DOCUMENT RESUME

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Challenge - A Report Suggesting How an Old School Can Continue to Serve Youth if the Educational Program is the Prime Consideration.

Research Council of the Greater Cities Program for School Improvement, Chicago, Ill.
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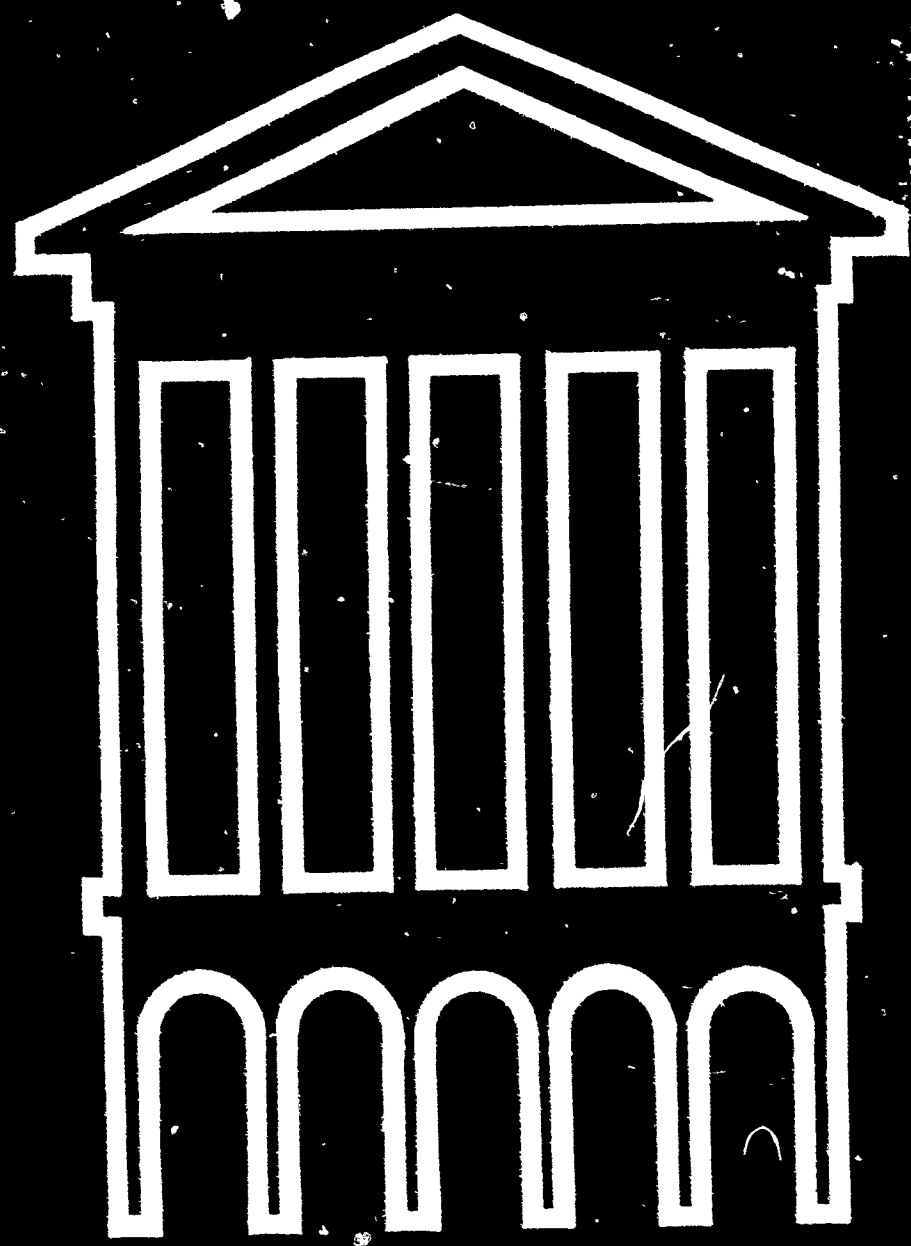
Western High School in Washington D. C. first opened its doors in 1890. It is still a structurally sound building but cannot, as it is presently designed, hope to fulfill the educational programs of the 1970's. Demands for change have come from students, faculty, parents, and the community at large. As envisaged, the new program would be an inquiry or problem-solving approach to education using a series of three or four clusters of classrooms, seminar rooms, independent study areas, and faculty offices to house the program. Ten different alternative architectural solutions are offered ranging from minor alterations to the present building to the construction of an educational park. Plans and schematic diagrams are pictured for each of the schemes. Rough cost estimates are given and space needs for each part of the educational programs charted. Also included are "then and now" photographs of the interior of the school building. Basic to all of the alternatives considered is the conversion, not the replacement, of the presently existing facility. (NI)



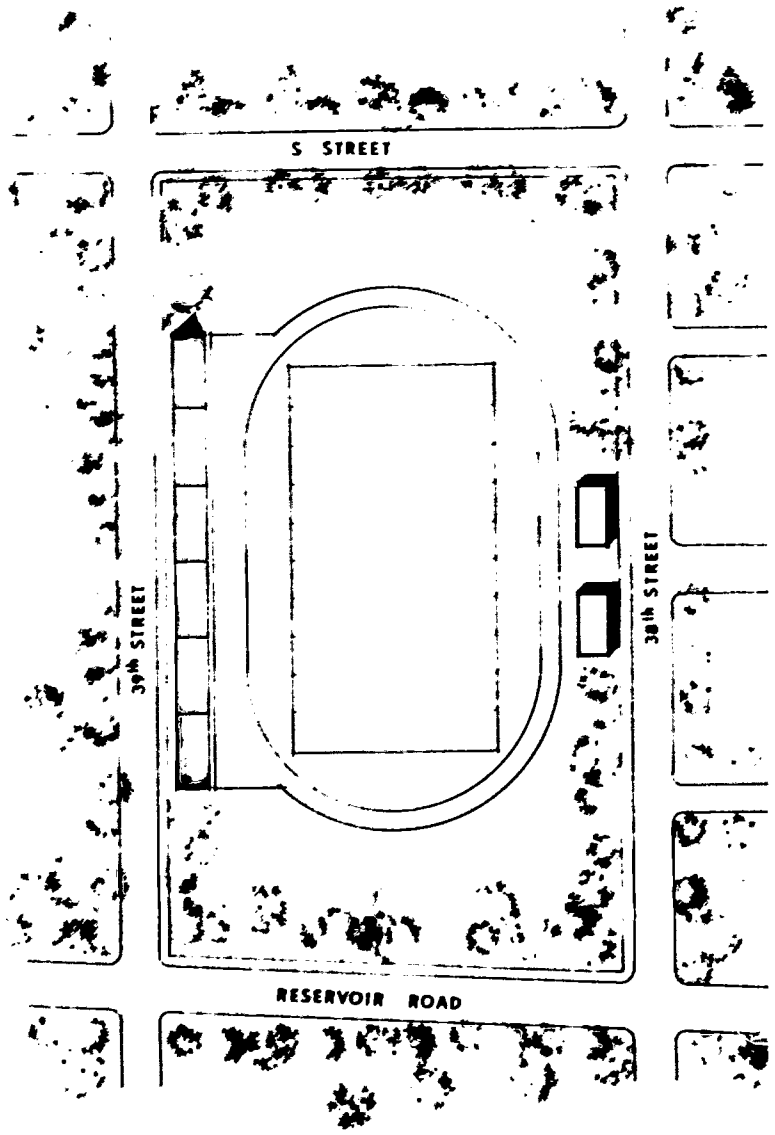
background

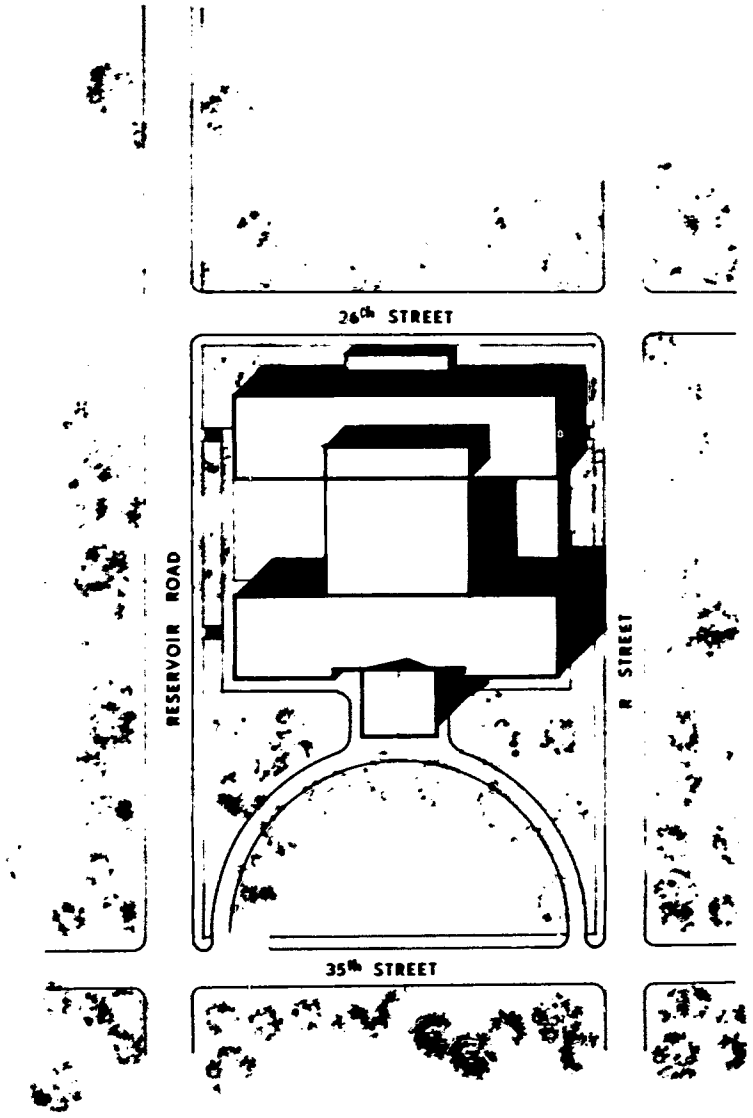
In 16 of the Great Cities of this country 12½ percent of all public school buildings were put in place prior to 1900; more than 36 percent before 1920. Western High School, in the Georgetown section of Washington, D.C., is typical of old schools, still good structurally, but hard-pressed to house today's changing educational programs.

This "feasibility study" is part of a continuing program of The Research Council of the Great Cities Program for School Improvement searching for ways to give "New Life for Old Schools." The study is funded under a grant from the Educational Facilities Laboratories, Inc. The Western High School study has been a joint effort utilizing the talents of WISE (Washington Integrated Secondary Education) Project representatives, the Western faculty and student representatives, board and staff members from the central school district, and professional educational and architectural consultants. The purpose of the study was to explore all possibilities for the modernization of Western High School and to issue a report to help in arriving at the most feasible decision on the future of the school as it continues to serve the student, community and the nation.

Ben E. Graves
Project Director, School Facilities
The Research Council of the Great
Cities Program for School Improvement

existing facility





PLAYFIELD

MAIN SCHOOL

0 15 38 75 150 300

the school: past and present

Western High School was founded in 1890, as a branch of the Washington High School and was first housed in a portion of the Curtis School in Georgetown.

As the number of students increased from the initial enrollment of 56, the school was expanded until 5 years later it had outgrown the entire Curtis School building. Construction was begun on the present site at 35th and R Streets, N.W., and in 1898 the new school opened with 385 students and 17 teachers.

Since that time several additions and modifications have been made to meet enrollment and curricula changes. Additional land, adjacent to the site, was purchased in 1899 and this allowed westward expansion of the school in 1910, at which time the eastern portico was also enlarged. Following extensive damage from fire in 1914, further additions were made during the rebuilding and, finally, in 1925 a major extension, including the west wing, was completed. No major revisions have occurred since.

During its history, Western High School has witnessed many fluctuations in enrollment, and substantial feeder boundary changes. Enrollment reached its peak in 1935, with a total of 2,079 students and 74 faculty, on double sessions.

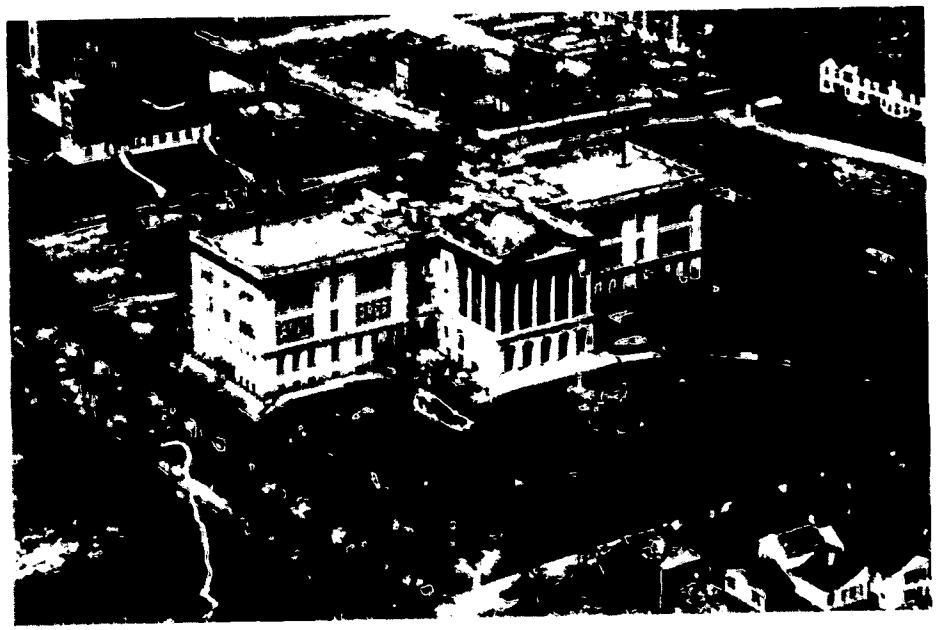
For many years a significant proportion of the students came from Arlington County, in Virginia. Today, however, there are fewer than 20 non-city students in the school. During the 1967-1968 academic year, enrollment varied between 1,520 and 1,370 students served by 83 members of the faculty — not including administrative personnel.

then . . .

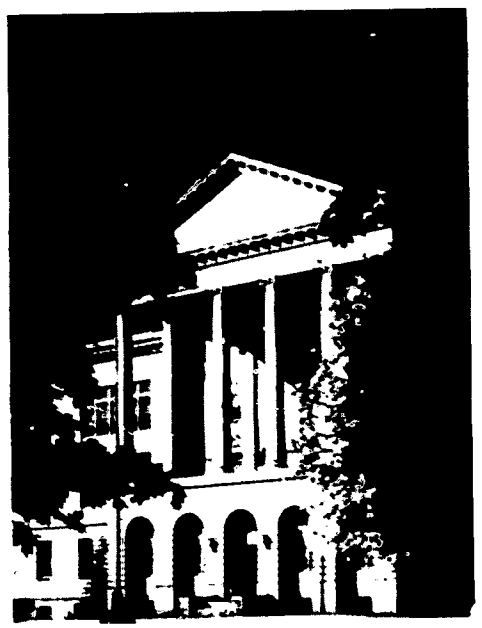
1898

1910

1914

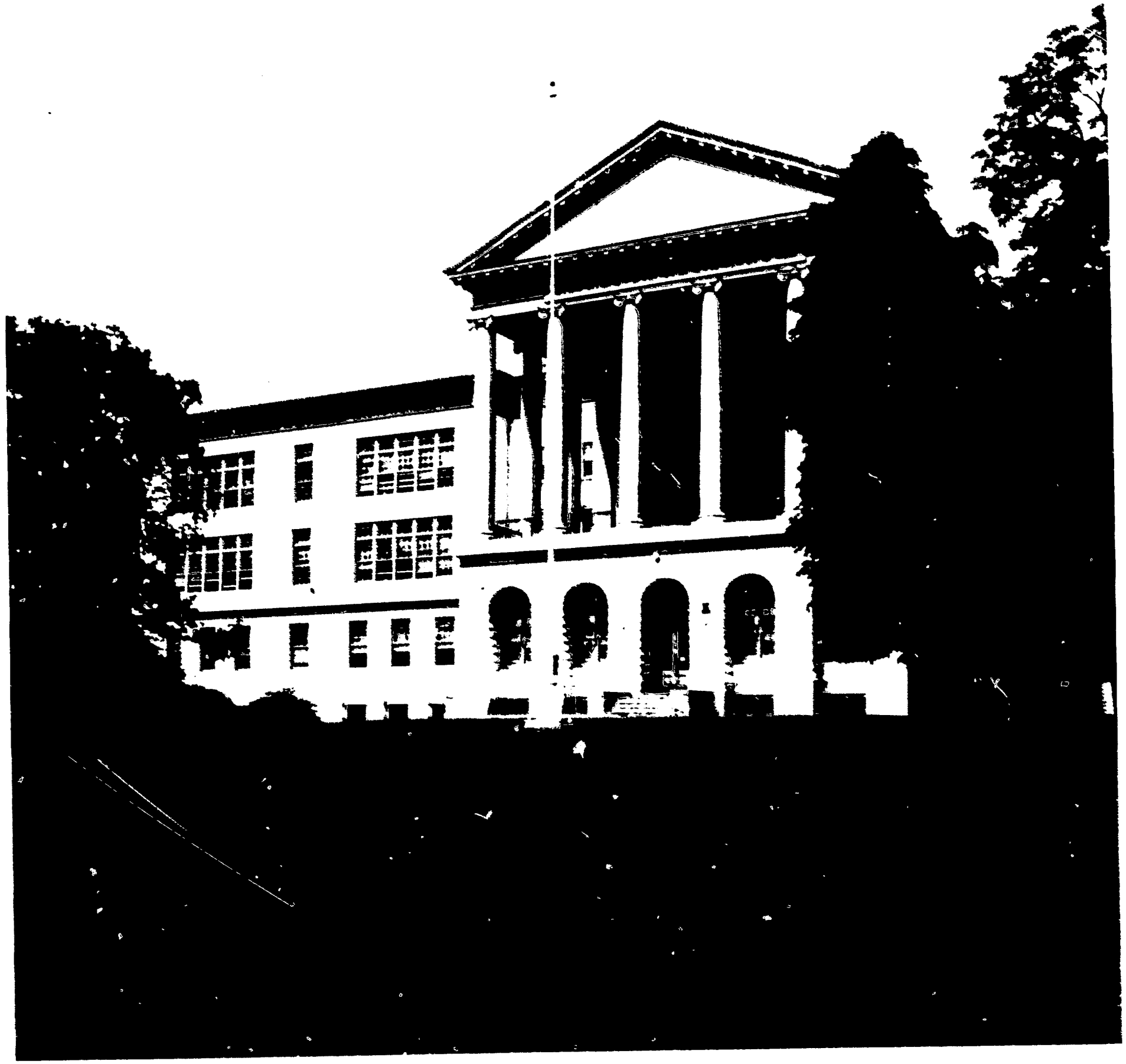


1924

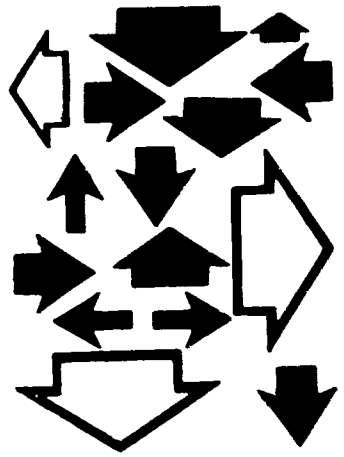


1936

and now



reaction



from STUDENTS—

"We want . . ."

- more independent work and more spaces for individual study . . .
- a curriculum more relevant to present day problems . . .
- a wide range of vocational-technical subjects . . .
- a longer school day with individualized schedules . . .
- regulation sized physical education facilities . . .
- an improved library . . .
- an updated school building . . .
- to "extend" the school by creating learning centers in the community . . .

from FACULTY—

"It is recommended that . . ."

- subject matter areas, each with its own departmental office, teacher cubicles, resource library and flexible classroom space be created . . .
- close collaboration between the English and Social Studies departments be considered in planning . . .
- parking spaces be included in future proposals . . .
- more use be made of electronic teaching aids . . .
- spaces be created for more individualized learning . . .

from the COMMUNITY—

"There needs to be . . ."

- more dialogue and understanding between the school and community . . .
- a plan proposal to keep the school within the limits of its present sites . . ."

from the PARENTS—

"We look forward to . . ."

