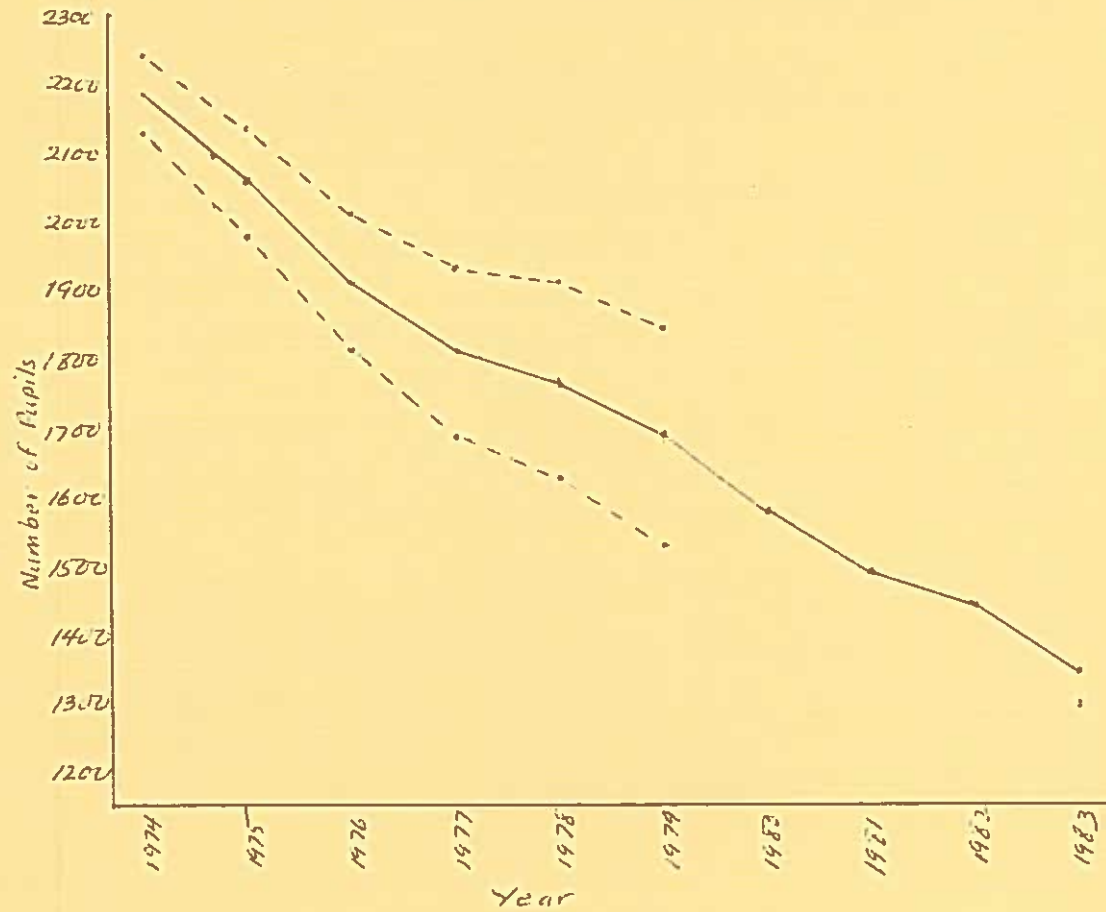
* 5 year cohort survival technique + 90% probability band (± 250)

PREDICTED* ENROLLMENT - GRADES 7-9 - LEXINGTON



* 5 year cohort survival technique + 90% probability band (expanding @ 50)

PREDICTED* ENROLLMENT - GRADES 10-12 - LEXINGTON



* 5 year cohort survival technique + 96% probability band (expanding @ 20)

the fact that historically enrollment projections for grades 7-12 have been relatively more accurate in predicting short-term changes than in predicting long-term changes, while projections for grades 1-6 have not exhibited more success in the short run.

These particular error bounds have been constructed by comparing past projections made during the period 1965-1973 with realized enrollments and tabulating the frequency with which 'errors' occurred outside a specified interval as a function of n the number of years in the future for which the estimate was made. Here 'error' refers to the difference between the projection and the actual realized enrollment. Furthermore, only the absolute value of the error was considered since this quantity was assumed to be an unbiased indicator of the possible future range of either over or under estimates of enrollment. (See Appendix for procedure and work-sheets - A-1 to A-10 and B-1 to B-8).

The following three tables present the frequency data based on past experience that permits the construction of the indicated 90% interval or any other interval one cares to examine. The frequency table for grades 1-6 excludes the error data based on the 1964 and 1965 projections since the projections made in these years did not have the benefit of the town census that provides information on the number of pre-school children between ages 1-4. Including this data would lead to substantially broader error intervals for grades 1-6. However, the 1964 and 1965 projections have been employed in determining the frequency tables for grades 7-12, since these projections are primarily based on in-school population. Accordingly, the time horizon for grades 1-6 is somewhat less than grades 7-9 or 10-12.

The frequency table entries give the chance (based on past experience) that actual enrollment n years in the future will differ from the projected total by more than the selected error interval. Thus, the presently projected 1976 grades 1-6 enrollment is 3308, which is a prediction for enrollment for three years into the future (n = 3). Reference to the Frequency Table for grades 1-6 indicates that the chances are 4/5 that the actual enrollment in 1976 will differ from this prediction by more than 100 pupils but only 1/5 that the actual enrollment will differ from the prediction by more than 200 pupils. Note that for grades 1-6

Frequency Table Grades 1-6

<u>N</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4,5,6</u>
<u>Errors</u>				
+ 50	2/7	3/6	5/5	6/9
+ 100	1/7	2/6	4/5	4/6
+ 150	1/7	1/6	3/5	3/9
+ 200	0/7	1/6	1/5	2/9
+ 250	0/7	1/6	0/5	1/9

Frequency Tables Grades 7-9

<u>N</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6 & 7</u>
<u>Errors</u>						
+ 50	2/9	5/8	4/7	4/6	4/5	5/6
+ 100	0/9	1/8	3/7	3/6	2/5	5/6
+ 150	0/9	1/8	3/7	2/6	1/5	1/6
+ 200	0/9	0/8	0/7	1/6	1/5	0/6
+ 250	0/9	0/8	0/7	0/6	1/5	0/6

Frequency Tables Grades 10-12

<u>N</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6 & 7</u>
<u>Errors</u>						
+ 40	2/9	1/8	4/7	4/6	5/5	4/7
+ 60	(1/9)	1/8	3/7	3/6	3/5	3/7
+ 80	0/9	(0/8)	1/7	3/6	3/5	3/7
+ 100	0/9	0/8	(0/7)	2/6	1/5	1/7
+ 120	0/4	0/8	0/7	(1/6)	1/5	1/7

the years $n=4,5,6$ and for grades 7-9 and 10-12, the years $n=6,7$ have been grouped together since there were insufficient data points to warrant separate determinations.

The most surprising feature of this analysis is the large difference in the errors for projections of grades 7-9 enrollment compared to grades 10-12. The grades 7-9 errors are as substantial as the errors in grades 1-6 which might not have been anticipated. Another noteworthy feature is that the data does not support the imposition of an expanding error band for grade 1-6 projections. Thus, one may conclude at least out to $n=6$ that the projections have not been noticeably more accurate in predicting elementary school enrollment for $n=2$ than for $n=4$.

In order to illustrate how we construct a particular error band from these frequency tables, four entries have been circled in the Frequency Table for grades 10-12. These entries denote for $n=1,2,3,4$ the particular error interval which is required to include approximately 90% of actual past enrollments within the band specified around a projection made n years previously. Of course, other intervals can be examined. For example, the Frequency Table for grades 7-9 indicates that actual enrollment will fall within ± 100 of projected enrollment up to $n=5$ with 50% probability - a considerably narrower range than required for the 90% probability exhibited in the graph for grades 7-9 on page 5.

III. System-Wide Projections by Grade (1-12) with Error Bounds

The error analysis discussed up to the present refers to system-wide enrollment for grades 1-6, 7-9, and 10-12. The technique may also be applied to develop frequency tables and error bands for any particular grade of the system. Investigation has shown that there is no appreciable difference in success in predicting any particular grade (except that 9th grade appears unusually poor) and there is no reason to anticipate such a differential effect. Accordingly, the Frequency Tables presented below are applicable to any grade in the group. Note that the 1-6 tables exclude the 1964-65 projections for reasons mentioned previously, while the grade 7-9 and 10-12 include these projections. Since the data for all grades in the groups 1-6, 7-9, 10-12 are being aggregated, it is possible to determine meaningful error bounds out to $n=6$. Furthermore, one should recognize that there is no simple relation between the error bound for each grade, the number of grades in the level and the error bound for the entire level. One cannot multiply the number of grades in the level by the error bound for a particular grade in the level in order to arrive at the error bound for the entire level.