- the further development of a plan and program in cooperation with the school staff and community associations that result in the best educational opportunities possible for **all** the students at Western . . .
- Greater consideration being given to the goals of students regarding their future career objectives . . .

educational objectives

A high school in one of the most significant capitols of the world is potentially the most vivid and exciting place in which to learn. Western High School in its remodeling can remove the physical barriers to this kind of development. Drawing its student body from the old Georgetown area and from the center city of Washington, the school is and must continue to be a national showcase of the value of a rich mixture of students, working together to help produce a better America. One need not be around the students of the school long to feel their understanding of the importance of the mission and the sense of hope that prevails for success.

The school program is pivotal. If it is a ceremonial system complete with standards to reward the favored and keep out the less favored, the school will obviously fail badly. If the program is pointed so that learning for the great variety of students who make up the student body is relevant and hopeful, it will be a great success.

A major requirement of educational facilities is the ability to ease the transitions to improved education. The aims of faculty, administration, and students to develop an education appropriate to today and tomorrow, preserving the best of the past, can be strengthened by spaces that support such efforts. Basic to the developing program is institutionalizing the teaching of students to think for themselves. In this review, inquiry or problem-solving is central to instruction as opposed to retention and recall of what a teacher tells. This is not to suggest that facts and skills are unimportant. Quite the contrary, it demands that facts and skills be learned under the pressure of need arising out of students' attempts to organize and synthesize knowledge into intelligent response to significant issues.

To give students the opportunity to inquire, to thrash around in a problem in order to find a solution, requires time in the schedule and space and materials in the building with which to work. Independent work or small group effort requires open laboratories, open-ended experimentation, and students and teachers involved in inquiry.

In the high school, teachers are seen moving to a role of counselors to learning. A team of staff members can appropriately work with groups of students, in which the several capabilities of staff

members are more efficiently utilized. Variations in training can be recognized in a team composed of professionals, paraprofessionals, technicians, and clerical assistants. The facilities must be capable of transition from regular classrooms to a wide variety of instructional room sizes. The most important result will be the need for large, open areas for independent and small group work.

The school, too, must relate closely to students. A series of clusters, involving a staff team and guidance people, is proposed which can serve as the home base for two groups of 200 students each. Involved with the staff teams for significant parts of their educational program and able to use the space for independent study, counseling, and as a general base of operations, the clusters should help to build rapport and respect between staff and students, assuring the students of a friendly and supportive attitude of school toward his efforts to learn. If this be supplemented by a sharply improved cafeteria, some informal association areas related to the cafeteria or the clusters and the development of a high level of student responsibility for the operation of informal spaces, the function of the school in relation to individual students can improve.

In order for students to learn by involvement in inquiry a substantially enriched supply of books, reference works, tapes, magazines, films, and similar resources is needed. The degree of difference is substantial when compared to the ordinary educational program in which the resources of the school are used to supplement textbooks. The development of a superior library with wide-ranging materials from books to tapes is a matter of central concern in the development of the school.

Within the school, and as the program of the school extends out into the community in cooperative programs, it is essential that a clear view be provided students of the great variety of occupational patterns and the wide opportunity for significant employment that does exist for the well trained and competent person. Sharp upgrading of occupationally-oriented programs now available is proposed, indicated by the extension of proposed programs into computer technology, health-related occupations, and similar fields.

A modern high school must be many-faceted, drawing students into many areas of life. The enrichment of the experience of all students in the arts represents a need of high import. Students of talent, too, require time and space to work intensively in their areas of interest. Currently, the spaces available are limited, indeed. In this connection, the redesign of the auditorium can provide an area for talent, improve its acoustical qualities and also increase its usability as a teaching space.

The school should serve its community well, and a more effective auditorium and arts space is one area of value. The required improved physical education spaces, too, can serve sports programs and community as well.

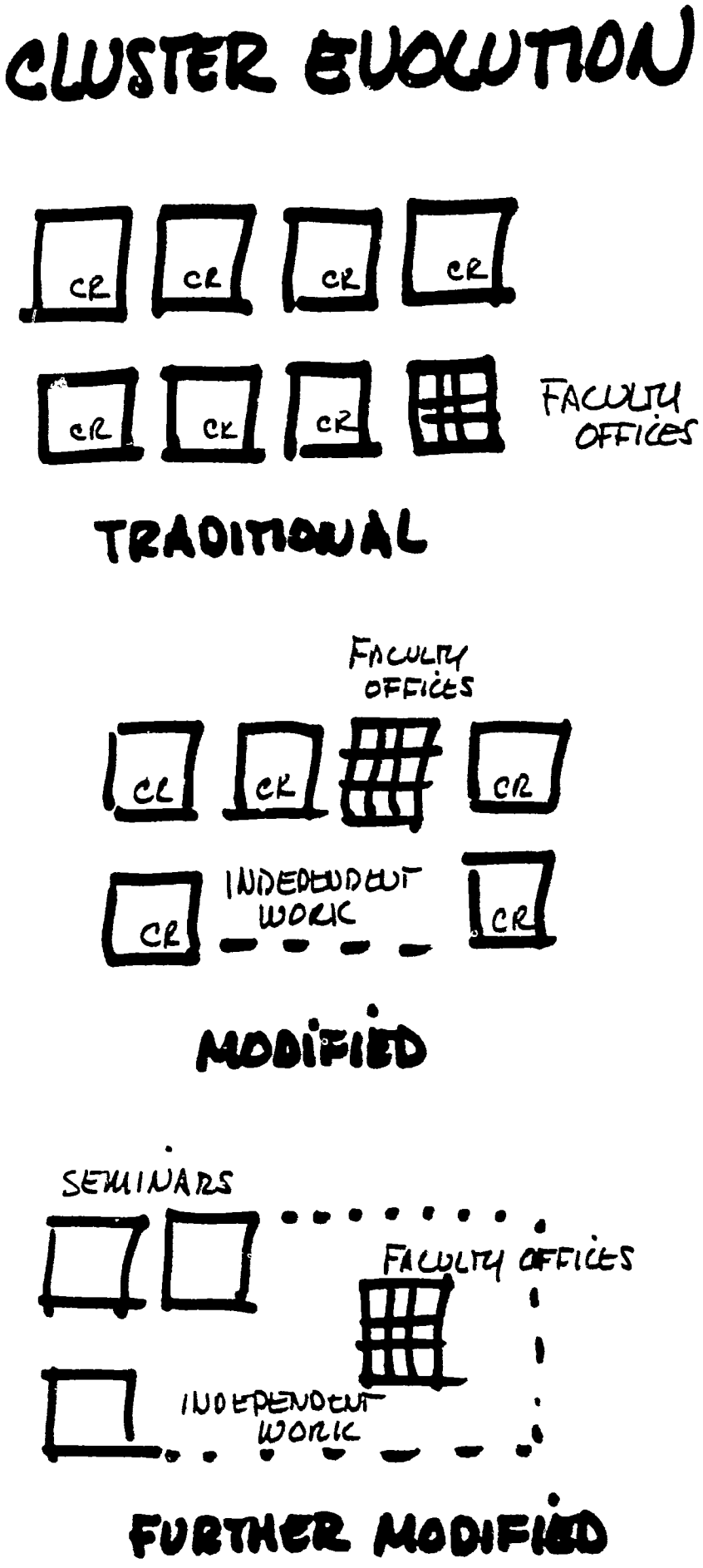
Of major concern is the redevelopment of this proud school so that it will support the staff in their efforts to make the institution a truly significant school. There is no better place to start.

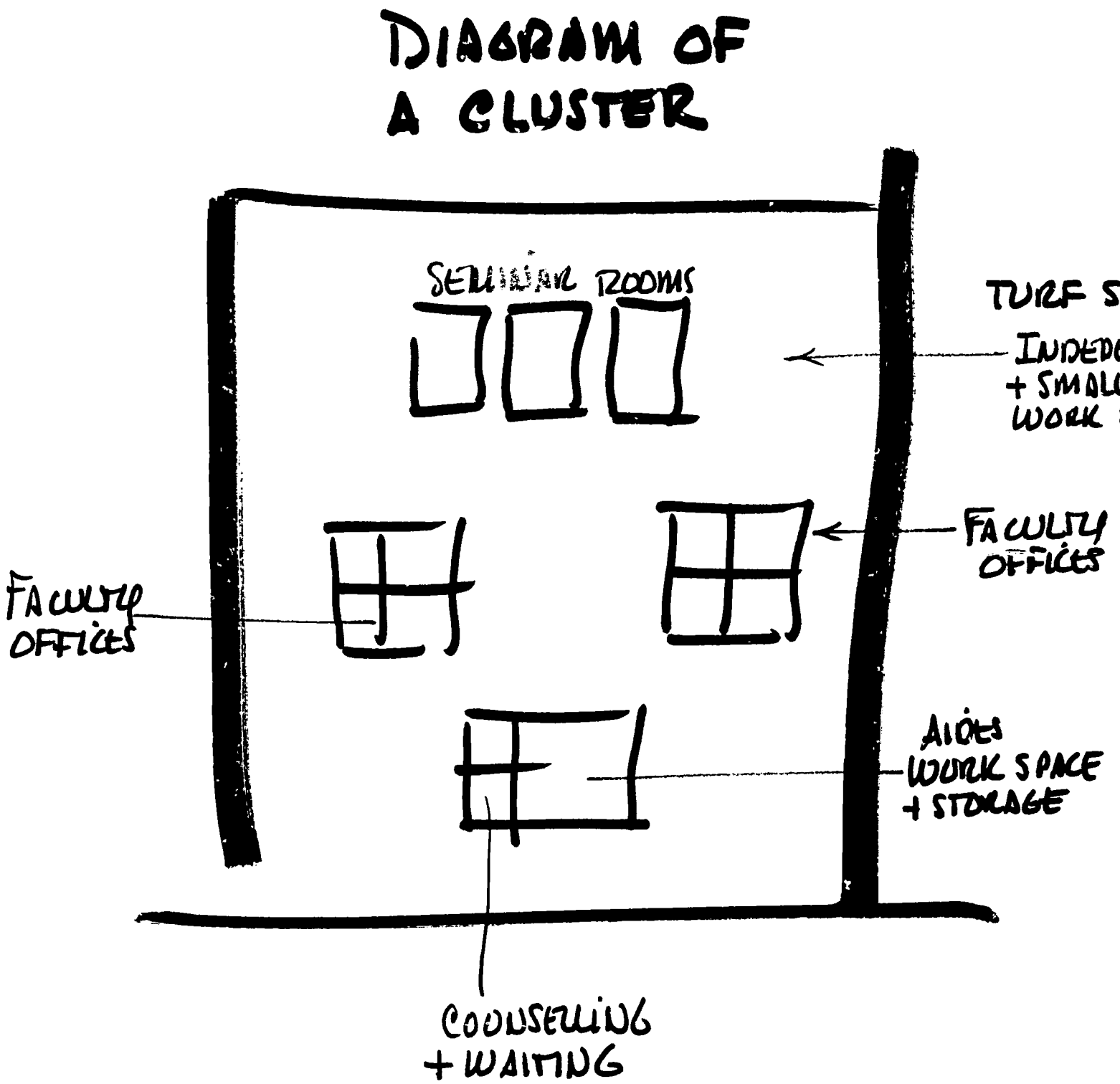
The analysis of educational program, meetings with students, faculty and students, and study by the consultants resulted in the statement in words and numbers of a picture or model of the Western High School as if nothing existed. The architects were required to fit the existing space to the new statement of needs on the 1968 model Western High School. The details of the mathematical description follow later in the report. The essential facets of program and space needs are stated here and provided the essential direction for the architectural reworking of the building. In a sense, the major themes are restated, in words, in numbers and in drawings as a key to a new old school.

CLUSTERS

A central concept proposed is the development of a cluster of classrooms, independent work space, and staff space that will humanize the large, subject-dominated high school and will provide for close and friendly interaction of staff and students in a relatively small group. This is proposed to assure that students have the close concern of the faculty and that even in a large school no young person will be lost or ignored or neglected.

The close relationship of social studies and English instruction stressed in the staff discussions, the need for closer relation of faculty and students, and the need for faculty work spaces, increased resources, and greater amounts of significant independent work for students suggests an hypothesis of a cluster of spaces available for





joint discipline use. In terms of space, this might take the following form.

With 1,500 students enrolled, about 400 students a day could be considered the ideal teaching load for the equivalent of four teachers for each subject, or a total of eight teachers for two subjects: English and social studies. Four clusters could be developed that would house about 200 students at a time for extended back-to-back scheduling, plus serving as a home base and student-faculty joint area. Each cluster would be shared by two groups of two hundred students a day.

Although in view of present staffing, three clusters each with 500 students might represent a more realistic load, for this purpose the more idealistic approach has been used.

Each cluster has been developed with a guidance counselor and space for independent work using programmed instruction, assembled readings, and other multicopy supplementary materials. The resource area, so developed, is not a library or a substitute for one. It may, in time, have electronic access to an information retrieval system. Materials appropriate to the subjects or topics discussed may be assembled here. The main attribute of the space is its existence as a kind of laboratory, where students in small groups, or even alone, can deal rigorously with issues and bits of learning, evaluating their own progress, being evaluated on their ability to deal with problems, learning information and the like.

The usual scheduling of English and social studies at Western High School would require for 1,500 students some 23 classrooms and 27 faculty members. If more social studies courses were selected, say at the rate of English, some 28 rooms and 32 faculty members would be involved. Again, at the moment, we have taken the view that English and social studies are required of all students each year and that consequently for each of four clusters the equivalent of seven rooms and eight faculty members will be involved. Two hundred students at a time would be in the cluster. Lecture space in the auditorium is also anticipated.

Thus for the two groups scheduled into the cluster it would require, in the course of a week to handle:

4 Lectures (in auditorium)
72 Discussion group meetings of 25 students
400 x 4 or 1,600 individual student periods per week in independent work.

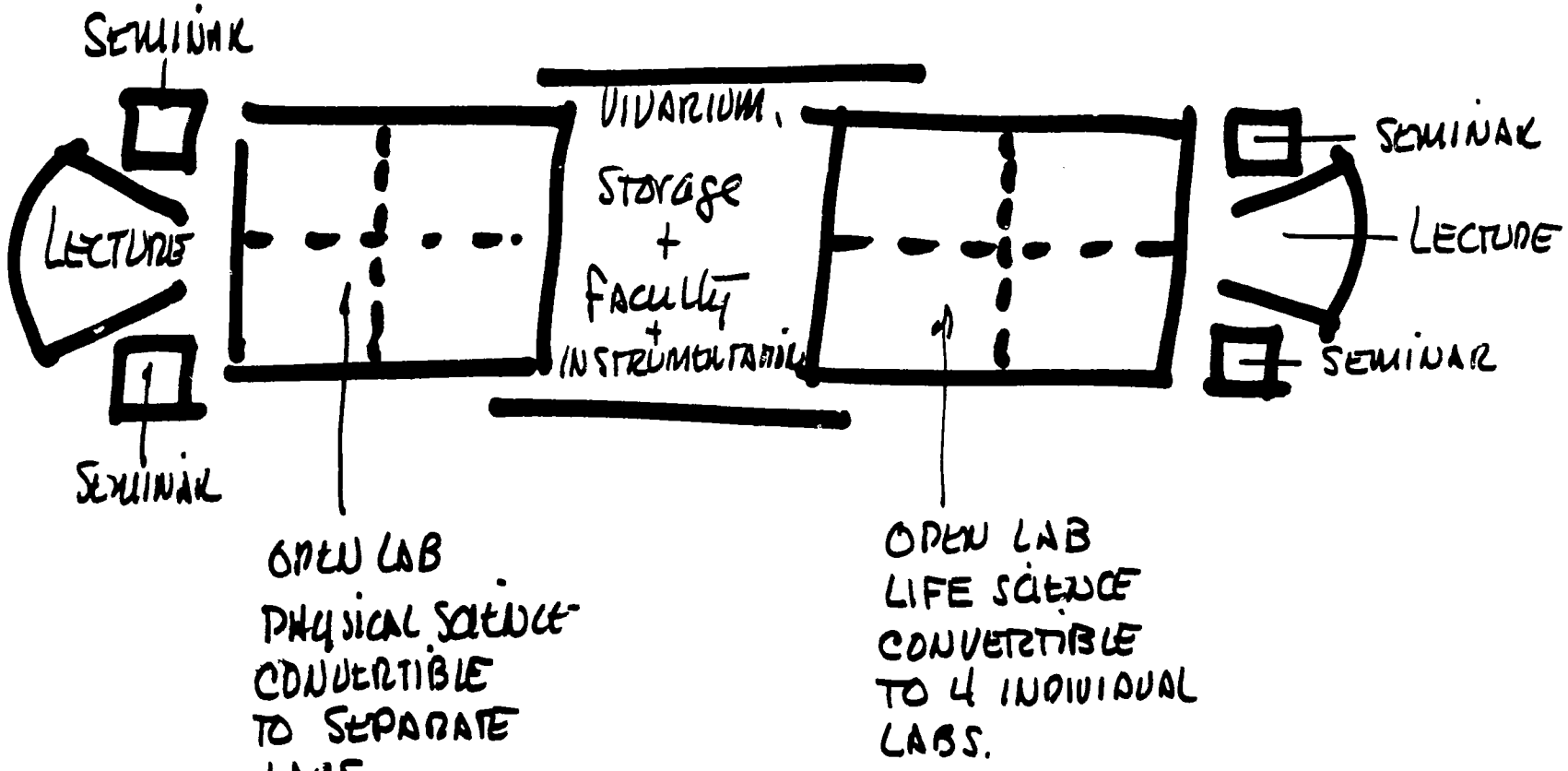
With the present 35 period week, 3 seminar discussion rooms for 25 students will provide for the required 72 weekly periods of discussion. The equivalent of 4 classrooms could be available for independent work. In 35 periods, an average of 46 students and a peak load of 60 students would be expected to be involved here or in the library in independent work. The space would be adequate for this purpose.

The diagram of cluster evolution shows several ways in which the space could be redeployed. This implies that the transition from classroom to a more varied way of instruction with large and small classes and with independent work increasing in importance may take place as the faculty moves and responds to the capability of change.

The mathematics program is aimed at providing a much more intensive individualization of program than is possible in the usual average graded class. The move toward heavy use of data processing equipment suggests that mathematics becomes a real tool to thinking and communication. The program can flourish under the impact of technology from the use of closed circuit video originating tapes that will be used to check the math homework or transmitting the computer terminal printout to a study location to the greatly expanded use of the computer both as a mathematical tool and as a medium of instruction.

Mathematics in application now relates heavily to science and will relate heavily to the behavioral and social sciences. Schools are on the edge of illustrating wholesale application of mathematics or quantitative studies to the human condition.