With the Frequency Tables available for any grade 1-12 in the system, it is possible to establish particular error bands. For example, a 90% expanding band option for any grade in grades 1-6 can reasonably be established.

90% Error Interval for any Grade in Grades 1-6

Error band	n	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
		± 40	± 45	± 50	± 55	± 60	± 65
Chance to be out of band		3/42	4/36	2/30	4/24	1/18	1/12

For Any Grade (1-6) Chance of Landing Outside *
Error bound n years in the Future

Error Bound	ⁿ 1	2	3	4	5	6
+ 30	6/42	11/36	14/30	14/24	9/18	5/12
+ 40	3/42	8/36	7/30	5/24	5/18	4/12
+ 50	0/42	1/36	2/30	4/24	2/18	4/12
+ 60	0/42	1/36	1/30	1/24	1/18	2/12
+ 70	0/42	1/36	0/30	1/24	0/18	0/12

For Any Grade (7-9) Chance of Landing *
Outside Error bound n Years in Future

Error Bound	ⁿ 1	2	3	4	5	6
+ 30	2/27	8/24	9/21	10/18	9/15	6/12
+ 40	1/27	4/24	7/21	9/18	7/15	3/12
+ 50	0/27	3/24	5/21	4/18	4/15	2/12
+ 60	0/27	0/24	5/21	3/18	3/15	1/12
+ 70	0/27	0/24	3/21	3/18	1/15	0/12
+ 80	0/27	0/24	1/21	1/18	1/15	0/12

For Any Grade (10-12) Chance of Landing *
Outside Error Bound n Years in Future

Error Bound	ⁿ 1	2	3	4	5	6
+ 30	1/27	8/24	5/21	5/18	9/15	7/12
+ 40	0/27	1/24	3/21	6/18	4/15	5/12
+ 50	0/27	0/24	3/21	4/18	2/15	1/12
+ 60	0/27	0/24	1/21	2/18	1/15	0/12
+ 70	0/27	0/24	1/21	1/18	2/15	0/12
+ 80	0/27	0/24	0/21	1/18	1/15	0/12

IV. The Kindergarten Projection Estimate

Since public school kindergarten has only been in Lexington since 1967, there does not exist a great deal of historical data on which to base an assessment of the accuracy of past projections. Furthermore, projections beyond n=4 years into the future cannot be made without relying upon the partial census data for persons in the 0-1 age group and speculating upon the future course of the birthrate. Accordingly, the sub-committee can only provide a qualitative indication of the likely errors based on its scrutiny of past experience. It is considered likely the kindergarten enrollment in the Lexington system will be within the following ranges during the next four years:

1973	Actual	462
1974 (est.)		437 \pm 30
1975 (est.)		439 \pm 40
1976 (est.)		345 \pm 70
1977 (est.)		280 \pm 70

(see Appendix B-4, B-4a, B-4b)

Of course, these estimates and the corresponding estimates for grades 1-6 appearing in table I on page 273 which, in turn, rely on these estimates are entirely dependent on the assumed accuracy of the Town Census. The sub-committee has not undertaken an exhaustive inquiry into the Town Census and has not encountered any evidence which suggests it is inaccurate. However, the projected decline in elementary school enrollment is extremely sensitive to the census and it may be worthwhile to undertake specific measures to examine its validity.

V. Projections by Elementary School

In this section, projections are presented of the enrollment for the next four years in each of the eleven elementary schools. These projections have been constructed employing the 1973 census data of population by school district for children in ages 1 through 4, in conjunction with school district specific average survival ratios for the 1969-1973 period (the last school redistricting occurred in 1969). These historical survival ratios reflect the tendency for families with school age children to move into Lexington and accordingly the extrapolated use of these survival ratios into the future introduces serious uncertainty. This uncertainty is particularly severe in the school projections since there is wide variation in past survival ratios from the average. Furthermore, since projections were not made in prior years of the enrollment for each elementary school, a historical record is not available for assessing the error between past projected and actual enrollments.

The sub-committee has not arrived at a convincing procedure of estimating the possible errors in this school projection. It is important to bear in mind that these projections are subject to unknown and, perhaps, large errors. Accordingly, these projections should not be taken to exhibit anything more than a qualitative trend in enrollment in the various elementary school districts.

It should be noted that the sum of the projections for the individual schools presented in this section will not necessarily agree with the projections for elementary school enrollment presented earlier in the report. Different procedures were employed to generate the projections, i.e. the school estimates

Projected Elementary School Enrollment (K-6) *

	<u>Actual 1973-74</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>
Adams	395	385	375	359	332
Bowman	575	527	477	420	370
Bridge	529	507	479	471	435
Estabrook	448	417	395	355	324
Fiske	454	415	398	371	333
Franklin	382	365	360	348	321
Hancock	215	207	186	170	151
Harrington	365	329	311	276	277
Hastings	431	408	390	356	326
Munroe	184	185	189	182	177
Parker	<u>295</u>	<u>274</u>	<u>238</u>	<u>219</u>	<u>194</u>
	4273	4019	3800	3527	3240

*Does not include approximately 120 METCO students.

employed district specific cohort survival data for one time period while the system-wide estimate employed system-wide cohort survival data based on a different time period (see appendix C-1 to C-11). Happily, however, the difference between the estimates when corrected for METCO pupils (not included in this section) are negligible when compared to the uncertainty that must be associated with either estimate.

The primary effect that causes the decline in projected elementary school enrollment is the progressive decline in the size of anticipated entering kindergarten classes compared to the size of anticipated graduating sixth grade classes. Thus, the trend of the projection is determined by the projected kindergarten enrollment which, in turn, depends upon the town census data and the assumed validity of historical cohort survival ratios. The Table below presents the projected entering kindergarten classes that were employed to generate the projected elementary school enrollment data presented in the prior table. This data is presented not in anticipation that it will be regarded as a serious prediction of actual future kindergarten enrollments, but rather to vividly illustrate the small numbers of pupils that must be dealt with if one attempts to grapple with enrollment on a school by school basis. A moment's reflection will lead one to appreciate that any of the numbers may be in error by at least ten to twenty pupils.

Projected Entering Kindergarten Class Size

	<u>Actual 1973-74</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>
Adams	52	46	43	33	37
Bowman	46	50	49	29	32
Bridge	56	62	59	58	35
Estabrook	51	46	48	29	32
Fiske	47	37	48	34	19
Franklin	44	45	53	41	35
Hancock	22	17	16	16	16
Harrington	35	36	38	25	31
Hastings	53	44	40	32	11
Munroe	22	23	20	20	16
Parker	<u>34</u>	<u>31</u>	<u>24</u>	<u>14</u>	<u>11</u>
	462	437	438	331	275

The sub-committee cannot assign with any accuracy an estimate of the likely error in these projected kindergarten enrollment figures. Accordingly, their use for planning purposes should be undertaken with great caution.

VI. Concluding Remarks

The sub-committee has made an effort to provide as extensive and accurate projections as possible. These projections are based on the assumption that the past will be like the future and that we may use Lexington experience to evaluate likely future errors. It should be remembered that these projections are no better than the assumptions on which they are based and that the town may be unpleasantly surprised by future events. In short, the apparent precision of numbers in tables should not beguile the reader to attribute a scientific basis to these projections that is undeserved. The projections are simply the sub-committee's best guess of what the future holds for Lexington school enrollments.

It may be useful to mention a couple of events that would clearly vitiate these projections: 1) A substantial increase in the METCO program; 2) Court-ordered inner city-suburban busing for school children; 3) New real estate development in one school district or another, e.g. the St. Brigid's Housing proposal (now in the courts) if built is anticipated to add up to 25 elementary school children to the Hancock district.

Finally, the sub-committee notes that it has carefully avoided drawing any policy implications from the projections it has presented. Since the implications of many policy alternatives may be assessed in terms of these projections and particularly in terms of the confidence that can legitimately be attributed to the projection, it may prove useful to refine aspects of this report in light of the particular policy issue under discussion. The sub-committee is prepared to be of assistance in this manner, if requested.

Lexington Public Schools
 Lexington, Massachusetts
 November 12, 1974

ENROLLMENT BY GRADES*AND PROJECTIONS

Year	K	1	2	3	4	5	6	Total 1-6	7	8	9	10	11	12	Total 7-12	Total 1-12
1961		670	658	650	662	576	521	3737	568	568	524	492	366	354	2872	6611
1962		722	686	684	656	670	591	4009	532	562	556	527	474	345	2996	7005
1963		737	746	694	686	674	678	4215	607	538	544	533	516	467	3205	7420
1964		768	742	766	679	700	676	4331	695	608	548	544	524	522	3441	7772
1965		717	781	783	775	713	719	4488	680	692	599	552	537	519	3579	8067
1966		700	728	794	774	771	713	4480	724	699	704	586	548	523	3784	8264
1967	652	685	709	753	792	794	765	4498	711	736	704	683	569	557	3960	8458
1968	625	715	730	760	794	806	824	4629	782	715	746	715	666	577	4201	8830
1969	595	700	756	746	774	817	836	4629	812	788	721	723	695	646	4385	9014
1970	567	644	701	767	740	762	812	4426	796	803	775	705	709	678	4466	8892
1971	512	614	650	721	763	733	782	4263	769	787	776	757	670	720	4479	8742
1972	517	586	616	642	721	755	744	4064	755	757	789	767	760	672	4500	8564
1973	462	593	605	612	657	712	741	3920	726	732	725	771	736	728	4418	8338
1974	430	527	589	590	616	662	716	3700	738	702	664	695	763	705	4267	7967
1975	438	464	527	589	590	610	662	3442	695	724	624#	636	681	748	4108	7550
1976	331	473	464	527	589	584	610	3247	643	682	646	596#	624	668	3859	7106
1977	275	357	473	464	527	583	584	2988	592	631	605	617	583	612	3640	6628
1978		297	357	473	464	522	583	2696	567	581	555	577	604	570	3454	6150
1979			297	357	473	459	522		566	556	516	528	564	591	3321	
1980				297	357	468	459		508	555	481	480	516	552	3092	
1981					297	353	468		445	499	480	455	469	504	2852	
1982						294	353		454	436	426	455	445	458	2674	
1983							294		342	445	363	402	445	435	2432	
1984									285	335	372	339	393	435	2159	

*METCO pupils were removed to calculate new projection ratios. They were added back as constants for this and following years as if just the same numbers as currently enrolled would be progressing through the grades.

#Assumes 64 students each year from 9th grade to MMRVTHS beginning September 1975 and 79 students each year from 10th grade to MMRVTHS beginning September, 1976.

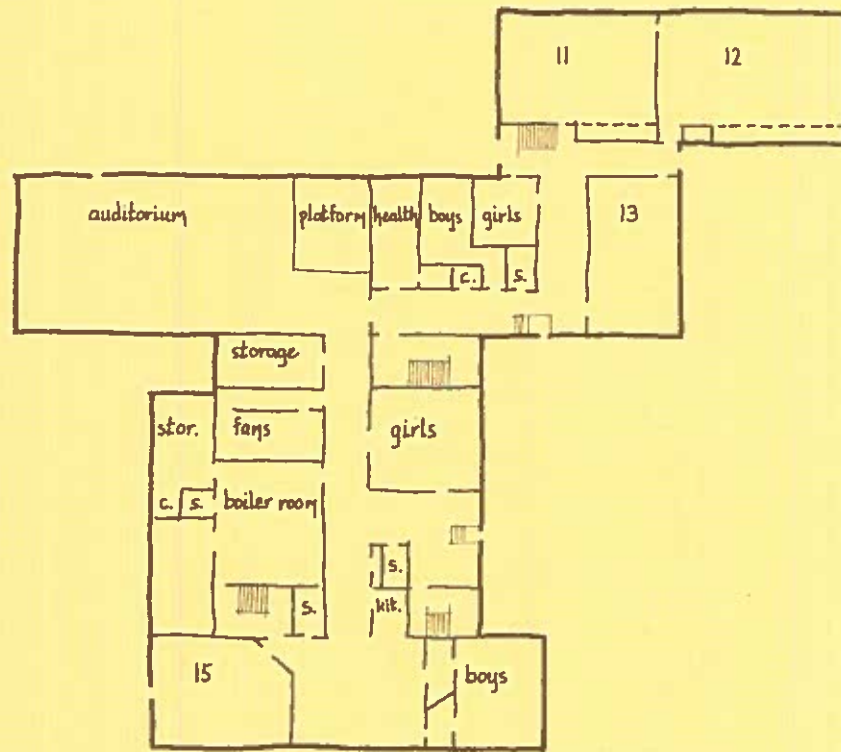
Lexington Public Schools
 Lexington, Massachusetts
 November 12, 1974

ENROLLMENT BY GRADE GROUPINGS*#

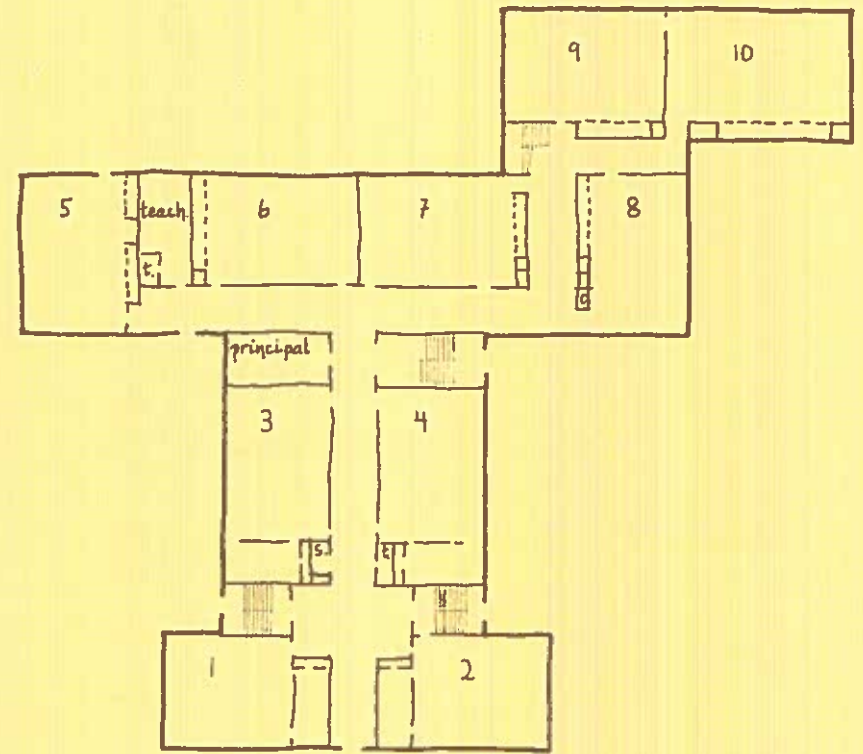
Year	K-12	1-12	K-6	1-6	7-8	7-8-9	7-12	9-10	9-12	10-11-12	11-12
1961		6611		3737	1136	1600	2872	1016	1736	1212	720
1962		7005		4009	1094	1650	2998	1083	1902	1346	819
1963		7420		4215	1145	1689	3285	1077	2060	1516	983
1964		7772		4331	1303	1851	3441	1092	2138	1590	1046
1965		8067		4488	1372	1971	3579	1151	2207	1608	1056
1966		8264		4480	1423	2127	3784	1290	2361	1657	1071
1967	9110	8458	5150	4498	1447	2151	3968	1387	2513	1809	1126
1968	9455	8830	5254	4629	1497	2243	4201	1461	2704	1958	1243
1969	9609	9014	5224	4629	1600	2321	4385	1444	2785	2064	1341
1970	9459	8892	4993	4426	1599	2374	4466	1480	2867	2092	1387
1971	9254	8742	4775	4263	1556	2332	4479	1533	2923	2147	1390
1972	9081	8564	4581	4064	1512	2301	4500	1556	2988	2199	1432
1973	8800	8338	4382	3920	1458	2183	4418	1496	2960	2235	1464
1974	8397	7967	4130	3700	1440	2104	4267	1359	2827	2163	1468
1975	7988	7550	3880	3442	1419	2043	4108	1260	2689	2065	1429
1976	7437	7106	3578	3247	1325	1971	3859	1242	2534	1888	1292
1977	6903	6628	3263	2988	1223	1828	3640	1222	2417	1812	1195
1978		6150		2696	1148	1703	3454	1132	2306	1751	1174
1979					1122	1638	3321	1048	2199	1683	1155
1980					1063	1544	3092	961	2029	1548	1068
1981					944	1424	2852	935	1908	1428	973
1982					890	1316	2674	881	1784	1358	903
1983					787	1150	2432	765	1645	1282	880
1984					620	992	2159	711	1539	1167	828

*MWTCO pupile were removed to calculate nwe projection ratios. They were added back as constants for this and following years as if just the same number as currently enrolled would be progressing through the grades.