Science in the proposal moves closer to the open laboratory where students do work more individually upon projects and where both the mathematical content and the speed of accomplishing the project may vary with individual students. In science, with some effort, there is no reason why the investigation of topics that make up a course cannot at the same time illustrate the topic and appeal to the interests and back-



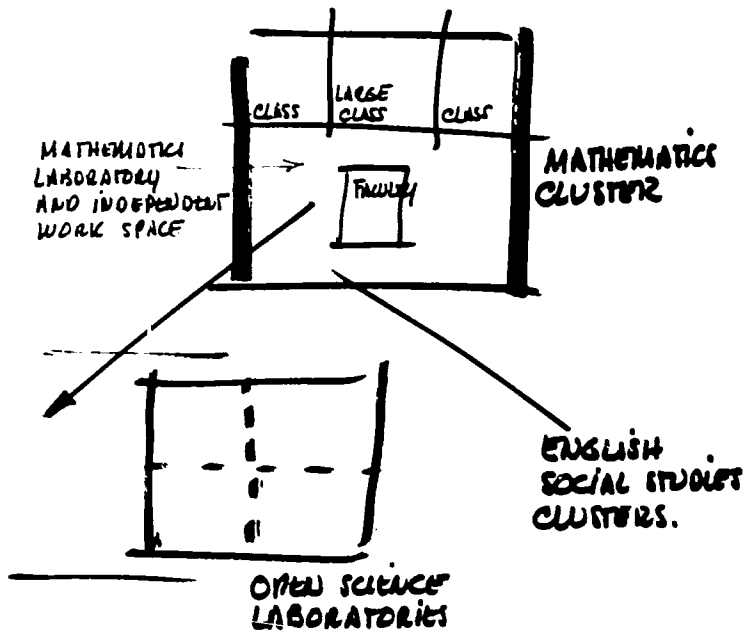


DIAGRAM OF MATHEMATICS CLUSTER RELATIONSHIPS

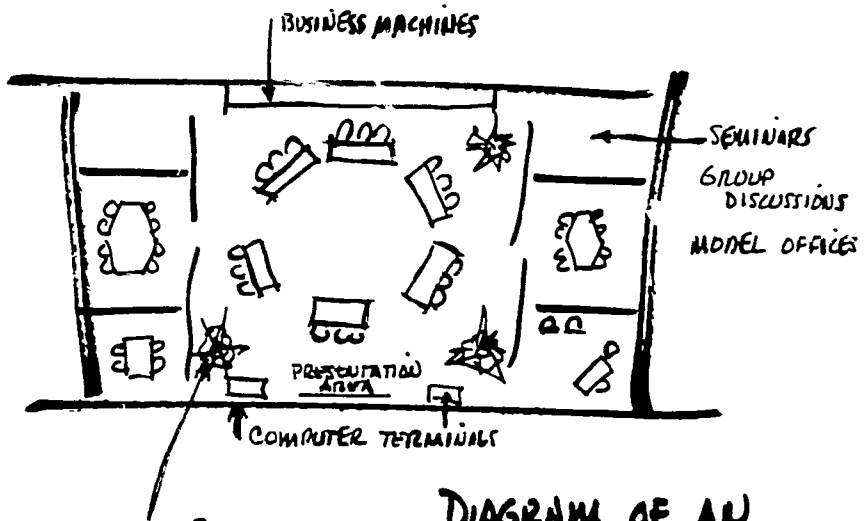


DIAGRAM OF AN AMERICAN BUSINESS LABORATORY

A SPACE DESIGNED FOR SIMULATIONS AND USED TO TEACH SKILLS IN THE CONTEXT OF THE WAY SKILLS ARE USED IN BUSINESS

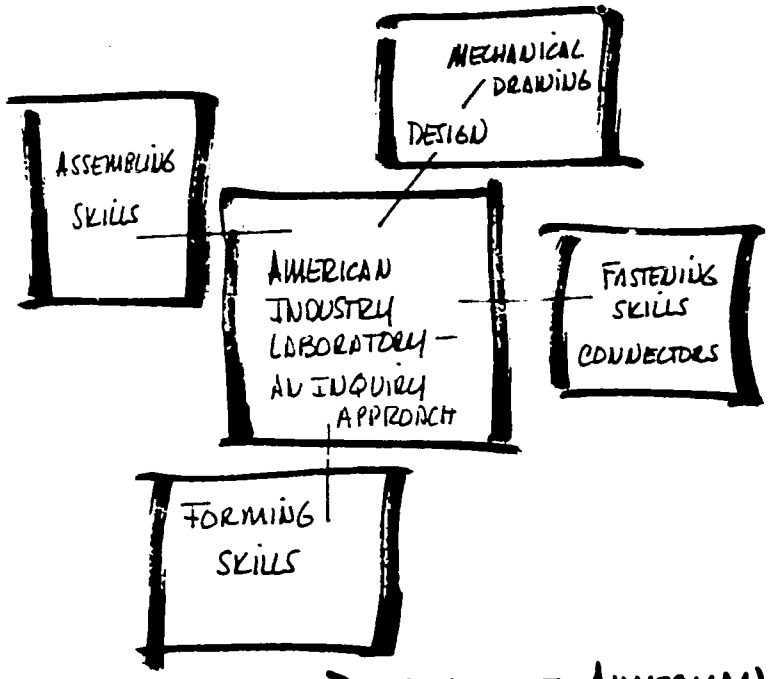


DIAGRAM OF AMERICAN INDUSTRIES LABORATORY

ANY COLLECTION OF SKILLS WOULD BE POSSIBLE. THE SKILL SHOPS MIGHT EVEN BE CATEGORIZED AS WOOD OR METALS, OR ELECTRONICS AND POWER MECHANICS

ground of the students. One of the major possibilities of dealing effectively with disadvantaged young people is to vary the speed and to select investigations that deal with a generalized topic so that the work is relevant to the student.

The open laboratory, keyed to discovery and investigation, with generalization following the laboratory approach offers much to the modern secondary school, particularly in the urban areas.

AMERICAN BUSINESS LABORATORY

The American Business Laboratory was proposed as a cental area in the business education department of the McGavoch High School. It is proposed that such a laboratory be provided in order that the learning of skills in the business education program can be illuminated and motivated by understanding the context in which the skills are used. Essentially, the laboratory is viewed as an arena for various kinds of simulations.

The classic simulations in business have been developed at Carnegie Tech and the American Management Association. A similar kind of simulation involving business decision making could well be used at the high school level. It is this kind of experience that would make the theory and practice of bookkeeping real. The introduction of students to the job through the whole setting of business enterprise would be an interesting approach.

Simulations are common in business. By using low cost video tape recorders, corporations frequently provide a self-training situation where young salesmen practice their presentation of proposals to prospective customers. Reception of visitors, telephone answering, and a myriad of other aspects of the business world can be recreated in the laboratory. Model or practice office procedures can be employed. Much of the effectiveness of a person in business is made up of poise, pleasant voice, and attractiveness of personality, characteristics that can be practiced in the laboratory.

In the future, certainly and hopefully as soon as possible, the business education laboratory should have computer capability, possibly through a terminal connected to a central data processing facility. This would support the kind of management simulation proposed as a basic tool of the laboratory. The computer terminal will give feedback of data on simulated decisions so much faster and in so much greater detail that such a use of data processing seems inevitable.

The availability of computer terminals will offer wide opportunities for successful extension of the business education program since the use of data processing equipment is now so general as to make understanding of the equipment mandatory.

A simple diagram of the space needs follows the partitioning, self-supporting and perhaps 6 feet high, providing alcoves that can be used by management teams in the basic simulations, as model offices, for video taping of the sales presentations and similar exercises. Most of the room would require open space furnished with tables and chairs. A presentation wall with chalkboard, overhead projector sources, and other visual aids are needed. Provide storage cabinets. Locations for future computer terminals should be indicated with the capability of getting electronic gear to such locations. Information retrieval terminals will be provided one day with systems installation capabilities needed.

OCCUPATIONAL AREAS

The shops of American schools generally quite accurately reflect an introduction to American Industry of the late nineteenth century. The inquiry approach to industrial arts and occupational training (and they are part of the same continuum) is best reflected in the work of Lewis Yoho and his colleagues at Indiana State University. The idea of students seeking to design, manufacture, cost, package and to simulate a manufacturing enterprise from scratch has infinite appeal compared to making tieracks. Again skills can be learned in context. It becomes clear how important it is to understand process, to see skills in the light of the process in which they have important roles and, by so doing become aware of the wide variety of opportunities that are available for young people in American Industry.

The American Industry Laboratory is focal to more specialized skills centers.

A detailed suggested educational program for Western High School is outlined beginning on page 33.

patterns for development

In presenting the architectural studies which follow, the architects are not, in any sense, recommending any one particular solution to the problem of Western High School and its facilities. Rather, they have chosen to present a whole series of possible solutions, ranging from a simple expansion of the existing building to a concept which envisions an education "park." Between these extremes are any number of possibilities—some of which are included herein, to stimulate interest and develop comment.

The consulting team is well aware that the Board of Education will make the final decision and that such a decision will need to encompass many considerations other than planning and architecture. The range of choices shown herein should, it is hoped, make their task easier.

It is, perhaps, important to point out at this time that while many discussions were held with students, faculty members, community groups and the Board of Education and its administrative staff, the educational program and the various architectural solutions, as presented hereinafter, do not reflect any official positions take by the Board of Education or of any of the groups or individuals named above. This report simply represents the best thinking of all of the consultants who were participants in the study. In choosing to develop an educational program along non-traditional lines, the consultants recognized that they were making the task, insofar as architectural solutions are concerned, much more difficult and, hence, more challenging. By setting themselves the most difficult task, the consultants felt that they could better demonstrate the feasibility of bringing new vitality and enriched education to Western High School. It is obvious that a more conventional educational program could be that much more easily housed in the existing building.

The ten schematic studies incorporated into this report represent three different approaches taken by the architects in accomplishing the objectives outlined in the educational program. Expressed in simple terms, the three areas which appear to hold the greatest promise for accomplishment of the educational goals are:

A. Studies relating to the existing building and site.

B. Studies relating to the existing playfield.

C. Studies relating to an education "park."

Each of these is discussed in some detail elsewhere in this report.

While it is considered that all of the schemes, with one exception (Scheme 4), fully meet the educational objectives and the prescribed space requirements, as set forth in the educational program, only one study (Scheme 1) shows the complete planning development. This was done deliberately – not so much on the basis of any preference but simply because that particular scheme demonstrates the maximum utilization of the existing building and site and fully satisfies the programmed criteria for educational needs. Scheme 2 has also been partially developed to exemplify a solution which unites playfield and academic building on closely related sites.

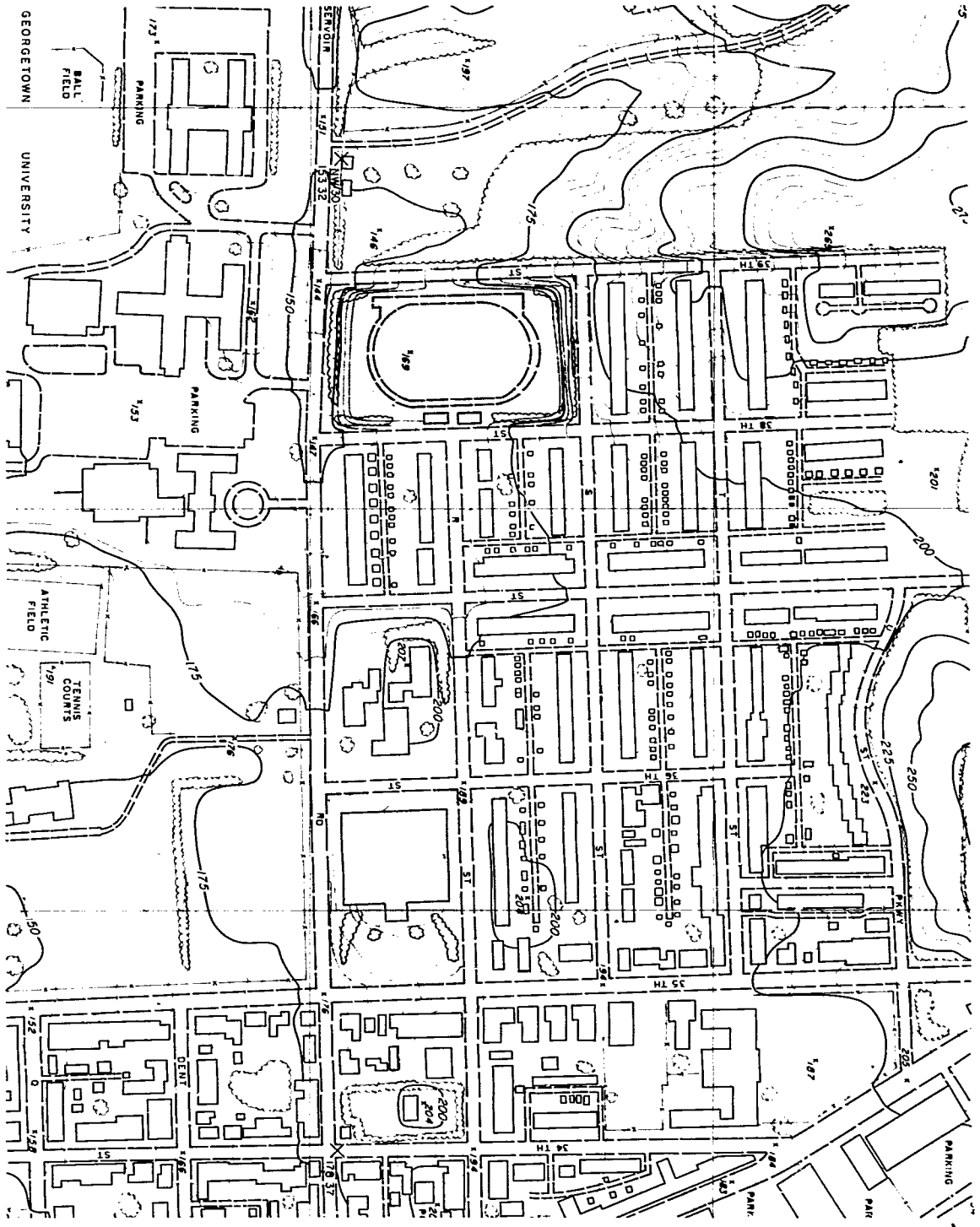
The educational program indicates that a building of approximately 250,000 gross square feet would be required to meet the needs as outlined therein. This figure is predicated on new construction and would need to be increased somewhat for those studies which make use of remodeled space. The structural and mechanical investigations, pertaining to the existing structure, were limited to visual observations and examination of drawings and reports from the staff, accordingly, cost figures assigned to the various studies can only be expressed in ranges of estimated cost rather than in precise figures.

It should be noted that in some of the public meetings held during the study period, some suggestions were made that Western High School should be abandoned altogether and a new high school constructed outside the Georgetown area. The consultants felt that these considerations were beyond the scope of the present study and, hence, have not considered any schemes other than those that are located in the immediate vicinity of the present Western High School site.

Finally, the consultants are well aware that some of the schemes outlined will be considered impractical and unrealistic, because their accomplishment would require the "taking" of open land and of land belonging to religious institutions as well as acquisition of presently occupied private dwellings. Nevertheless, it was felt that to neglect these seemingly impossible alternatives would serve to weaken the whole purpose of the study—to evaluate the problems and suggest solutions for Western High School and its facilities.

The whole question is really a matter of values. If education in the District of Columbia is, indeed, of prime importance then the **impossible** might become entirely **possible** and Western High School could become an educational landmark as well as a historical one.

the alternatives



LOCATION PLAN

On the following pages ten possible schemes are analyzed with three approaches to site utilization.

EXISTING SITE:

Scheme 1. Major Modifications to building. Retain playfield.

Scheme 2. Land Acquisition to South. Sell playfield.

Scheme 3. Land Acquisition to West. Retain playfield.

Scheme 4. Minor Alterations to building. Retain playfield.

PLAYFIELD SITE:

Scheme 5. New Physical Education Building. Retain existing building.

Scheme 6. New School Plant. Convert existing main site.

Scheme 7. New School Plant with land acquisition to West. Sell existing site.

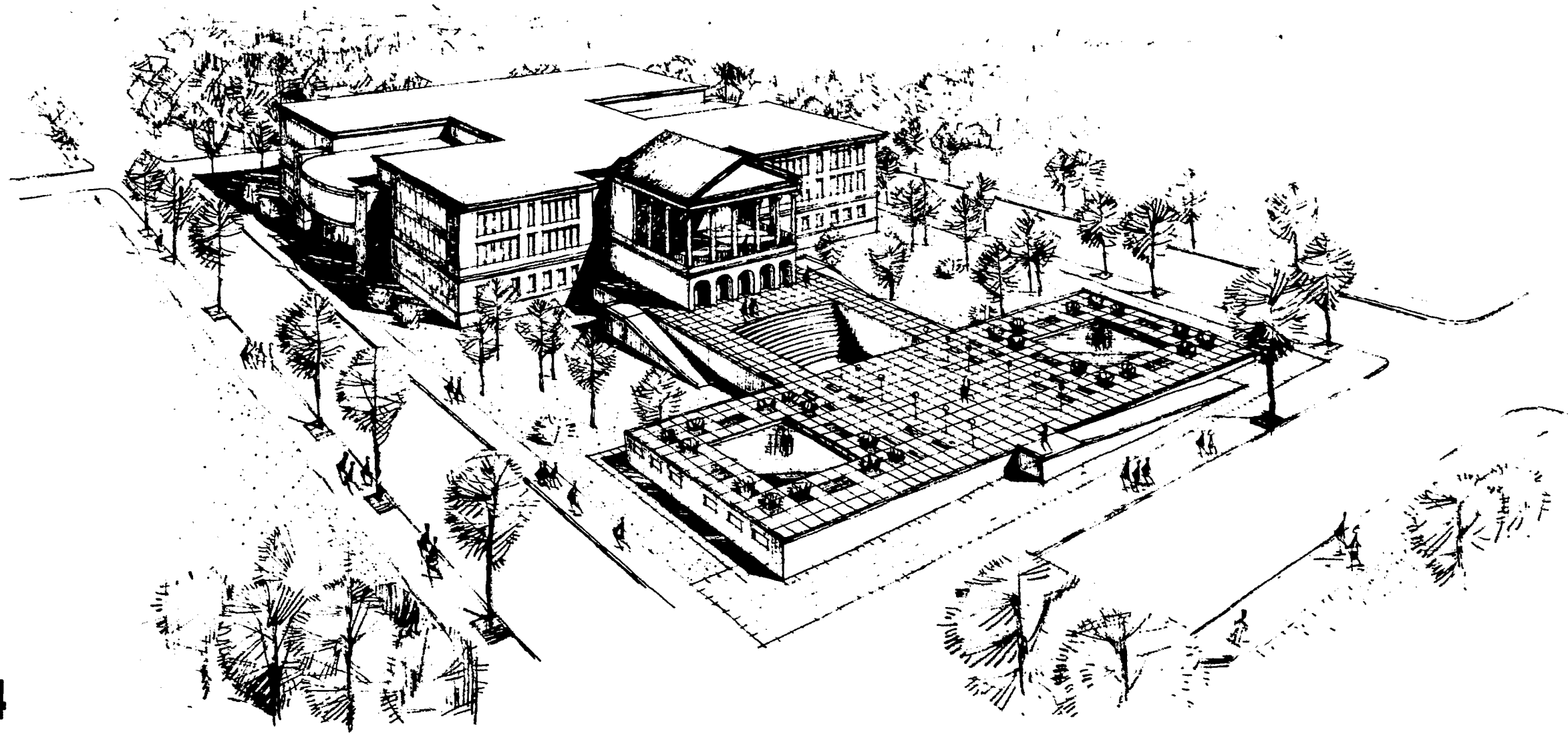
EDUCATION PARK:

Scheme 8. Land acquisition to East and Northeast. Retain playfield.

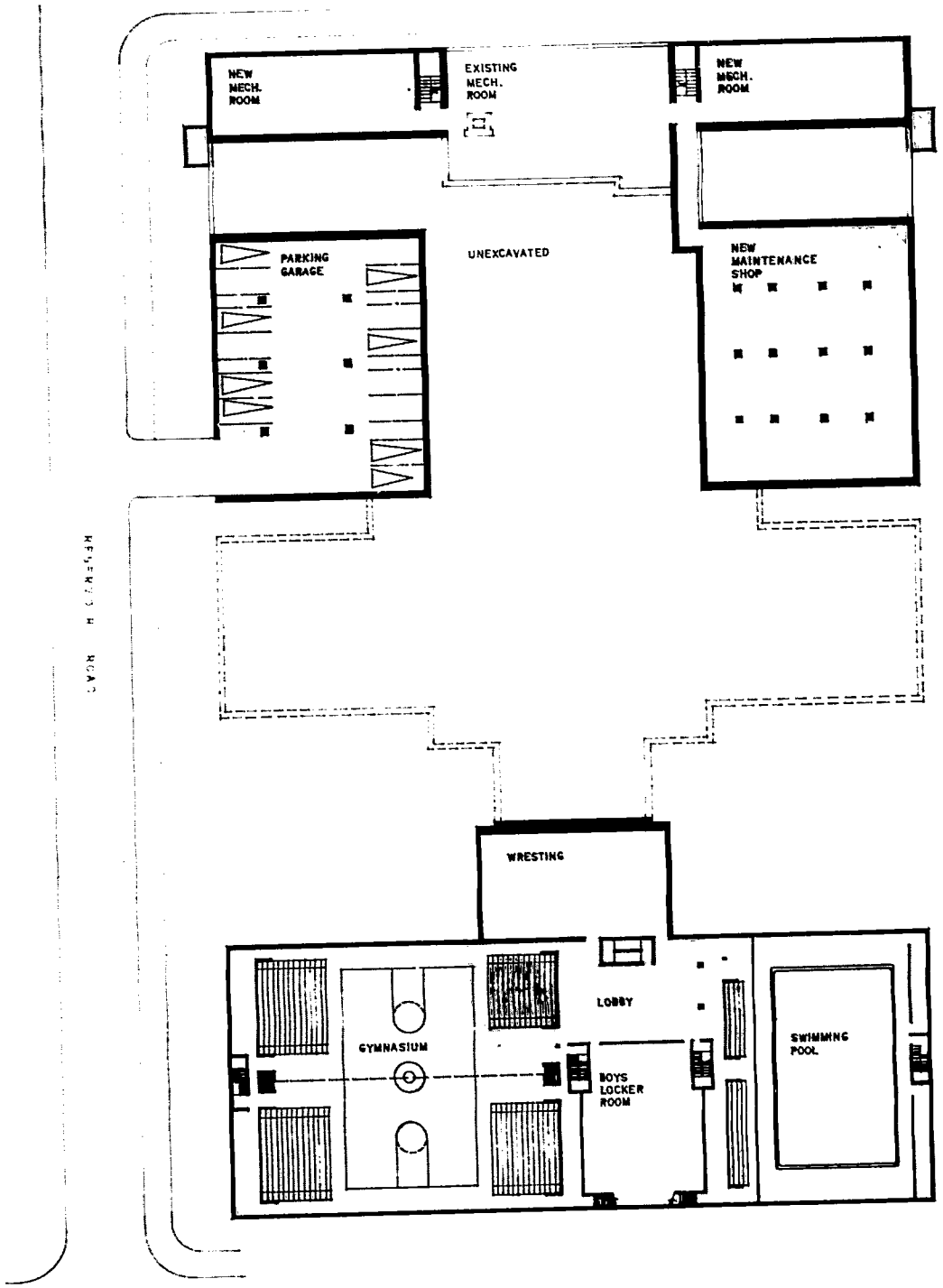
Scheme 9. Land acquisition to East and Northeast, closing "R" Street, N.W. Sell playfield.