#Assumes 64 students each year from 9th grade to MMRVTHS beginning September, 1975 and 79 students each year from 10th grade to MMRVTHS beginning September 1976.

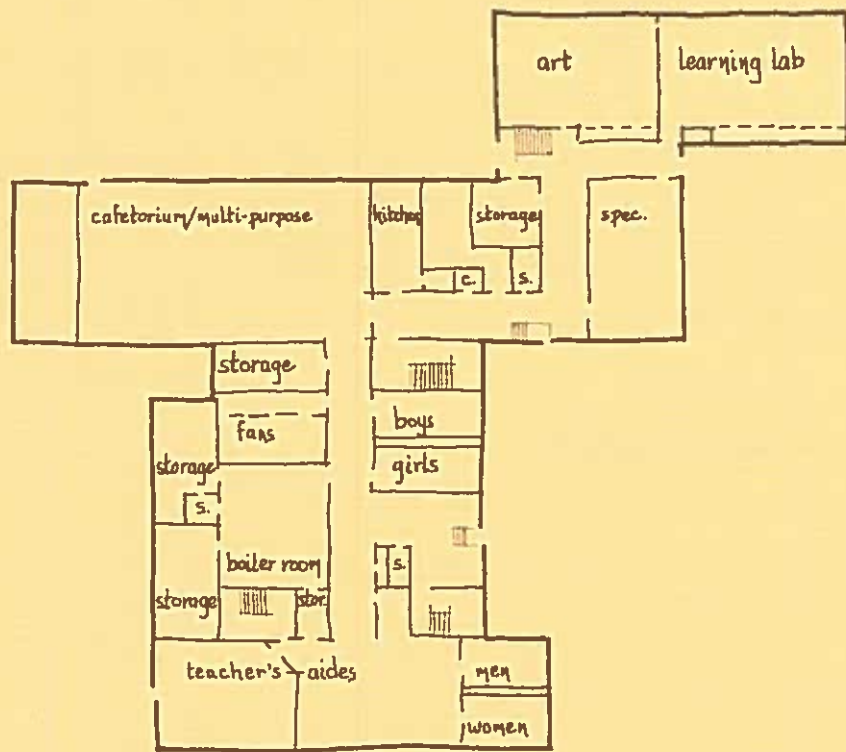


GROUND FLOOR



1st FLOOR

EXISTING PARKER SCHOOL



GROUND FLOOR

NEW CONSTRUCTION:

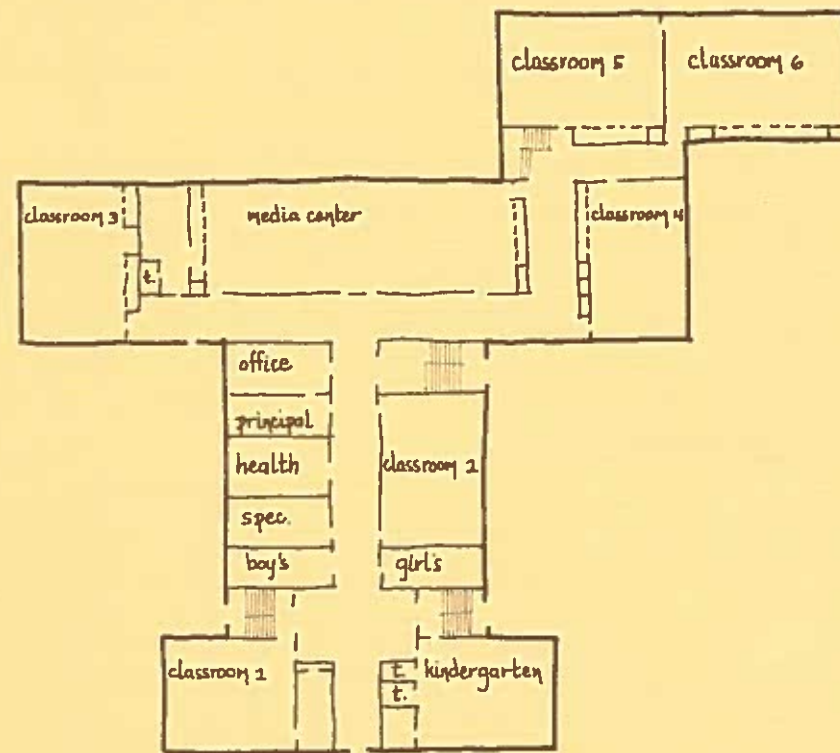
PLAYROOM

STORAGE

TOILETS

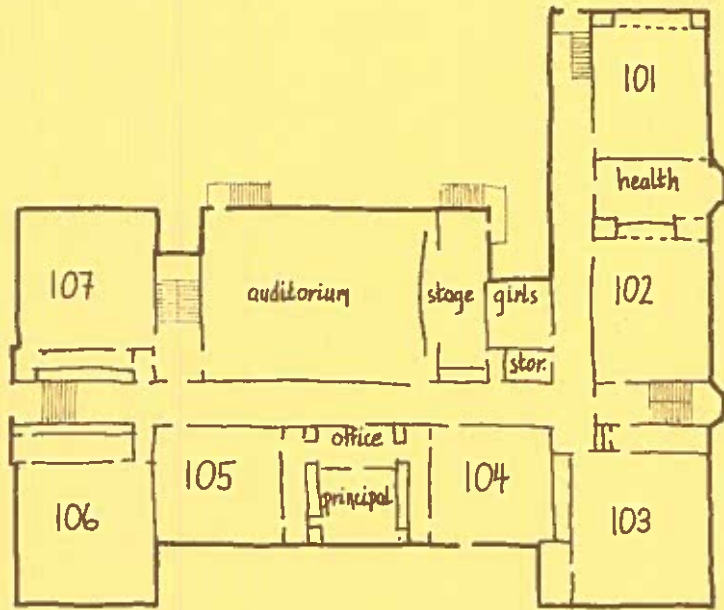
CIRCULATION & ELEVATOR

ALTERATIONS & ADDITION (NOT SHOWN)
 COST: \$540,000

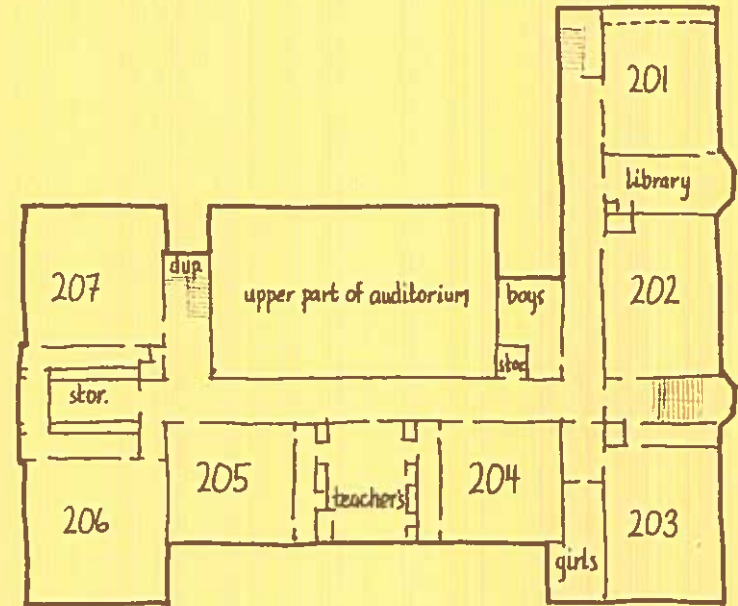


1st FLOOR

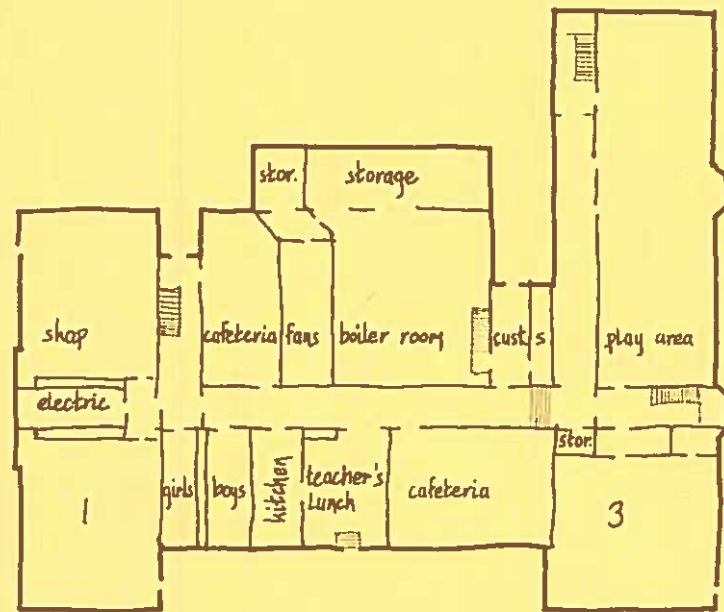
PROPOSED PARKER SCHOOL



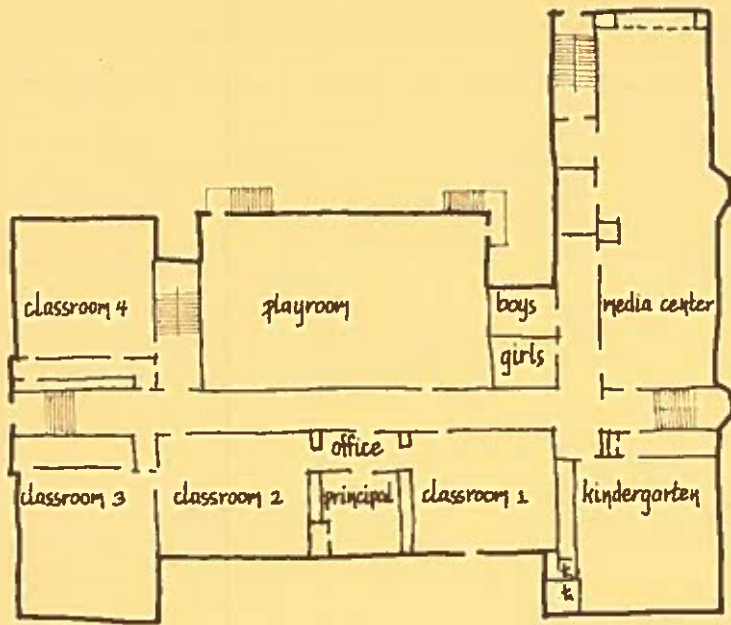
1st FLOOR



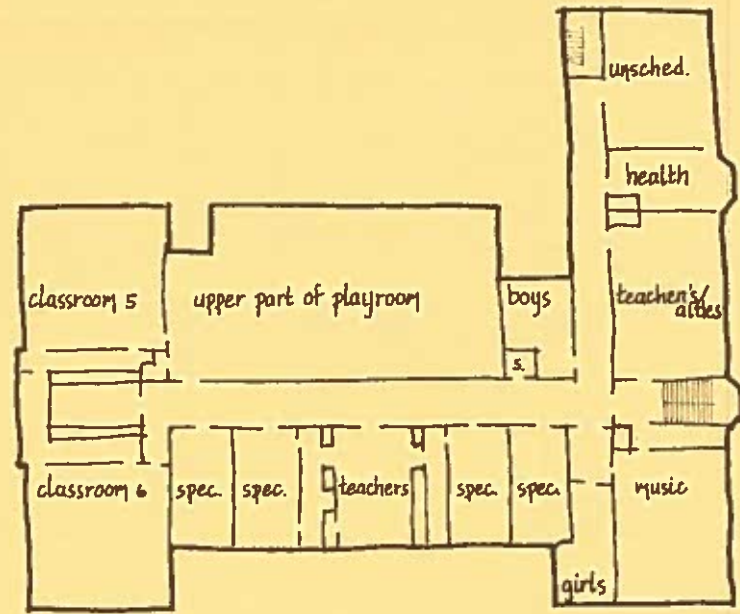
2nd FLOOR



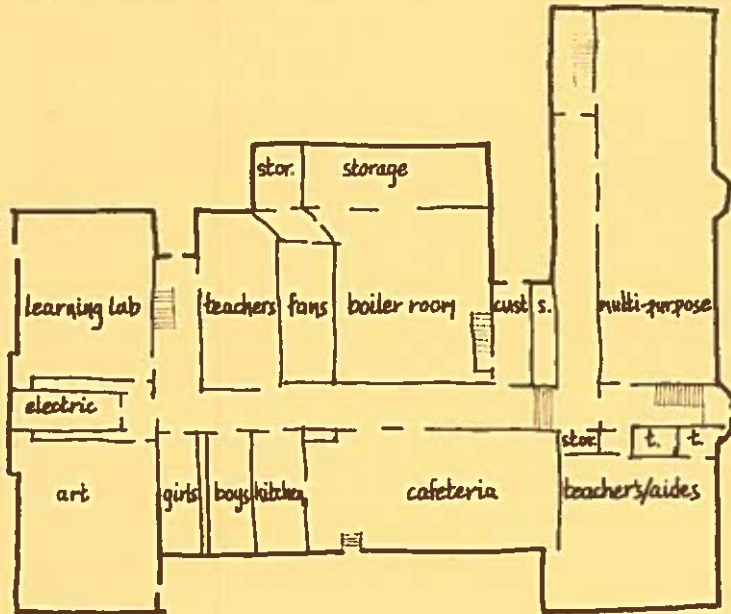
GROUND FLOOR



1st FLOOR

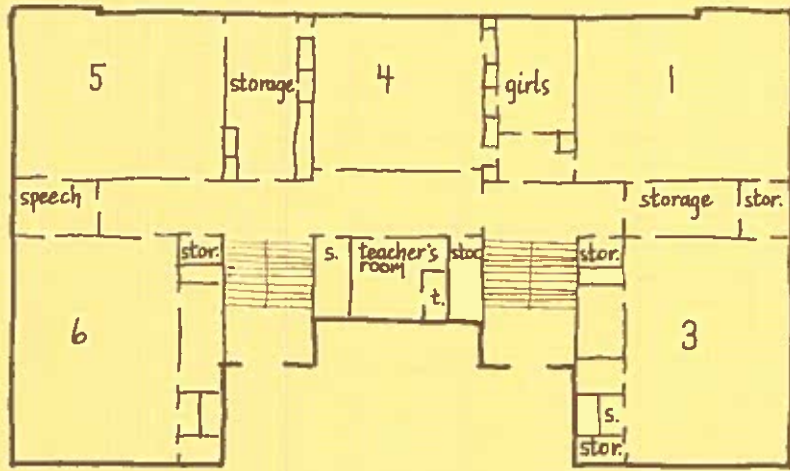


2nd FLOOR