Scheme 10. Land acquisition to Northeast only. Retain playfield.

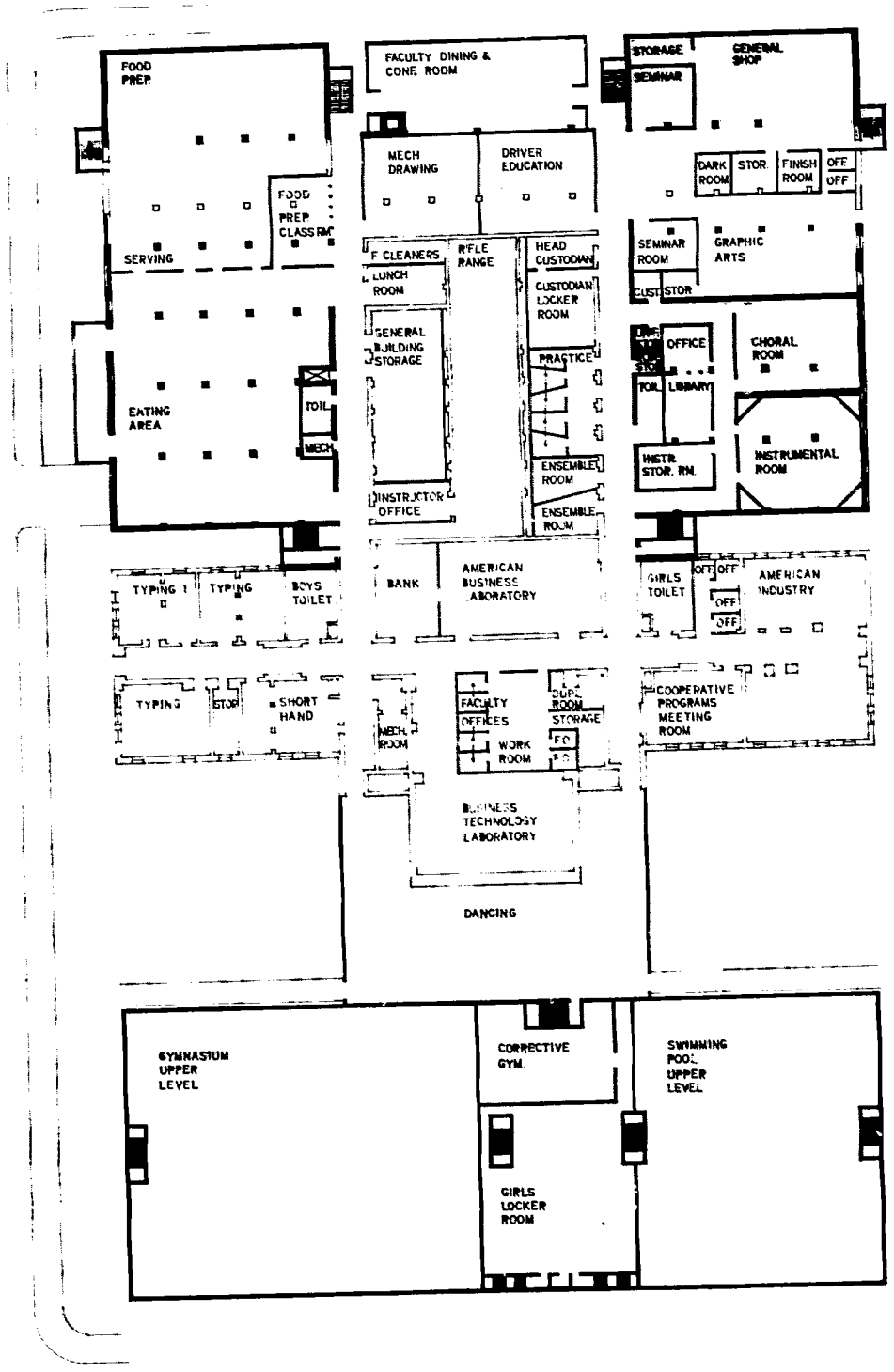
The location plan at the left indicates Western High School in the lower shaded area and the existing playfield three blocks away in the upper shaded area.



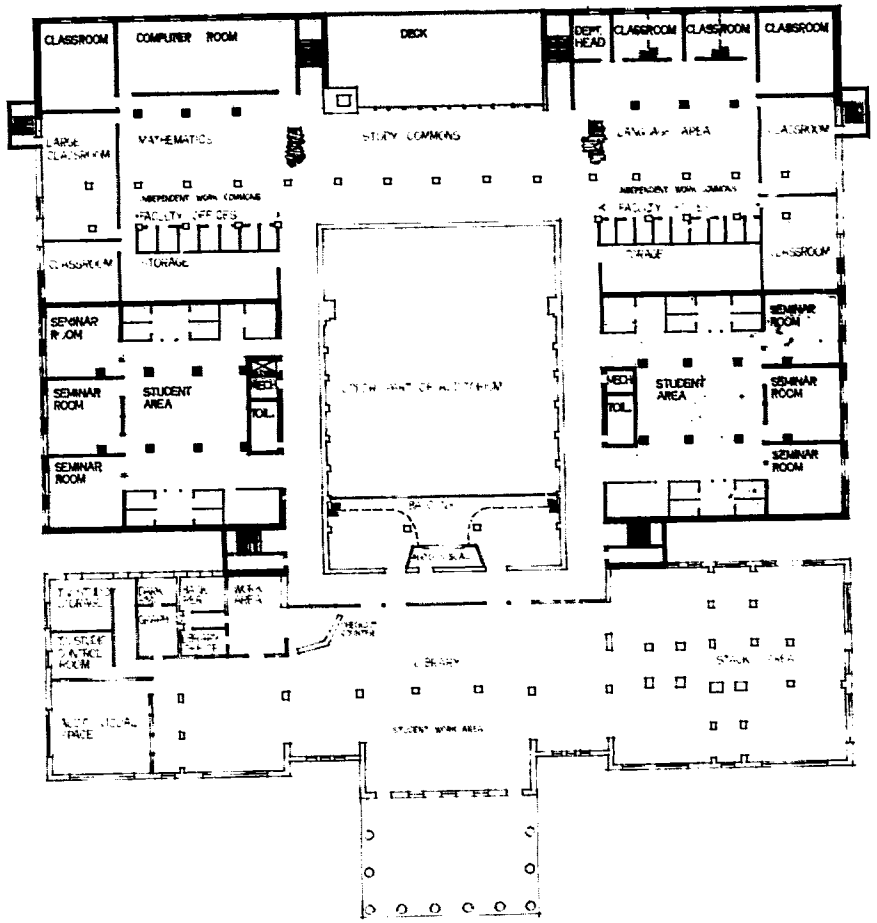
Fold out this sheet and Fly Leaf of Back Cover to compare Scheme 1 with the existing facility.



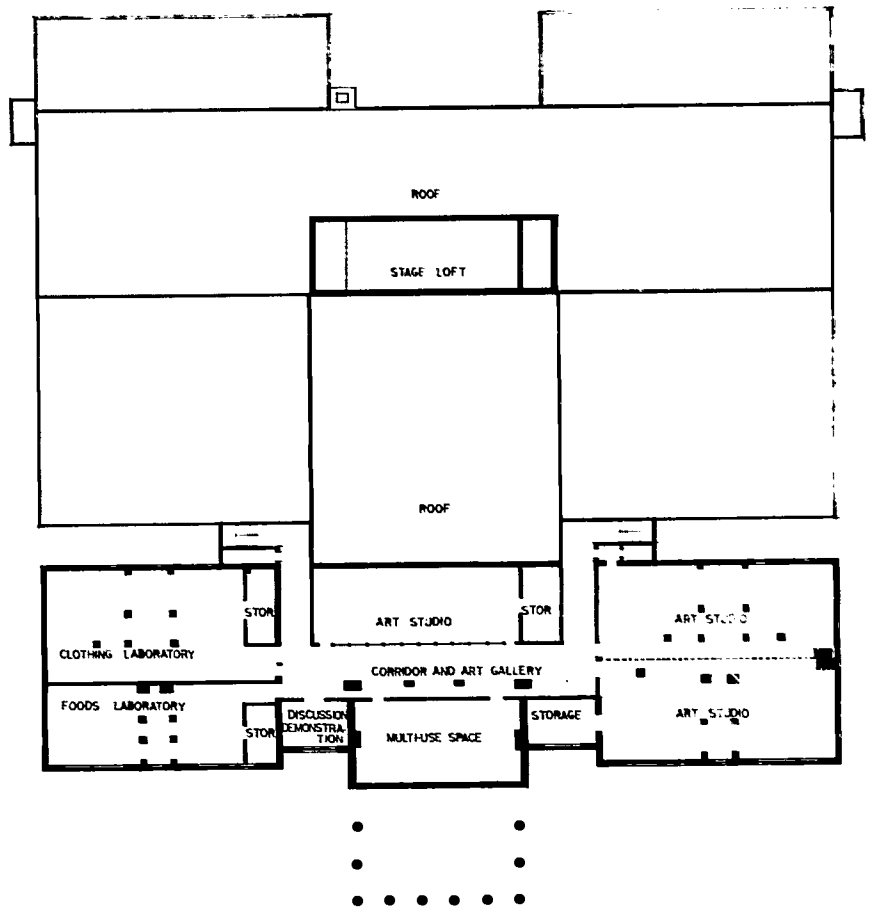
GYMNASIUM LEVEL FLOOR PLAN



BASEMENT FLOOR PLAN

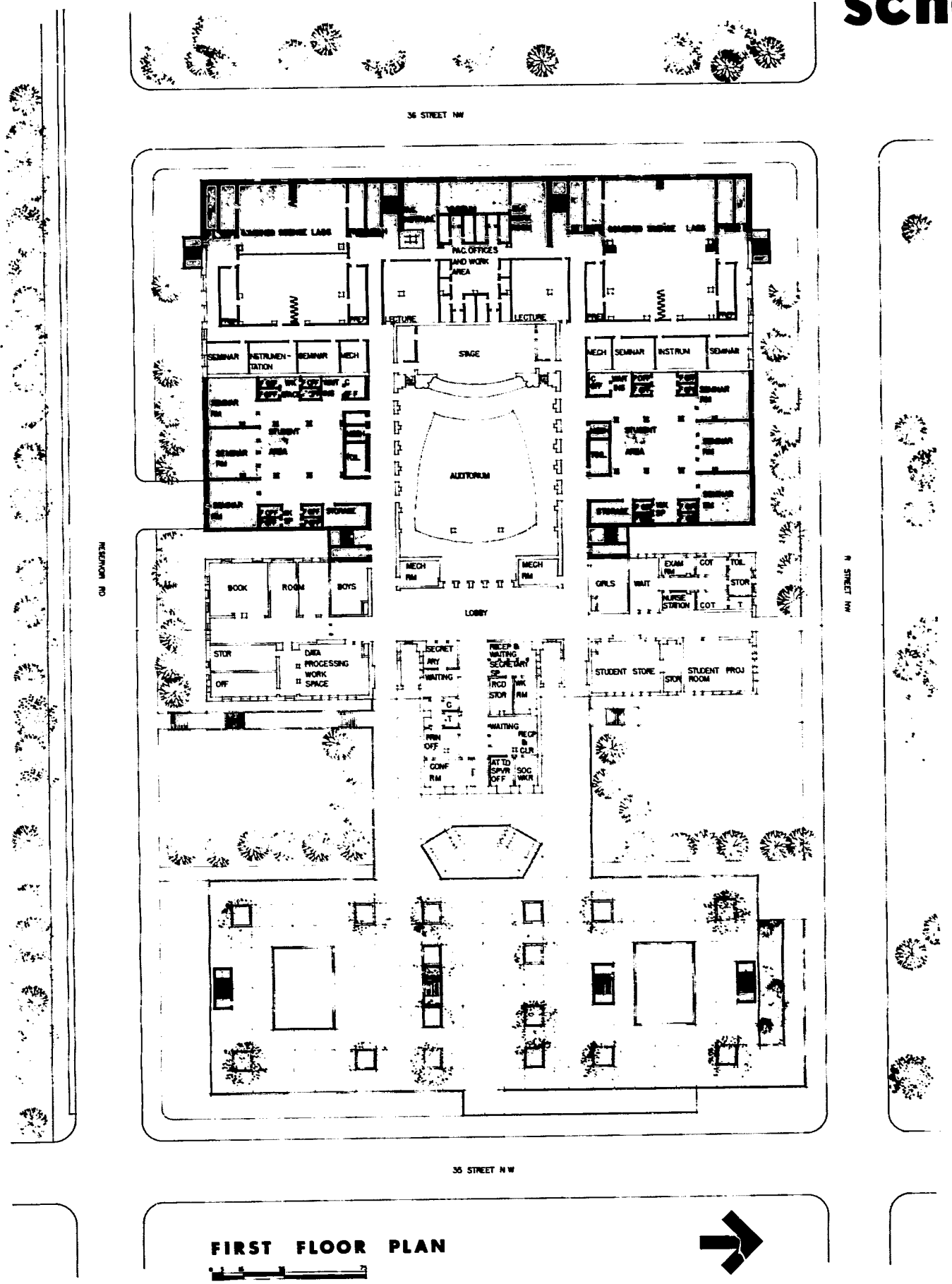


SECOND FLOOR PLAN



THIRD FLOOR PLAN

scheme 1



FIRST FLOOR PLAN

The scope of the project is contained within the limits of the existing school and playfield sites. The most evident aspect of the solution is the addition of a physical education complex to the front or East side of the existing building. Because the site drops sharply to the street, on the East, the roof of the partially depressed addition is developed as a paved, landscaped plaza at the entrance level of the school proper. The traditional architectural characteristics of the existing landmark are thereby retained and at the same time this extension to the east, with its amphitheatre, swimimng pool, gymnasium and "mini-park" recognizes the needs of the neighborhood and becomes a center for community interests.

Features of the educational program include:

Social Studies—English Clusters:

Four are provided, two stacked on either side of the auditorium, on the first and second floors. The accompanying illustration shows the proposed new construction which would replace the undersized gymnasiums.

Science:

Two open laboratories, with a central faculty and preparation area and ancillary spaces adjoin the academic clusters on the first floor.

Library-Learning Center:

A greatly expanded library occupies the second floor, front wing, and is closely related to the academic clusters.

Foreign Languages and Mathematics:

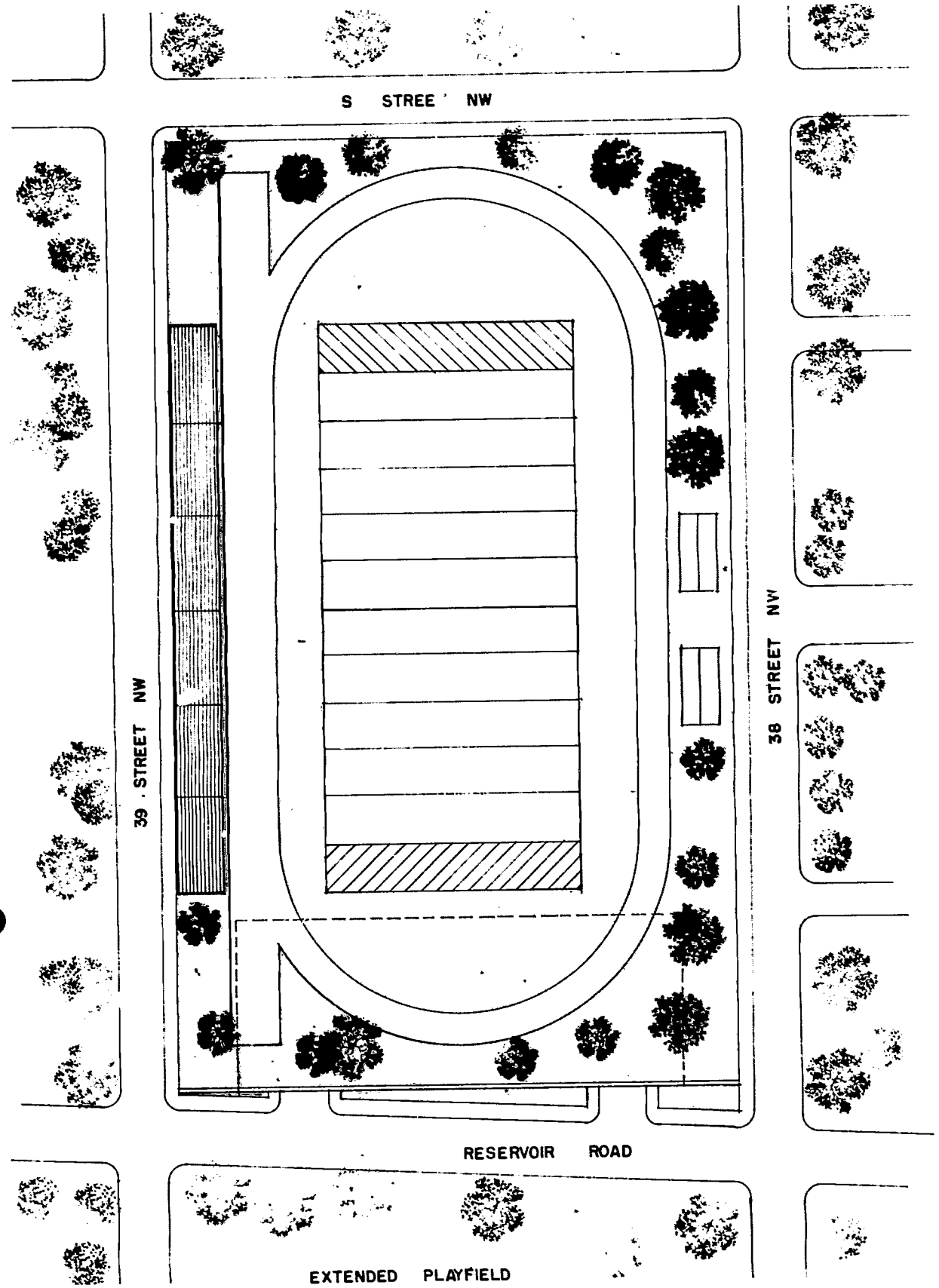
These areas surround a study commons which provides independent work spaces and are housed on the second floor between the two clusters.

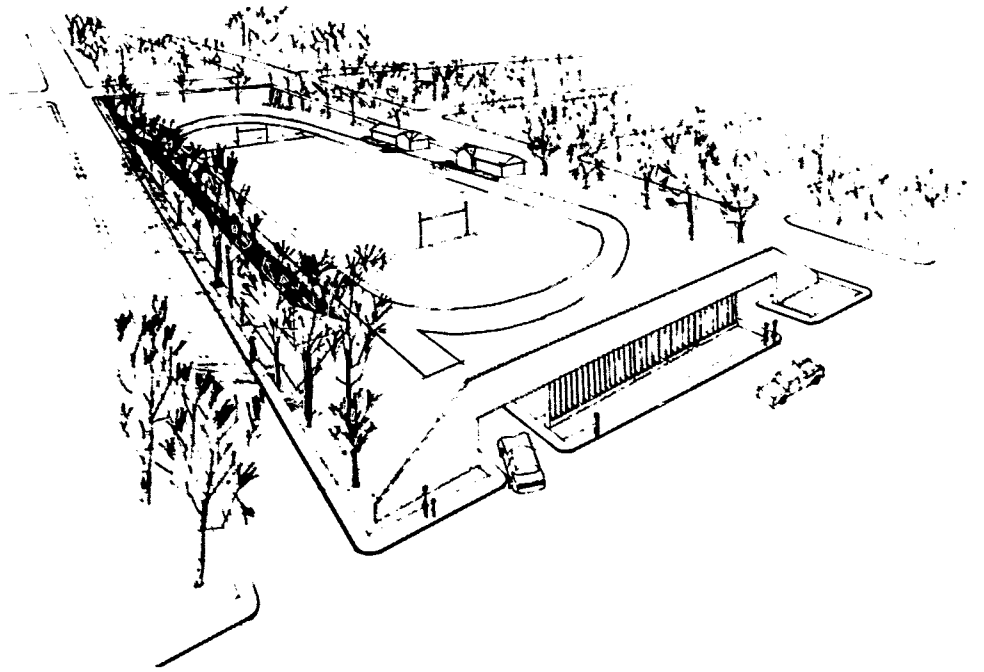
Business Education:

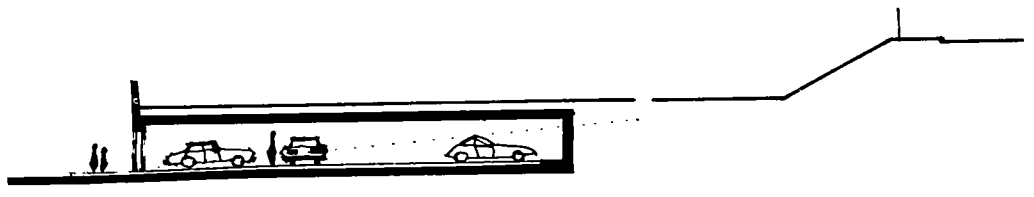
Located in remodeled areas of the lower floor, these facilities include an American business laboratory where students perform simulations to better understand the complex operations of business enterprise.

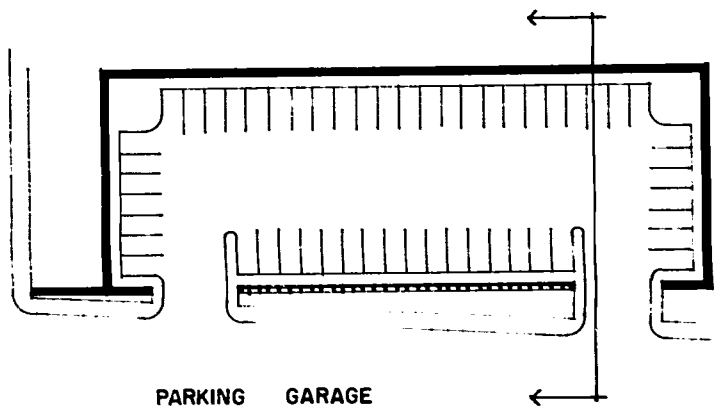
Occupational Education:

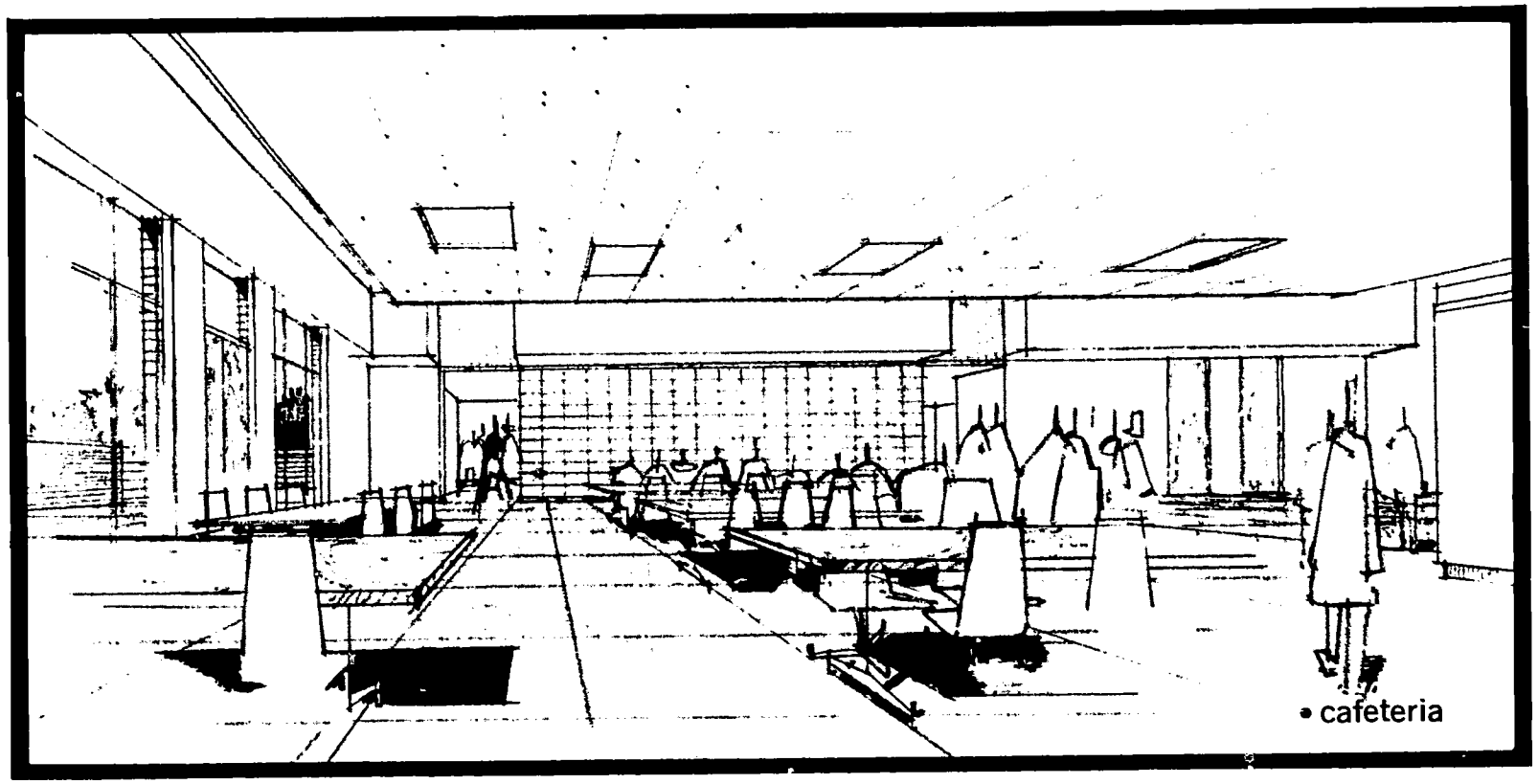
Also located in the lower level, these remodeled



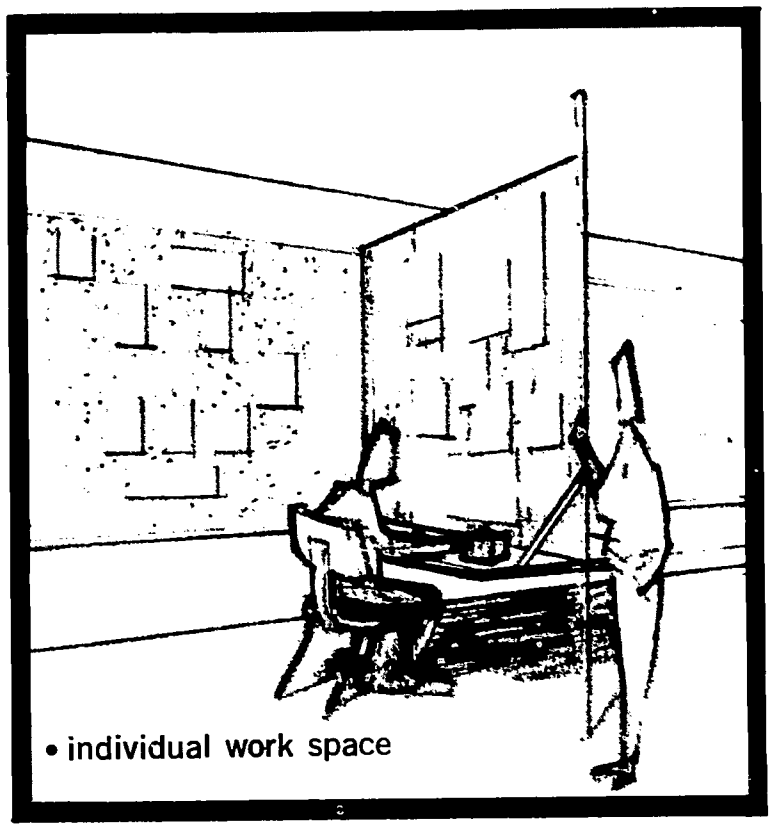



SECTION

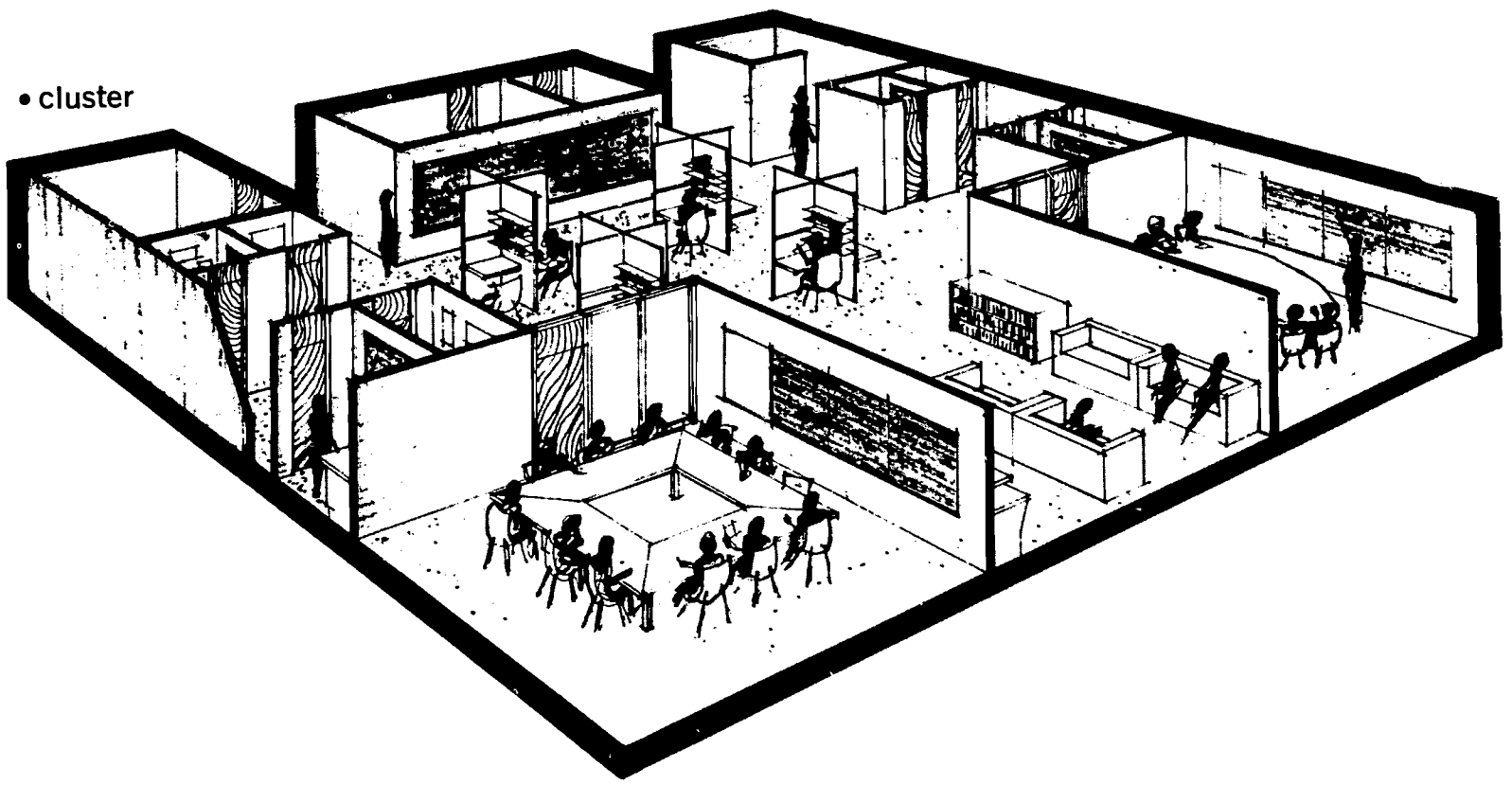

PARKING GARAGE



• cafeteria



• individual work space



• cluster

spaces provide facilities for extending the range of available programs by introducing an inquiry industrial arts program.

Music:

To be housed in an expanded area in the remodeled lower level.

Art and Home Economics:

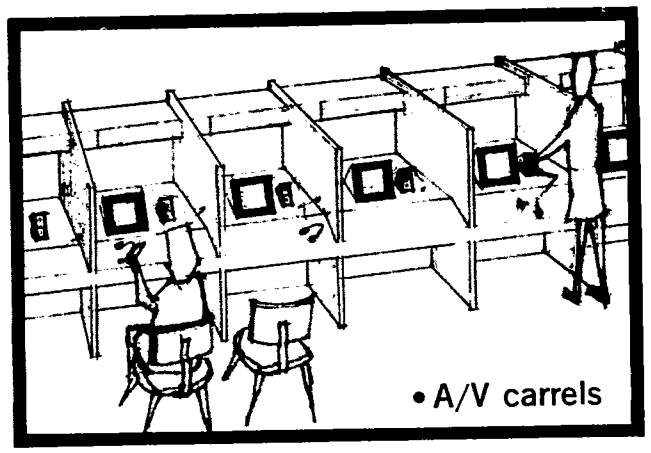
These third floor suites will include as many open laboratory spaces as are structurally feasible.

Food Service:

A relocated cafeteria, seating 500 in a series of dining spaces mixed with social areas and a faculty dining room are provided in the lower level.

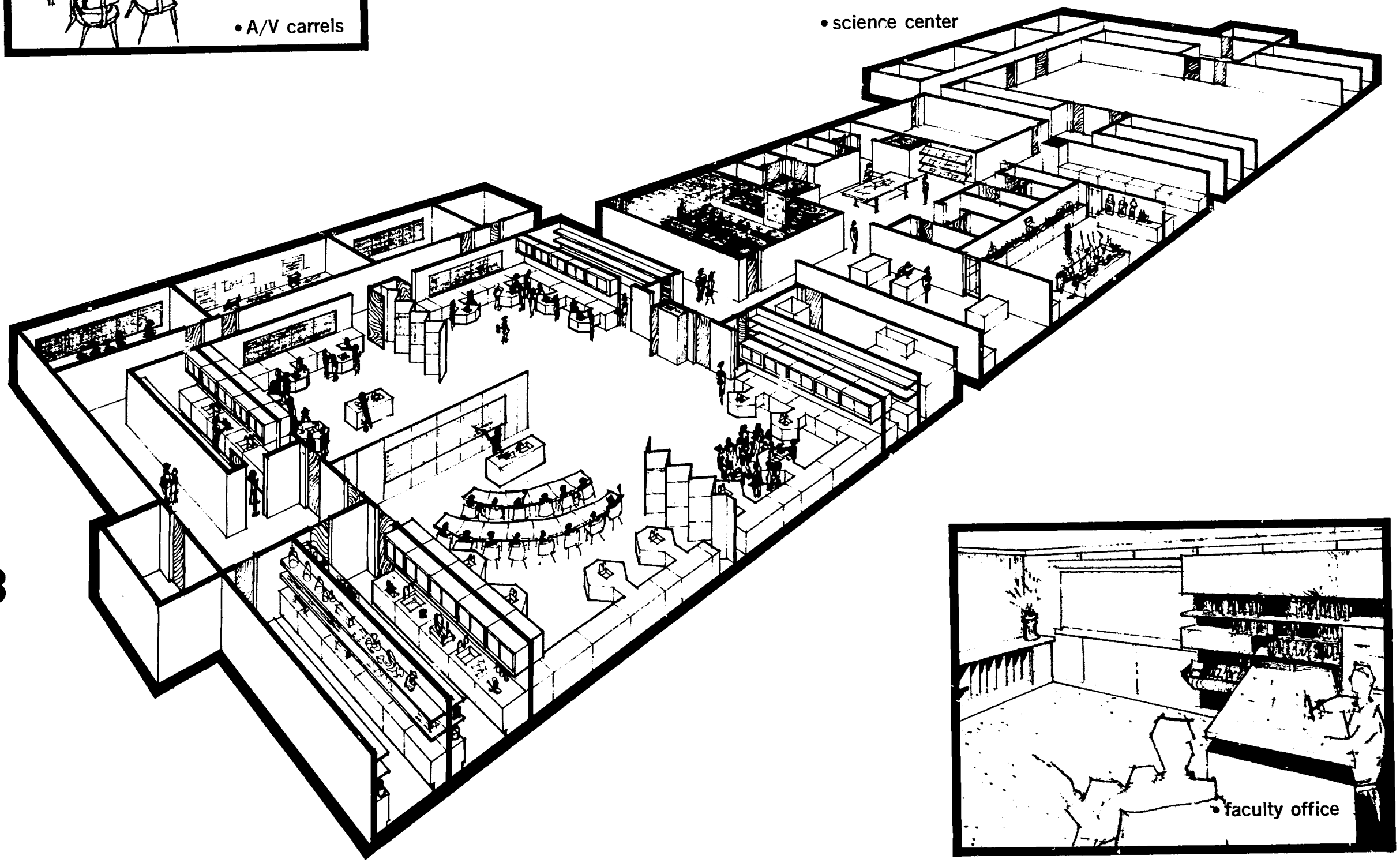
Auditorium:

The existing auditorium is to be modernized and

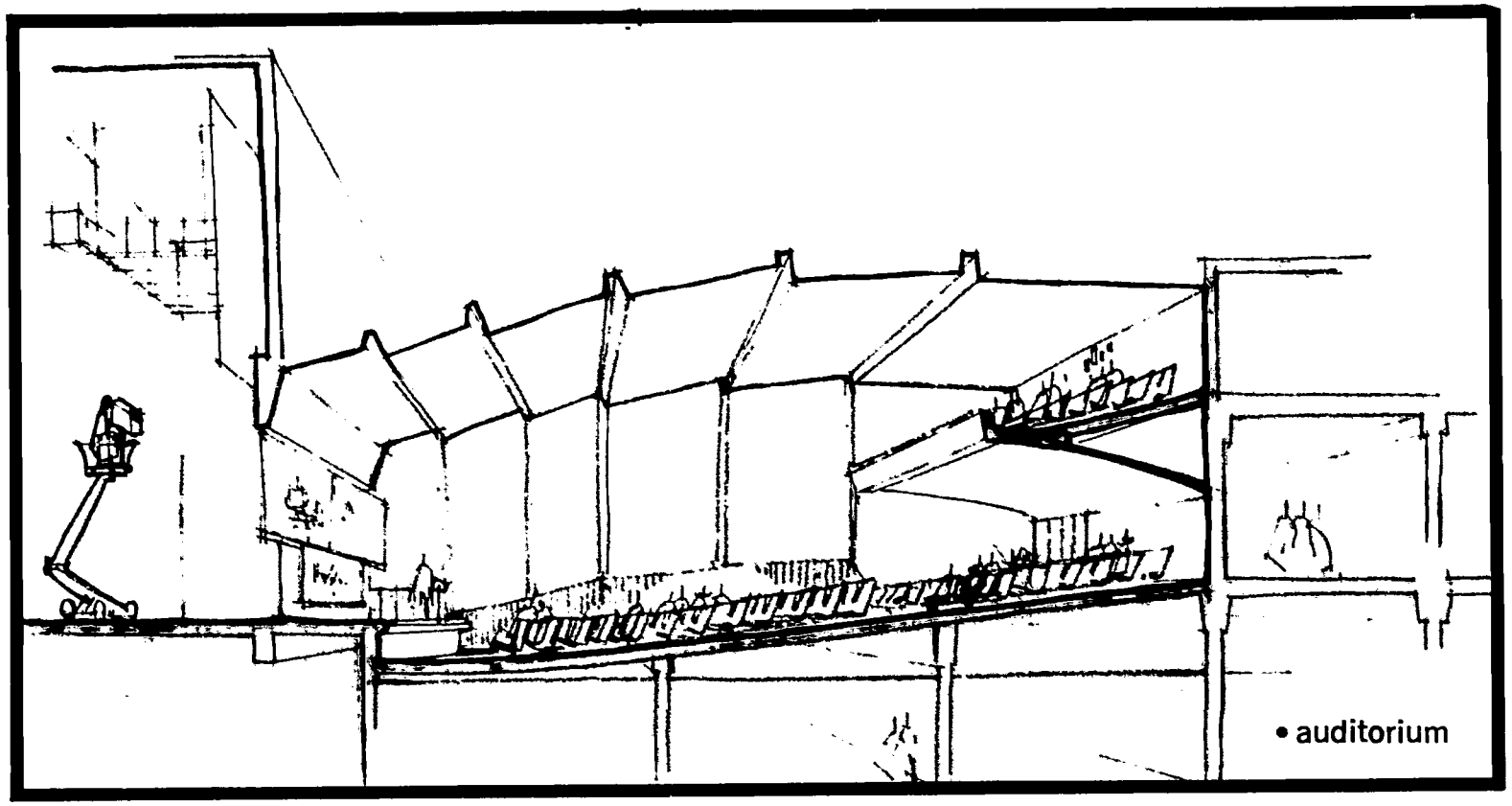


• A/V carrels

• science center



• faculty office



• auditorium

acoustically treated. The balcony would be subdivided into two lecture halls by movable walls.