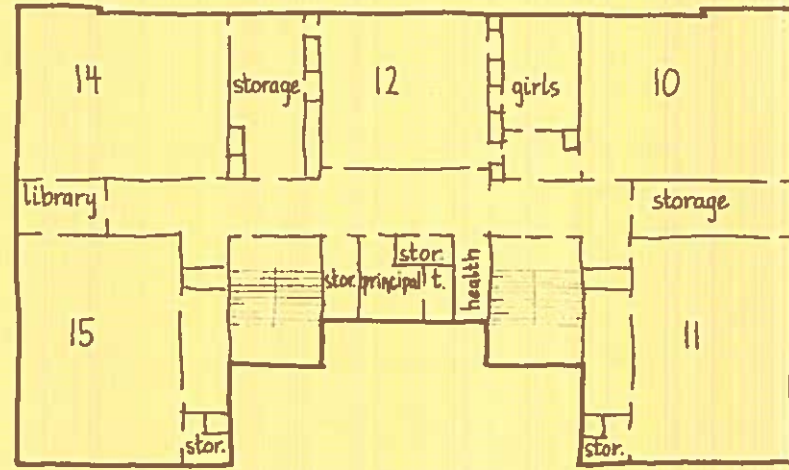


GROUND FLOOR

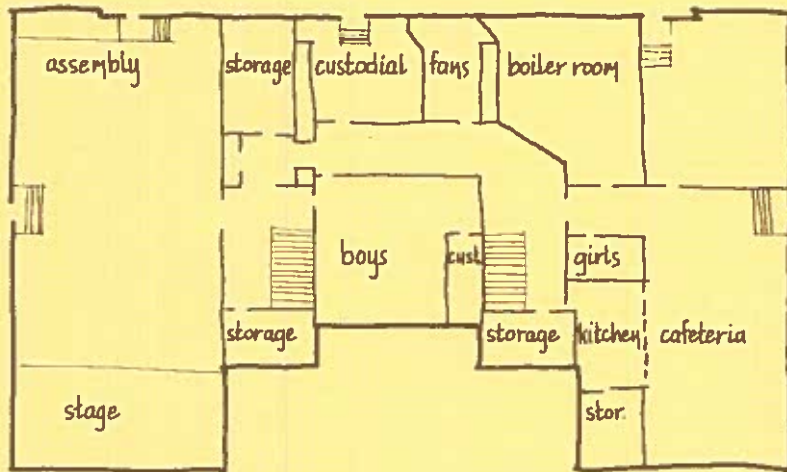
**ALTERATIONS
COST: \$640,000**



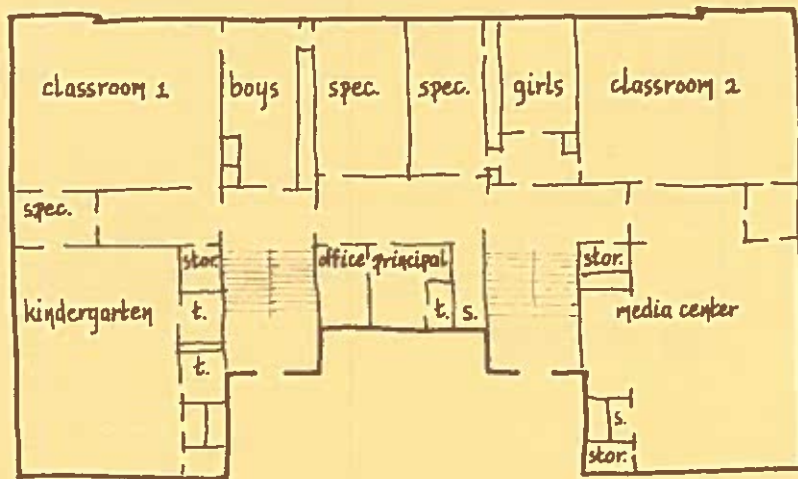
1st FLOOR



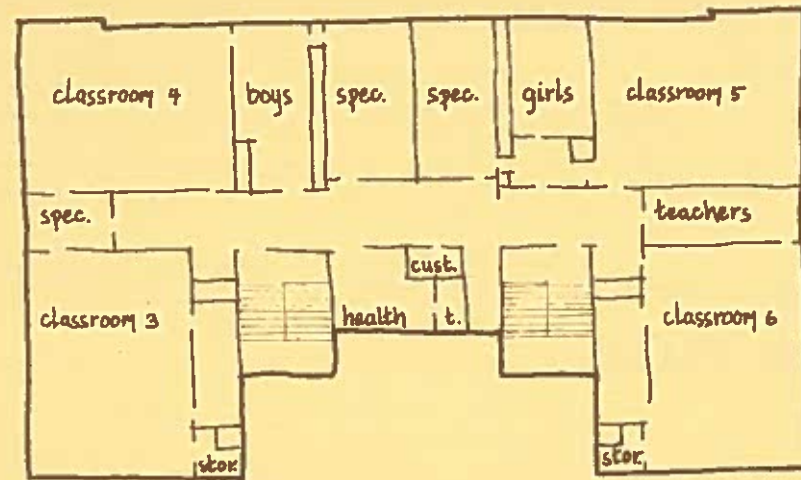
2nd FLOOR



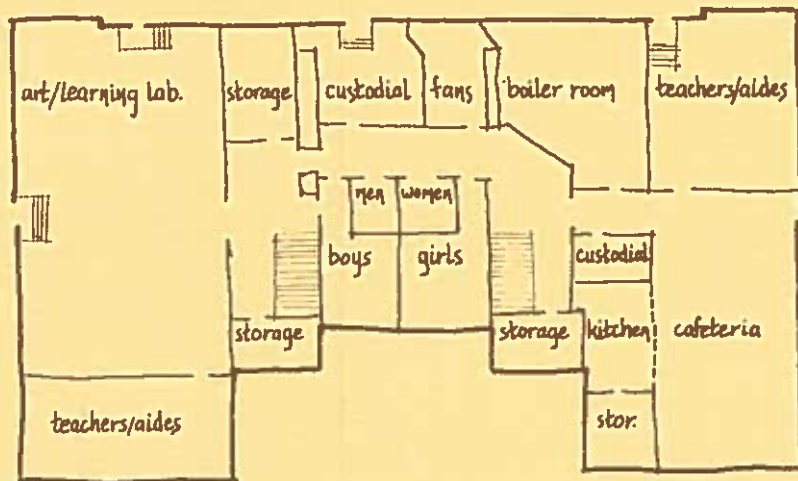
GROUND FLOOR



1st FLOOR



2nd FLOOR



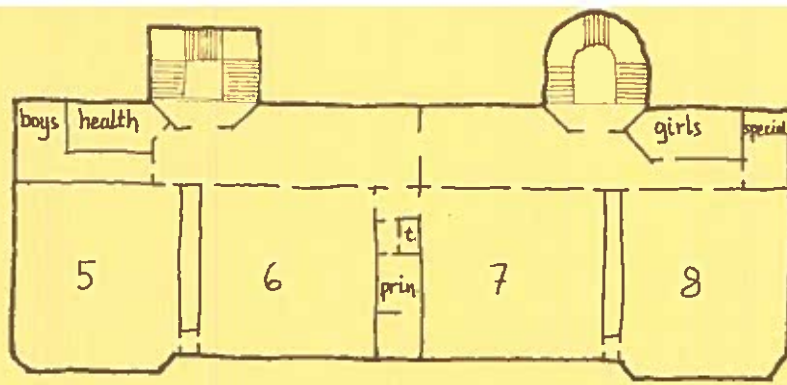
GROUND FLOOR

NEW CONSTRUCTION:

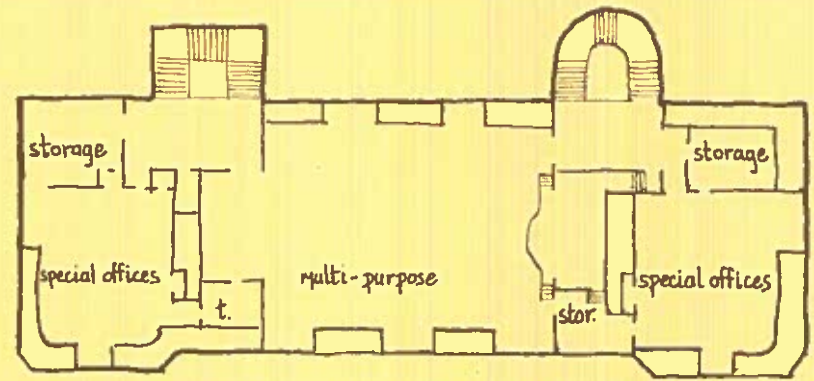
- MULTI-PURPOSE (ASSEMBLY & PLAYROOM)**
- STAGE (MUSIC)**
- STAGE STORAGE**
- TOILETS**
- CIRCULATION & ELEVATOR**