Administration:

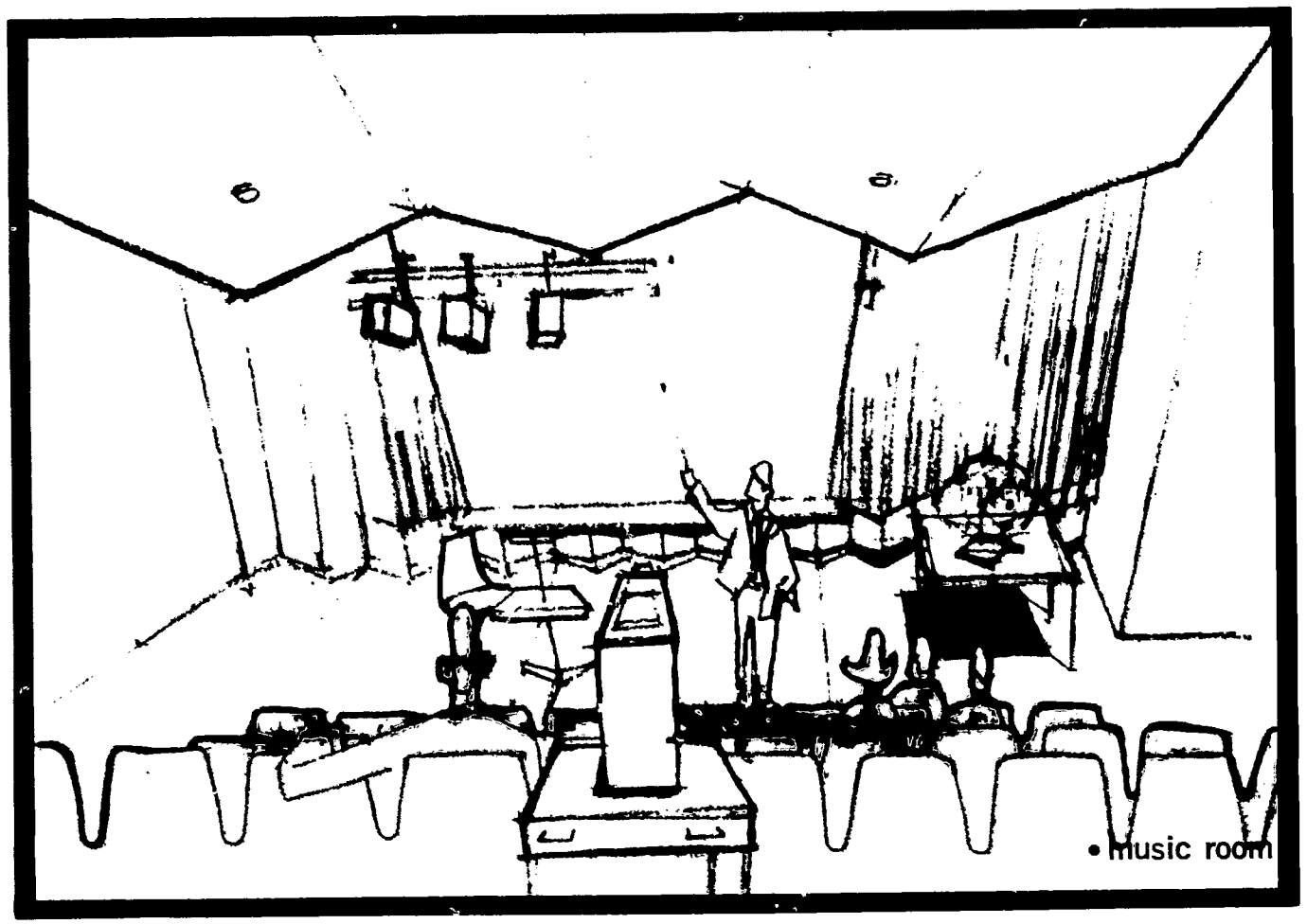
This area is to be expanded into adjacent spaces on the first floor.

Physical Education:

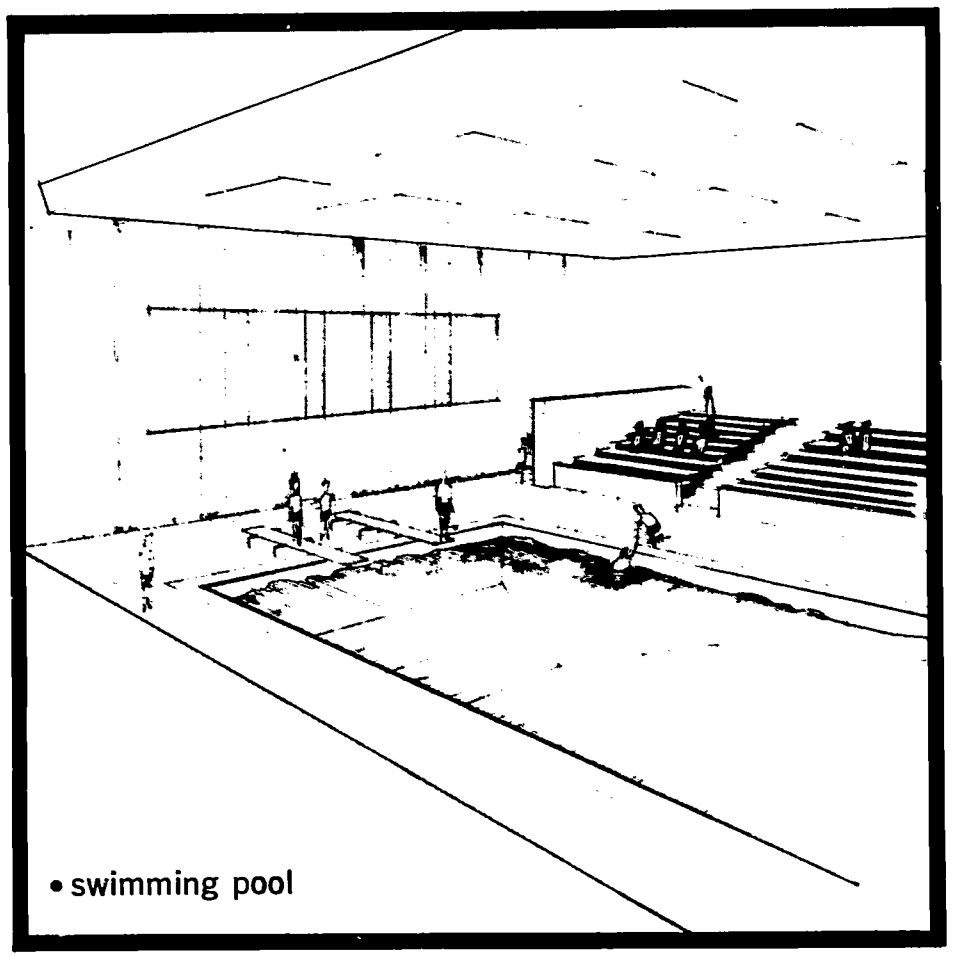
As already noted, the physical education facilities are provided in the new addition to the East. The outdoor track, on the existing playfield site, would be extended to a regulation length of ¼ mile.

Parking:

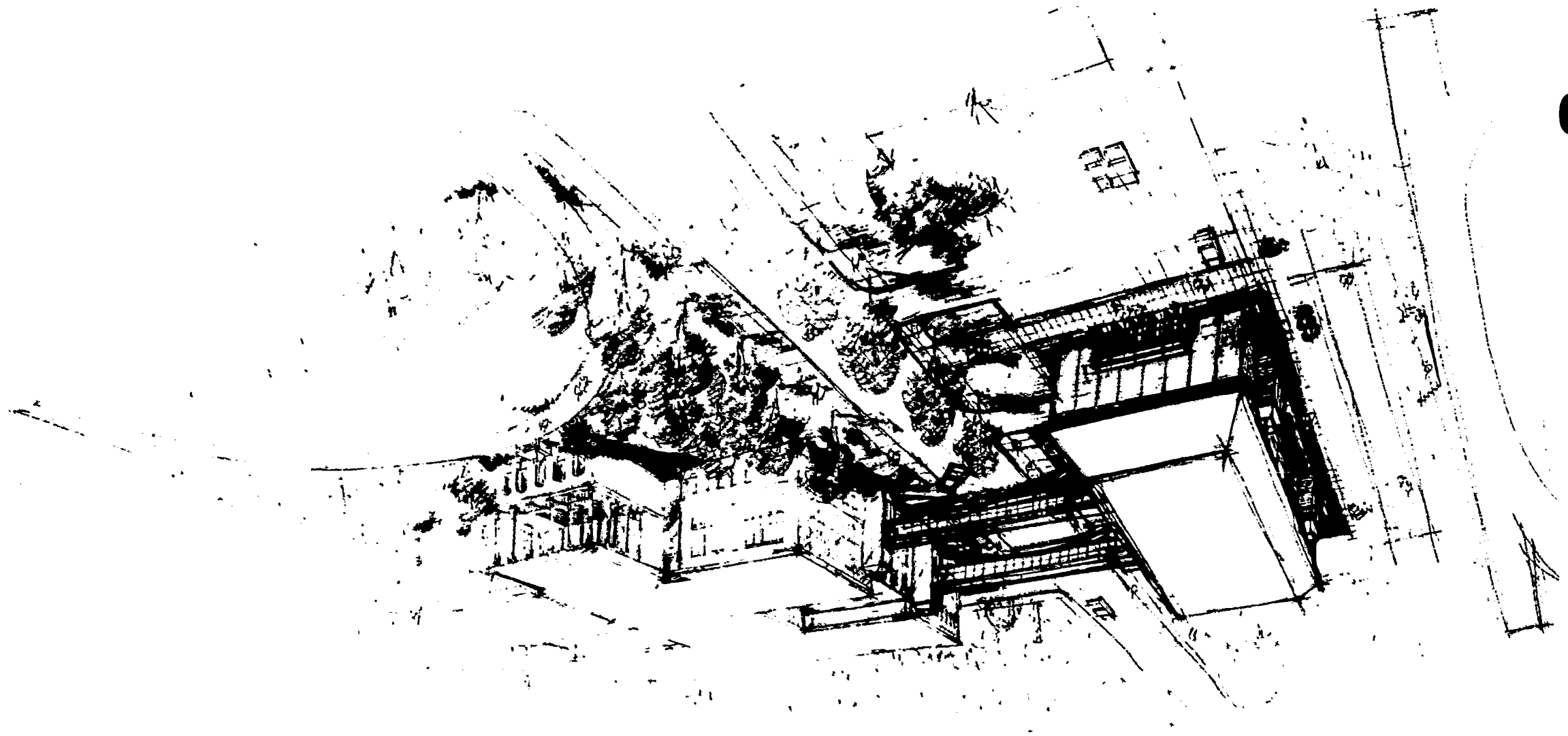
Limited parking would be provided under the extended track noted above, supplemented by a small garage in the sub-basement of the remodeled school.



• music room

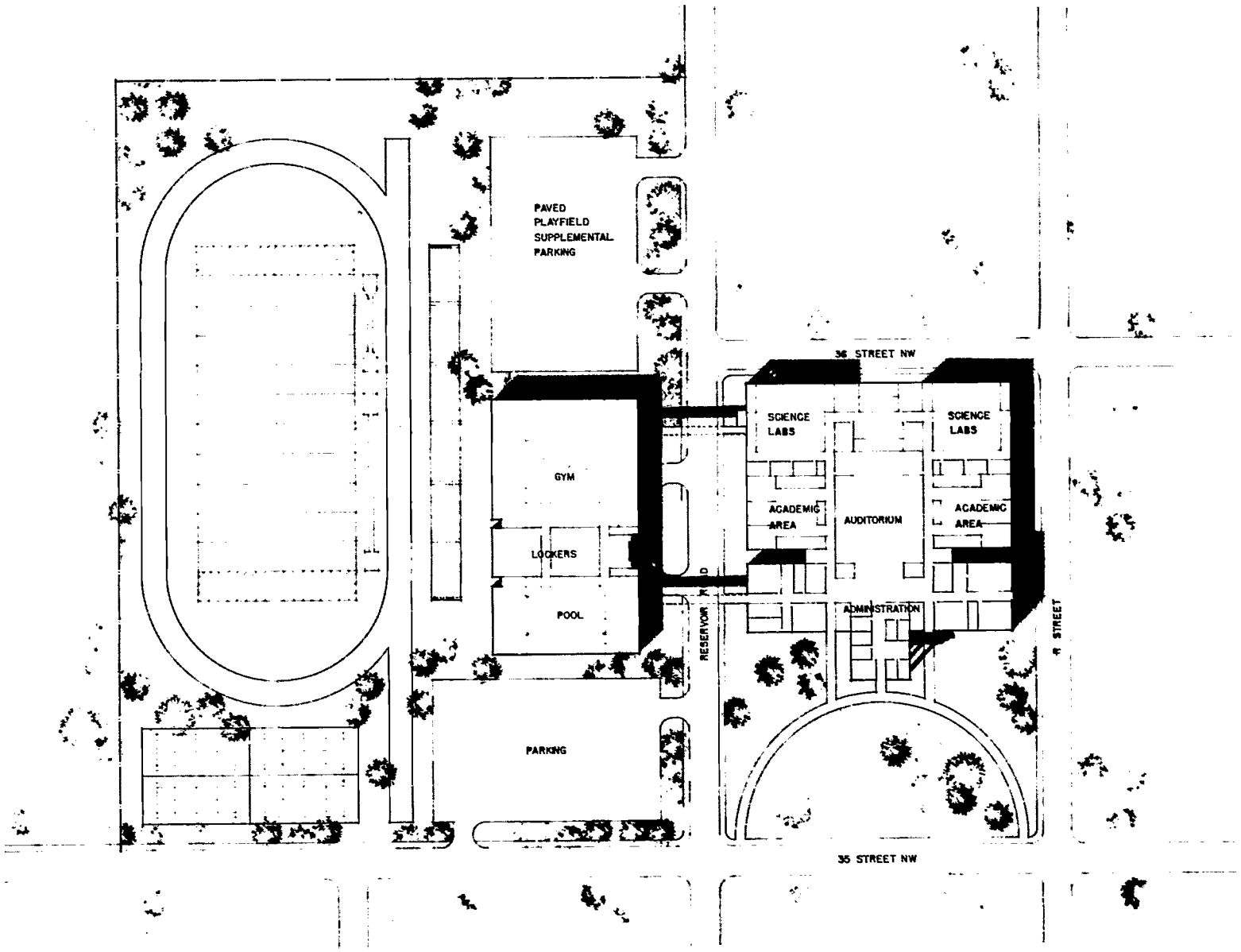


• swimming pool



scheme 2

This solution requires the acquisition, from a religious institution, of part of the vacant land to the South of the school site, across Reservoir Road. This land would be used to consolidate all physical education activities in a gymnasium-swimming pool building with a regulation sized running track, a stadium and related play areas. In addition, a substantial off-street parking lot would be included. With the exception of the physical education facilities, the internal plan layout of the school is similar to that shown in Scheme 1. It is suggested that the gymnasium be connected to the academic center by bridges spanning Reservoir Road and that the external appearance of the existing building remain virtually unchanged.



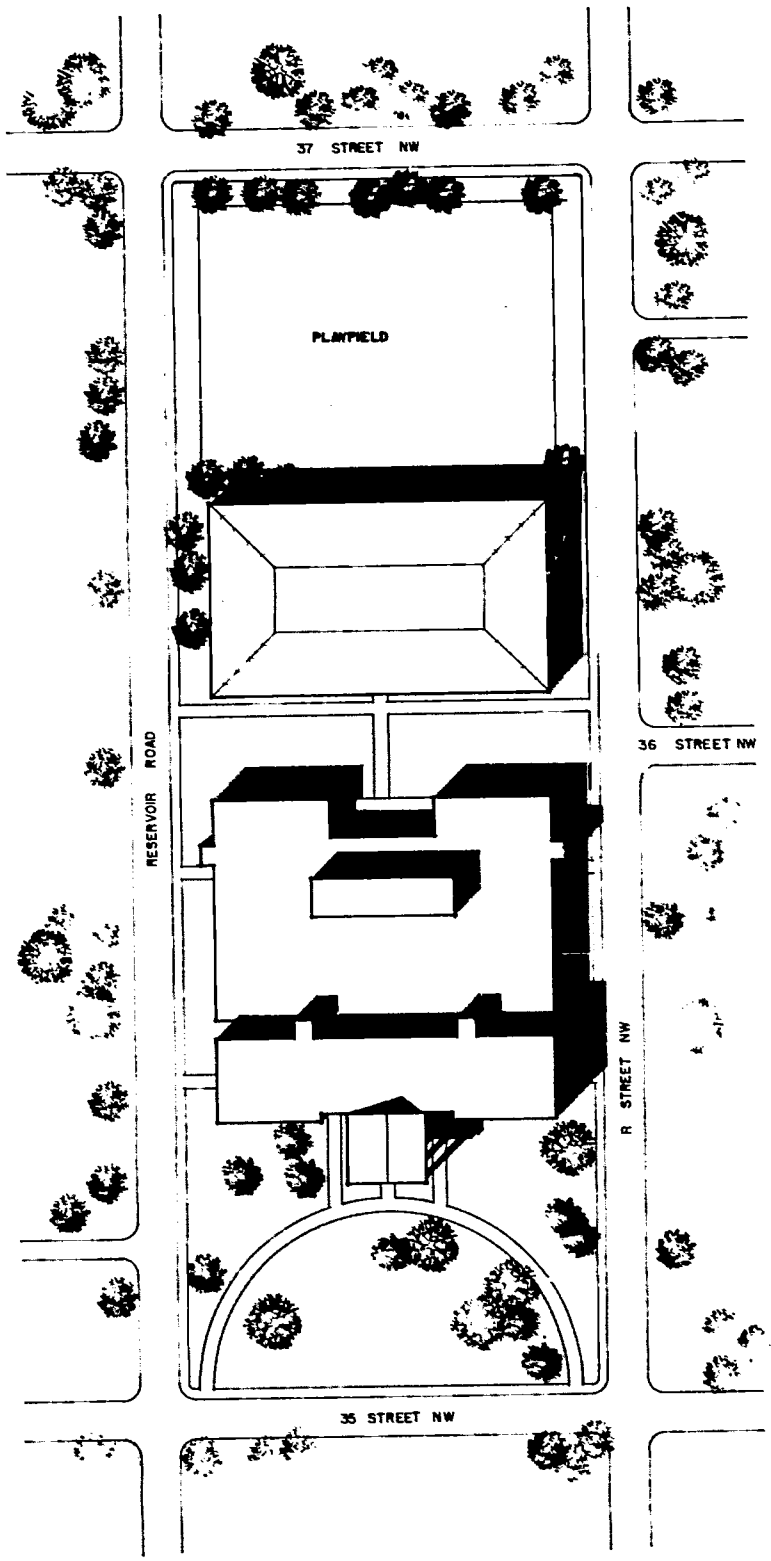
FIRST FLOOR PLAN

0 15 35 75 150 300

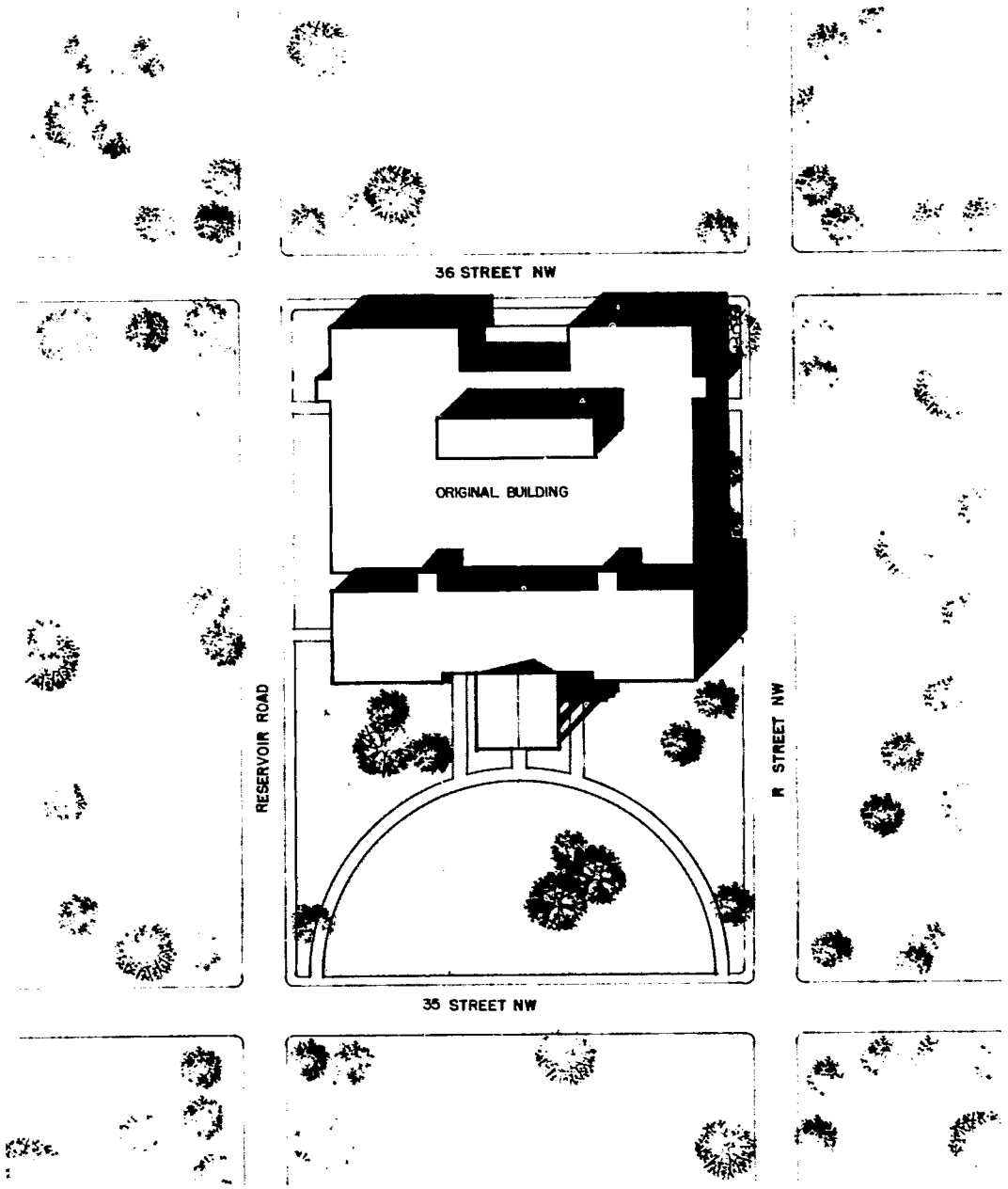
scheme 3

The existing site would be expanded to the West by obtaining land across 36th Street, presently owned and occupied by a Roman Catholic Convent.