ALTERATIONS & ADDITION (NOT SHOWN)
COST: \$830,000

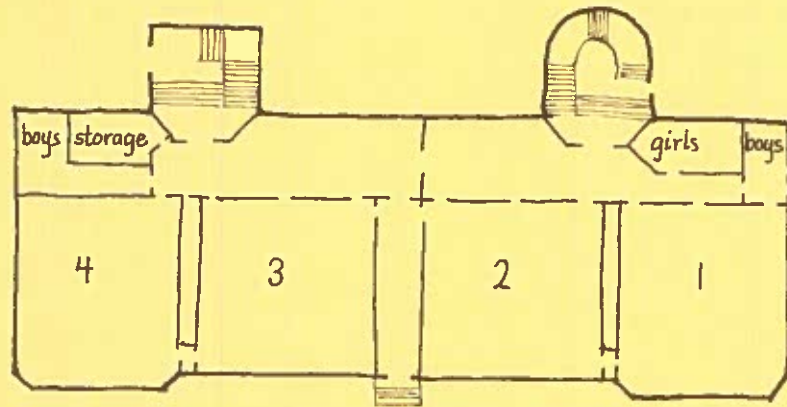
PROPOSED MUNROE SCHOOL



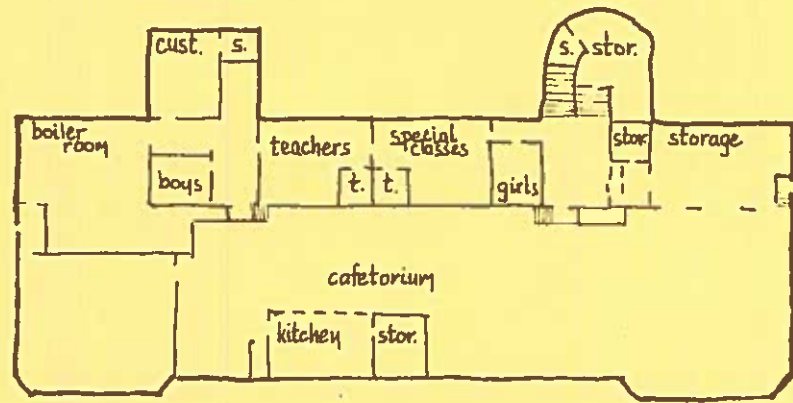
2nd FLOOR



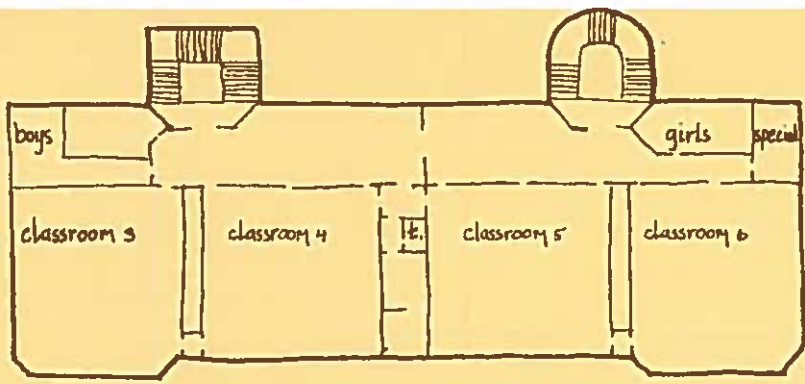
3rd FLOOR



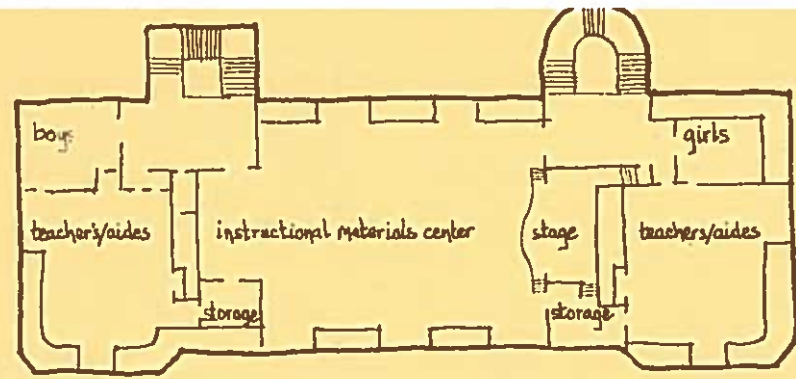
1st FLOOR



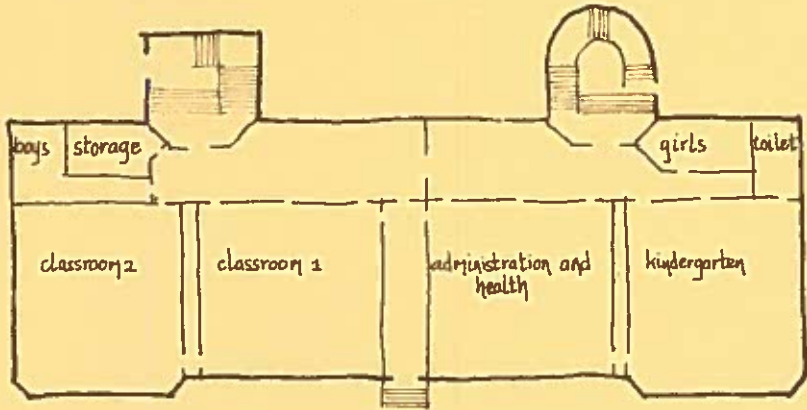
GROUND FLOOR



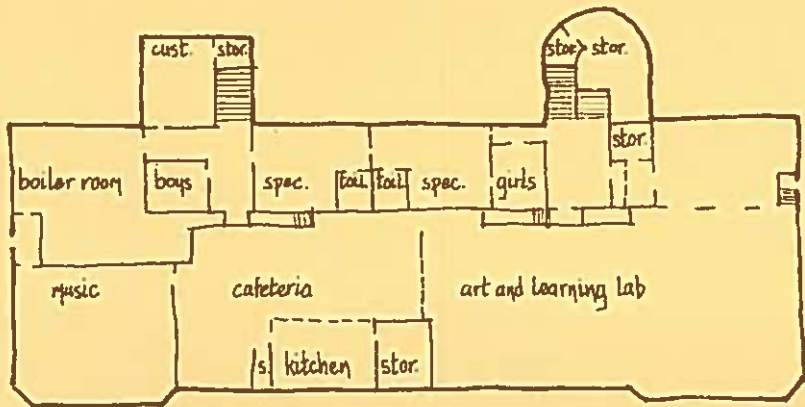
2nd FLOOR



3rd FLOOR



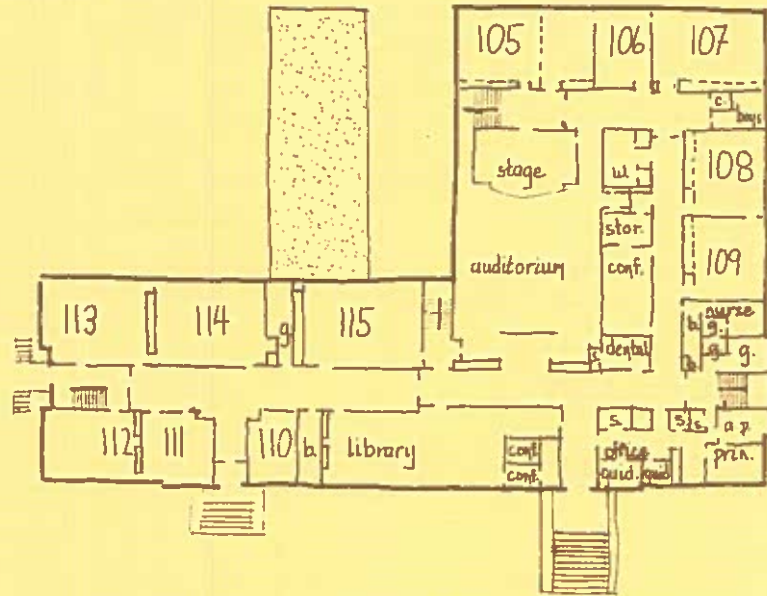
1st FLOOR



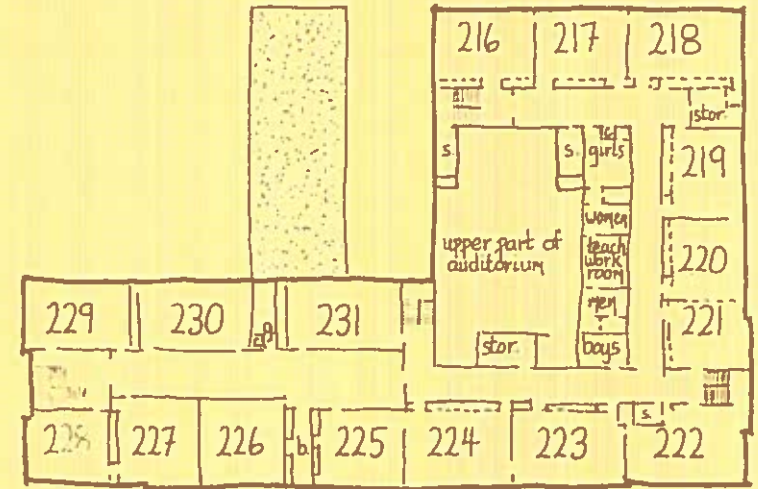
GROUND FLOOR

- NEW CONSTRUCTION:**
- MULTI-PURPOSE (ASSEMBLY & PLAYROOM)**
 - STAGE (MUSIC)**
 - STAGE STORAGE**
 - TOILETS**
 - CIRCULATION & ELEVATOR**