This solution would offer the possibility of closing 36th Street, between Reservoir Road and R Street. This would afford the school a unified site with a new and adequate physical education building in proximity to the playfields at 38th Street. Remodeling to the existing building would follow the pattern outlined in Scheme 1. While one of the most appealing solutions, from a purely architectural point of view, the inherent difficulties of obtaining the necessary land now used for higher density church housing and the obtaining of permission for closing 36th Street, in addition to the high costs for land purchase and building demolition, might make this scheme difficult of accomplishment.



scheme 4



On Existing School and Playfield Site:

The premise of this alternative was to show the minimum amount of work that might be done to accomplish some of the more desirable features of the educational program without changing significantly the exterior character of the building or the neighborhood relationships of land usage.

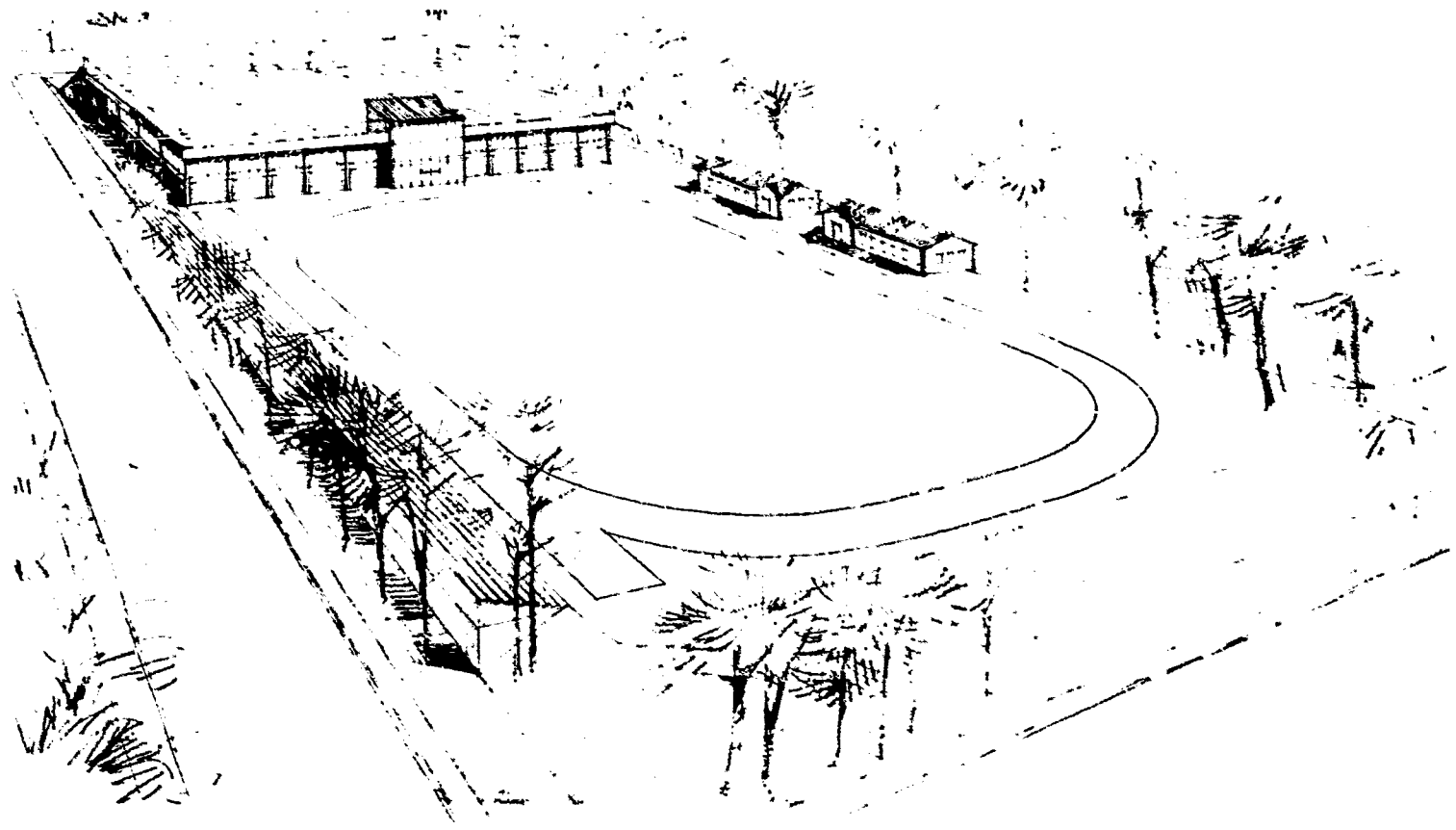
Under this proposal, the roofs of the boys and girls gymnasium, adjacent to the auditorium, would be removed. An independent structural system, consisting of new steel columns and long span beams and purlins, would be erected in order to support two floors of educational space over the existing gymnasium. These additional floors would house the four academic clusters called for in the program with additional remodeling, as necessary, to provide the space requirements of the program. Conceived as a compromise, this solution, which only partially provides the net area requested, was deemed to be unnecessarily restrictive of the program needs for quality comprehensive education and, accordingly, was not developed further.

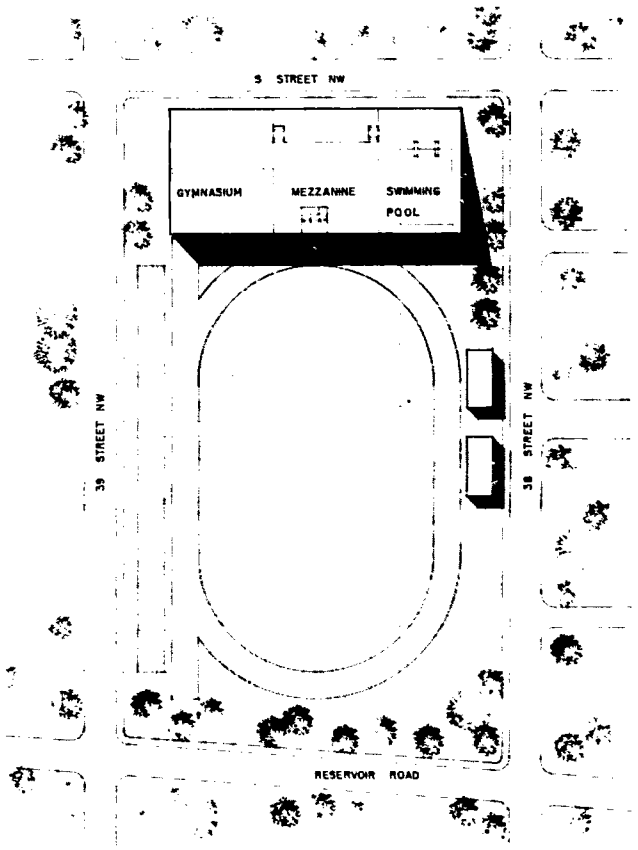
scheme 5

The following considerations are basic to this solution:

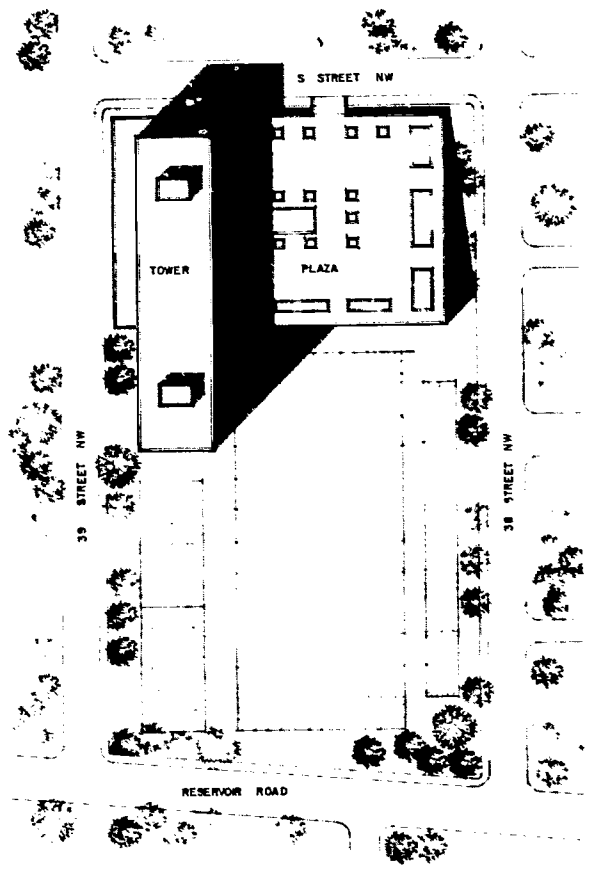
- Major alterations and remodeling would be made to the existing building in all program areas except physical education.
- A new physical education building would be erected on the site of the existing playing fields, between 38th and 39th Streets.

Because of the sloping nature of the site, as indicated in the perspective drawing, a completely adequate gymnasium facility could be erected on the north end of the property which would be below the sidewalk level. Tennis courts could be placed on the roof of the gymnasium and if the budget allowed, parking could be placed underground—at the Southern end of the site. Although all physical education activities would be brought together at one location, the scheme suffers from the difficulty of scheduling a fully effective physical education program within the necessary time limits due to the distance between the academic and gymnasium centers.





scheme 6

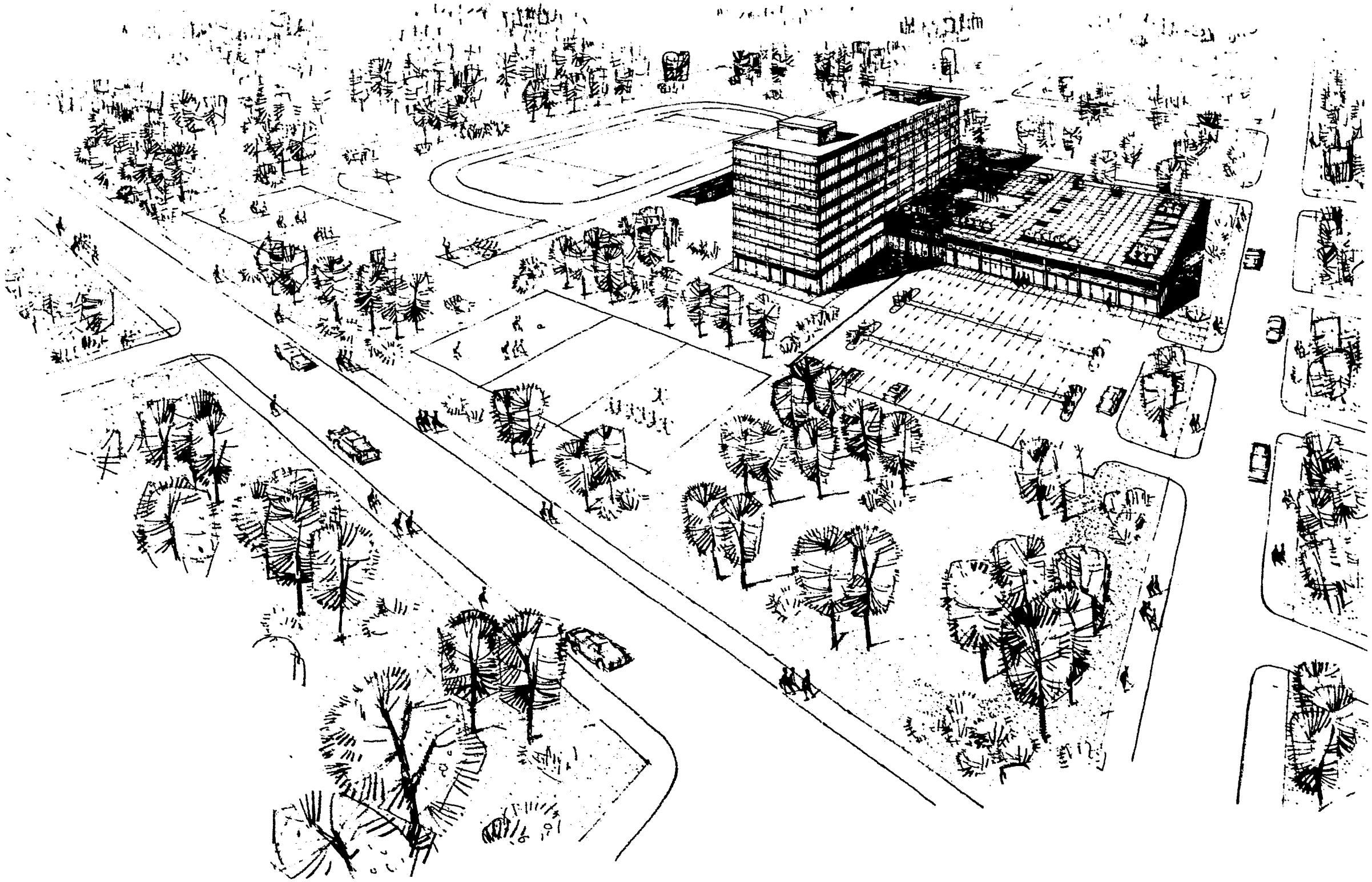


This scheme indicates:

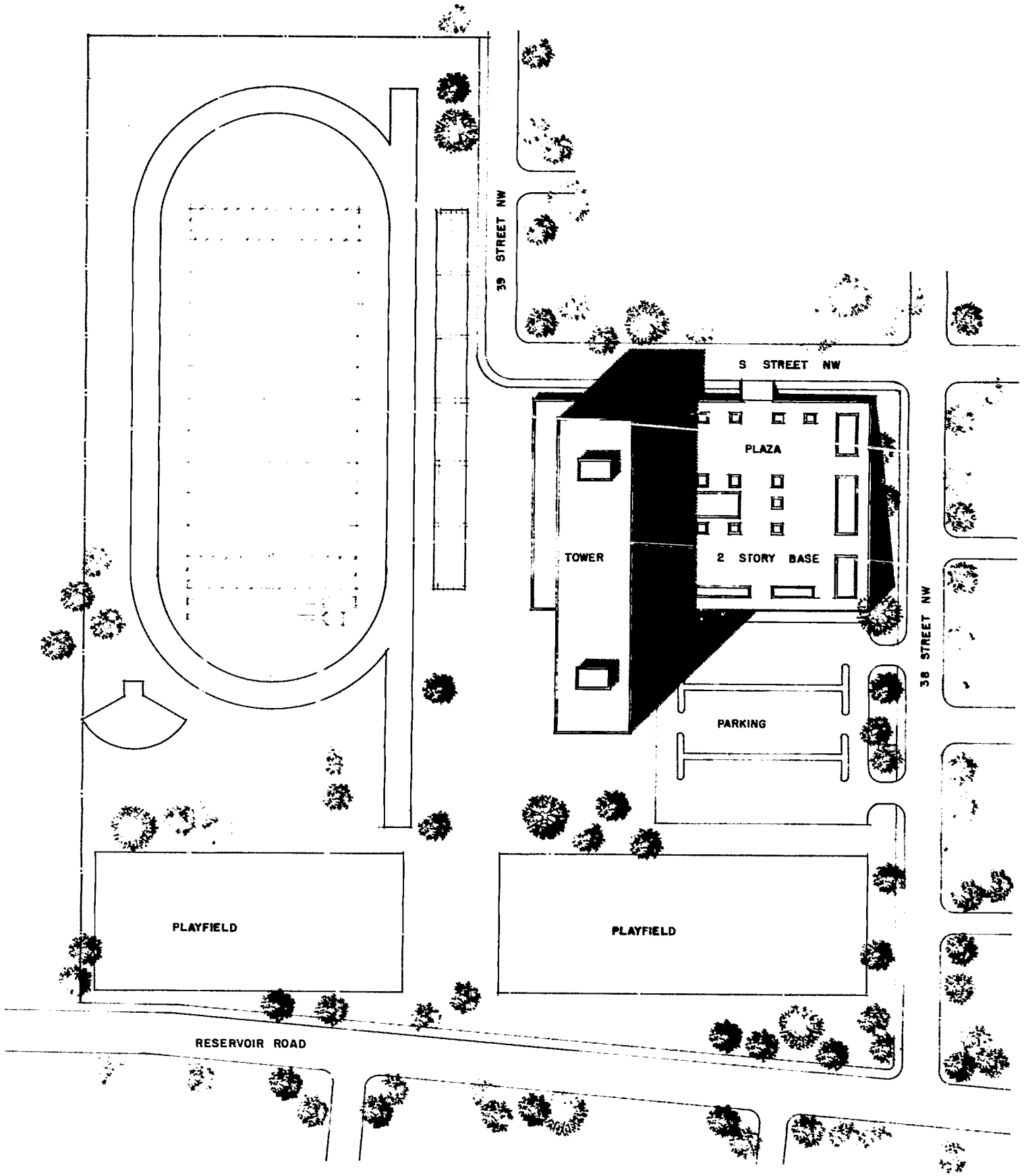
- Entire new school plant built on the site of the existing playing fields.
- The availability of the existing main school site for other purposes, either as varsity playing fields, other educational uses, or release from inventory.

The utilization of part of the present playing field site for a school building would reduce the area now available for phyical education purposes. Thus, careful consideration should be given to the problems of a self-contained comprehensive physical education program versus one which requires utilization of facilities at other schools.

It is possible that this scheme could become a first step in the development of scheme 7 which follows.



scheme 7



To offset the disadvantages of the previous solution, this proposal includes the acquiring of land to the West of the existing playing fields for athletic use.

Under this scheme, 39th Street could be closed, unifying the entire school-playfield complex. The new school building would occupy most of the present playfield site with the new playfields extending into the Archbold property. This scheme would permit the present Western High School building and site to be disposed of, or used for other purposes.