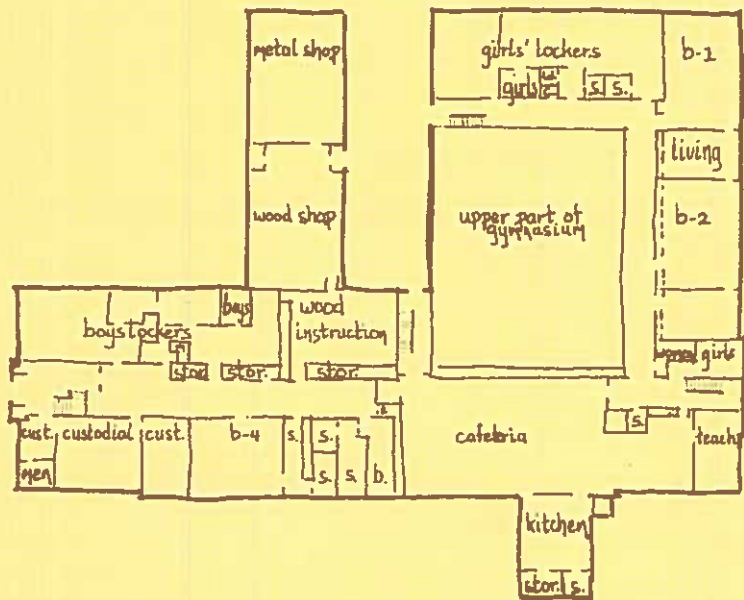
ALTERATIONS & ADDITION (NOT SHOWN)
COST: \$650,000



1st FLOOR



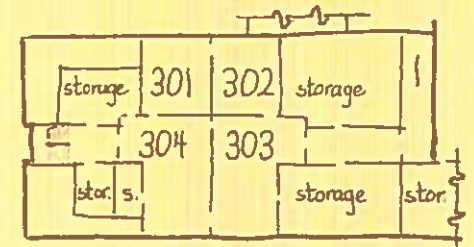
2nd FLOOR



GROUND FLOOR

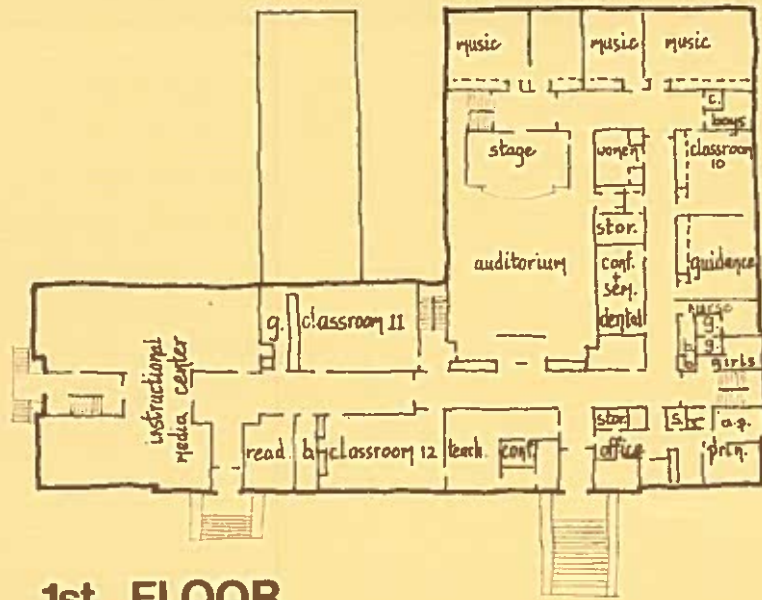


BASEMENT

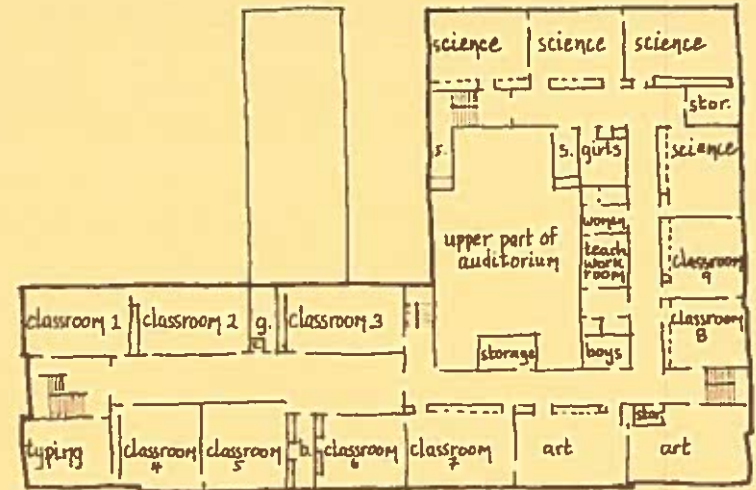


3rd FLOOR

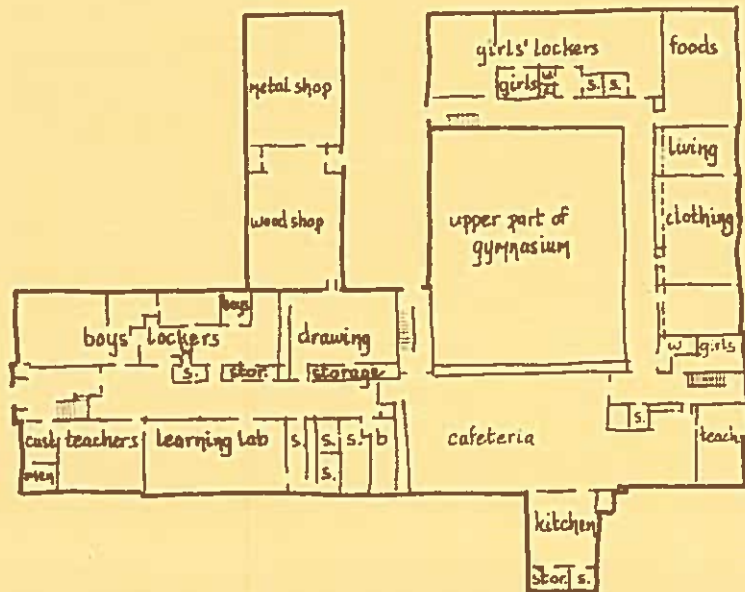
**EXISTING
MUZZEY
JUNIOR HIGH SCHOOL**



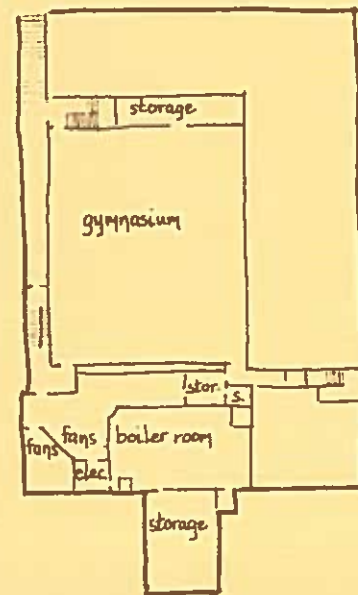
1st FLOOR



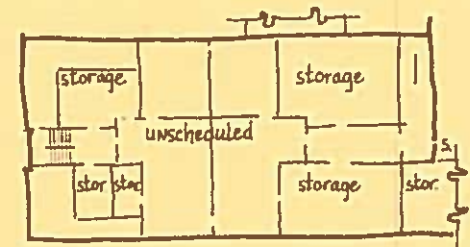
2nd FLOOR



GROUND FLOOR



BASEMENT



3rd FLOOR

PROPOSED
MUZZEY
JUNIOR HIGH SCHOOL

OUR APPRECIATION TO:

SCHOOL COMMITTEE

JANE E. BERCHTOLD - CHAIRPERSON
JACQUELINE B. DAVISON
GEORGE P. WADSWORTH
ROBERT ROTBERG
PATRICIA A. SWANSON - SECRETARY

ENROLLMENT PROJECTION SUB-COMMITTEE

JACK MONDERER - CHAIRPERSON
ERIC CLARKE
JOHN DEUTCH

PERMANENT BUILDING COMMITTEE

OTIS S. BROWN - CHAIRPERSON
WILLIAM J. SCOULER - VICE CHAIRPERSON
LUIGI R. DI NAPOLI
IRVING H. MAYBEE
ROBERT V. WHITMAN

SCHOOL COMMITTEE REPRESENTATIVES

CHESTER C. DUVAL
MARY LOUISE TOUART

SUPERINTENDENT OF SCHOOLS

DR. RUDOLPH J. FOBERT