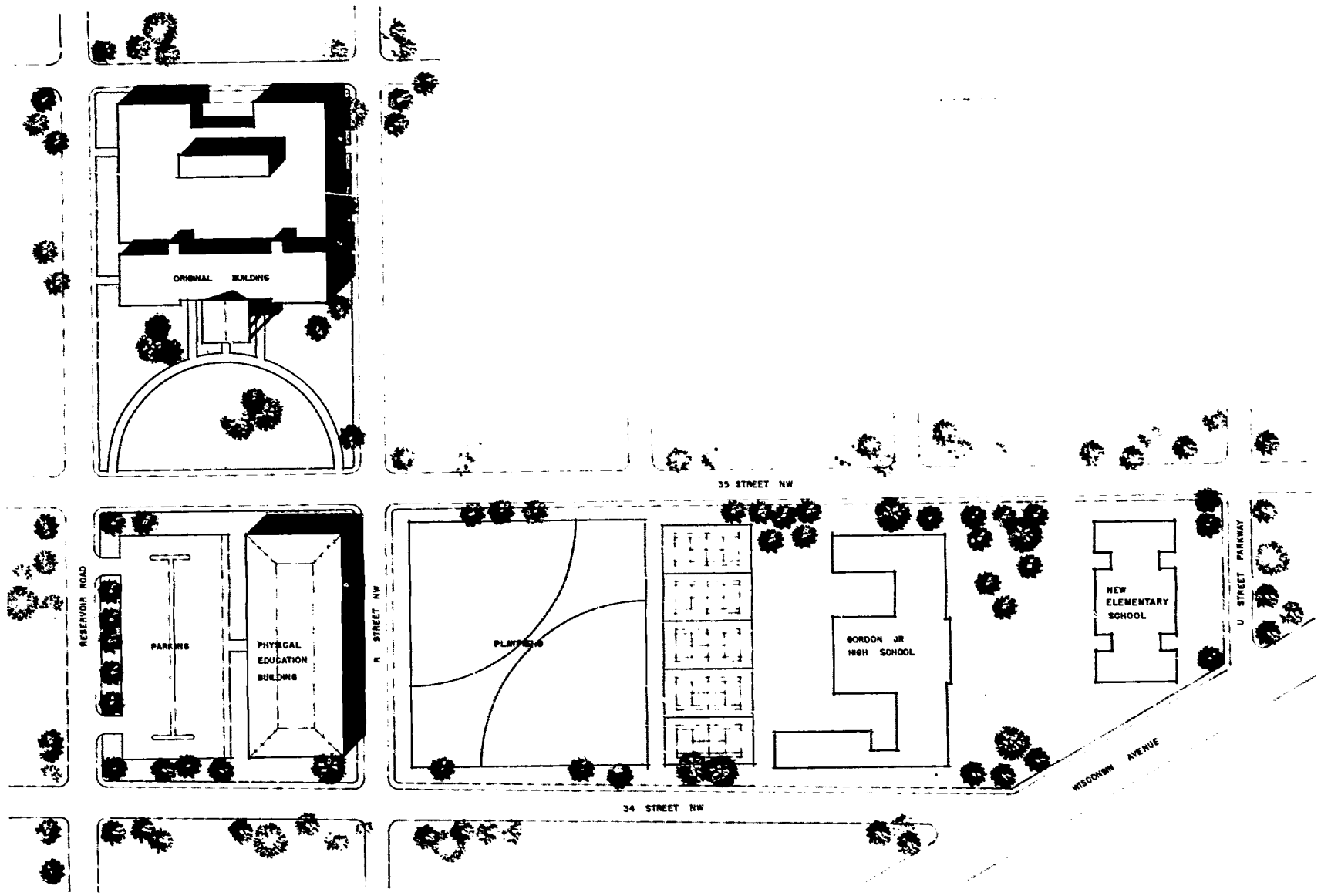
While this scheme which envisions the construction of a completely new high school facility, would be costly, the benefits in terms of education would be considerable. The building of a new structure would permit the uninterrupted use of the present building while construction at the new site was being accomplished. Also, this scheme would provide complete physical education facilities on the same site as the building, which none of the other schemes achieve. Adequate space for off street parking is also provided.

scheme 8

Education Park:

Three possible solutions involving the acquisition of land to the East and Northeast are shown on the following pages. These vary in the degree of site unification.

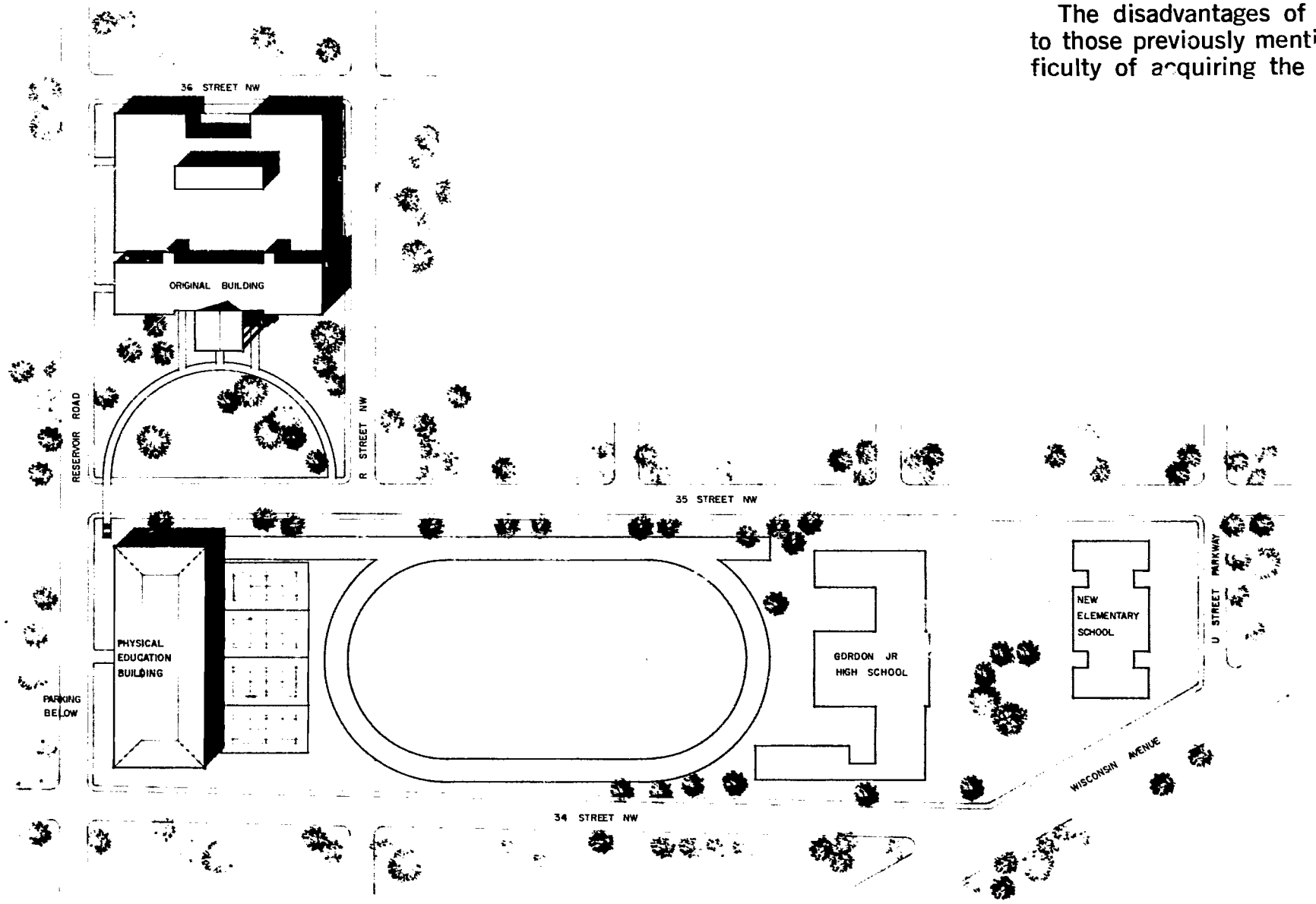
The first solution proposes the acquisition of all the property between 34th and 35th Streets, between Reservoir Road (on the South) and Gordon Junior High School (on the North). Filmore Elementary School, which stands South of Gordon, would be removed and a new elementary school could be constructed in the area to the North of Gordon. A new physical education building, with ample off-street parking, would occupy the block to the East of the present school and would serve the physical education program for all three schools. The disadvantages of all the education park schemes lie, basically, in the high cost of land acquisition, the fact that residential properties would be taken off the tax rolls of the city, and the ensuing traffic congestion which would develop if present vehicular circulation patterns were to remain.



scheme 9

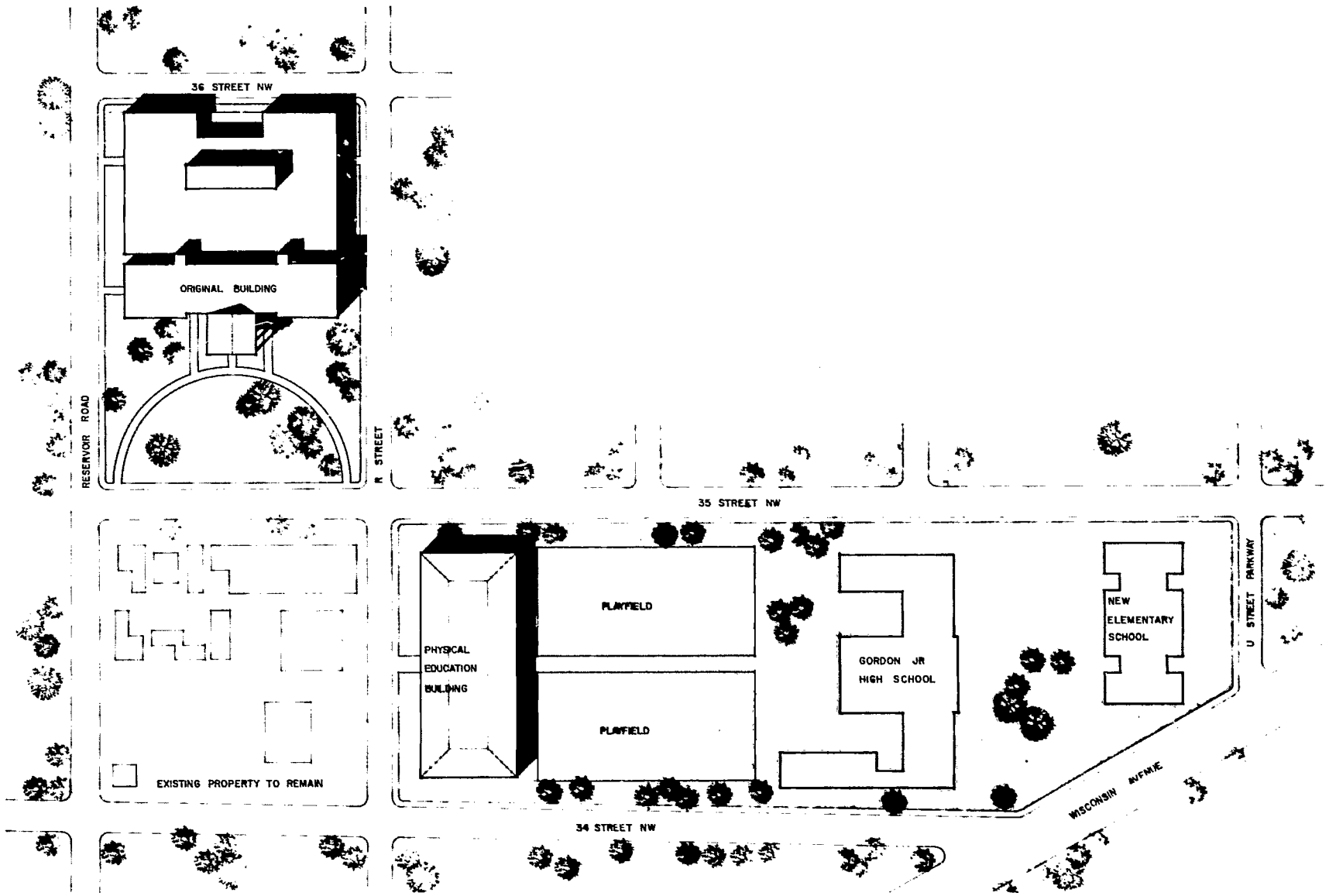
This proposal is essentially similar to the preceding one, only it further develops the concept of a unified and homogeneous education park by closing that segment of "R" Street, N.W., between 35th and 36th Streets, N.W. This reclamation of the existing right of way would enable a full running track and football field to be built on the enlarged site, while providing for parking below the physical education building. The existing playfield would then be released from inventory.

The disadvantages of this solution are similar to those previously mentioned with the added difficulty of acquiring the "R" Street right of way.



scheme 10

This variation of the "education park" proposal leaves the entire residential block to the East of the present school intact but, by so doing, seriously restricts the amount of on-site play space and in all probability, would necessitate the retention of the existing playfield site, thereby minimizing the benefits derived from the larger unified site.



cost considerations

The estimated cost figures given below are expressed as "ranges of cost" and are not, in any sense, definitive cost estimates. They merely illustrate a relative scale of values between the various schemes. The consultants felt that it would be both premature and inappropriate for them to undertake any investigations into actual land acquisition costs, so, while the figures given below include land costs, these are based only on reasonable assumptions as to land value.

It should be pointed out that these cost figures were based on current construction costs, consequently, should the project be designated for some future year's program, then incremental year by year increases in cost would need to be projected.

Scheme	Cost Range	Remarks
Scheme #1	4 million to 4.5 million	no land purchase.
Scheme #2	4.4 million to 4.9 million	land purchase required. existing playfield to be sold.
Scheme #3	4.8 million to 5.3 million	land purchase required. city street to be closed.
Scheme #4	2.2 million to 2.7 million	no land purchase.
Scheme #5	3.8 million to 4.3 million	no land purchase.
Scheme #6	6.1 million to 6.6 million	no land purchase.
Scheme #7	6.4 million to 6.9 million	sell existing building and site. buy open land adjoining playfield.
Scheme #8	6.8 million to 7.3 million	land purchase required.
Scheme #9	5.7 million to 6.2 million	land purchase required. sell existing playfield site. City street to be closed.
Scheme #10	5.4 million to 5.9 million	land purchase required.

the educational program

The following space needs were developed for the Western High School based upon the general outlines of educational program that were sketched briefly earlier in the document. These space needs should be polished, reviewed, revised and related much more closely to the faculty and school district needs.

Throughout, the space needs are expressed as either traditional classroom or other instructional spaces and as redeployed space. This exercise illustrates that changing the educational approach does not necessarily change the total space needs. It does change the way the space is used, subdivided, appointed and equipped.

Humility is the word and what has been changed today will require change in turn tomorrow.

SUMMARY

	Square Feet
4 Clusters at 5,650 sq. ft.	22,600
Mathematics	4,880
Foreign Languages	5,640
Science	13,900
Business Education	7,920
Home Economics	4,180
Art	5,300
Music	5,230
Occupational Education	10,440
Driver Education	1,720
Physical Education	33,200
Library-Learning Center	14,850
Food Service	10,600
Faculty Spaces	3,180
Auditorium	12,200
Administration	9,150
Total Net Area:	164,990
Total Estimated Gross Area	254,000 (rounded)
(Net area is assumed to be 65% of gross area)	

From the total area proposed should be deducted the available spaces as these prove to be most readily adapted to the expressed needs. The architectural studies show the way the present spaces and the new spaces will combine to meet the needs stated.

CLUSTER—TRADITIONAL

(English and Social Studies)

The *Standard* approach would provide:	*Square Feet*
Equivalent of 7 classrooms at 700 sq. ft.	4,900
Eight faculty members spaces at 60 sq ft.	480
Guidance counselor for 400 students—	
Office	120
Waiting area	150
	5,650

The redeployment of space and staff in this cluster area would be of prime significance. For one group of 200 students, assigned to the cluster, the academic program might occur in this fashion:

Lecture (200 students)	2 periods a week
Medium size group work (25 students)	4 periods a week
Independent work	4 periods a week

REVISED CLUSTER

This is one model of the way traditional space can be redeployed.

	Square Feet
3 Seminar rooms at 600 square feet	1,800
8 Faculty and aides office areas at 60 square feet	480
Work space; faculty and aides	300
Storage—materials and equipment	400
Counselling space	
Office 120	
Waiting 150	
	270
General independent work space	2,400
Provide "Turf" spaces so that independent work takes place in small groups, so that free association areas are available, and break up large open space with furniture	
Total	5,650

It would be noted that this is the same space in net area as classrooms. Corridor space under such a redeployed arrangement could also be included in the usable educational space.

Total

Four clusters (English, social studies, guidance and home base) at 5,650 square feet — 22,600

Mathematics

Standard Program	*Square Feet*
6 Classrooms required at 700 sq. ft.	4,200
8 Faculty offices at 60 sq. ft.	480
Storage	200
	4,880

A redeployment of this space could be as follows:

Redeployed Spaces	
1 Large class space for 70	1,000
2 Classrooms at 700 sq. ft.	1,400
Faculty offices and storage at 700 sq. ft.	700
Mathematics laboratory and independent work space	1,780
Computer facilities required—Add corridor space in if possible	
	4,880

Locate independent work space in mathematics and computer capability near science. In time the relationship may be even more strategic between mathematics and social sciences.

Foreign Language

The program in foreign languages should focus on small foreign language classrooms and independent work space which would be in part a language laboratory. The laboratory would be programmed with grammar materials as well as the usual audio materials.

Standard Spaces	*Square Feet*
7 Classrooms at 700 sq. ft.	4,900
9 Faculty offices at 60 sq. ft.	540
Storage	200
	5,640

Redeployed Spaces	
3 Classrooms at 700 sq. ft.	2,100
2 Classrooms at 350 sq. ft. (with folding doors makes 4 smaller units)	700
9 Faculty offices at 60 sq. ft.	540
Storage, taping and gear for language lab	500
Independent work space plus langauge laboratory facilities — provide 50 stations plus reading and work area	1,800
	5,640

The language laboratory facilities should be

designed for individual use rather than group use. Sound isolated independent work spaces are required in the open area.

Science

The 1,500 student school will require eight laboratories and auxiliary space. If done in standard fashion, the space needs are:

	Square Feet
Standard Spaces	
8 demonstration-laboratories, interchangeable, with flexible equipment at 1,500 sq. ft.	12,000
200 sq. ft.	1,000
5 storage and preparation rooms at Vivarium	500
Departmental office and faculty space 8 at 60 sq. ft.	480
Instrumentation room	600
	14,580
Redeployed Spaces	
2 lecture rooms for 70 at 1,000 sq. ft.	2,000
4 seminar rooms at 200 sq. ft.	800
Faculty office and preparation space	1,000
Storage	1,000
Vivarium	500
Instrumentation room	600
2 open laboratories at 4,000 sq. ft. each	8,000
	13,900

Each open laboratory should be designed so that it can be reworked as four 1,000 square foot laboratories.

Business Education

Standard

Currently, seven rooms are expressed as a need for 1,500 students plus auxiliary space. If the seven rooms averaged 900 square feet, 6,300 square feet would be required.

Redeployed

The American business laboratory is seen as a place where students, seeking to understand the operation of American business in which they are planning to work, will perform simulations of business enterprise.

Data and developments from management will be fed into the laboratory in which the process of accumulation and interpretation of data, organization and analysis of material, and recommendations to management will be made. The computer console will be a tool for the students. The introduction to American business will be accomplished in a manner which will involve students from the beginning, and throughout high school, in thinking about the way their skills will be used.

The skills laboratories proposed are based upon individual progress at the student's best speed through levels of achievement in two major areas: secretarial skills and business technology. Testing spaces for individuals should be provided for constant check on individual achievement. Instruction, for the most part, should be by electronic means, using tapes and teaching machines of various kinds.

		Square Feet
American business laboratory		2,000
Secretarial skills (multi-staff and individualized programming)		3,000
Business technology		1,500
Department offices and workroom		
7 at 60 sq. ft.	420	
Storage	200	
Work	200	
Duplicating	200	
Bank	400	
		1,420
		7,920

Home Economics

The laboratories could well be conceived as operating as open laboratories. The lecture-discussion areas should be separately arranged. Some more effective way of teaching interior decoration is needed rather than to provide a living area.

	Square Feet
Redeployed	
Foods laboratory	1,000
Clothing laboratory	1,000
Discussion-demonstration (shared)	500
Pantry and preparation area and utility	200
Multi-use space	1,200
Storage	100

The development of programs in the health-related field of a paramedical nature or preprofessional program in

health occupations should be a major interest. Interior decoration and family living could also use this space	
Faculty planning area, 3 at 60 sq. ft.	180
	4,180

Art

The extension of the arts program should involve providing more adequate spaces with the capability of using a greater variety of media. The studios should be so arranged that the three spaces could be combined into one large open laboratory at some time.

	Square Feet
Studio at 1,500 sq. ft.—Provide 3 developed as one open space	4,500
Storage, project—350 students	400
Faculty	400
	5,300

Music

Instrumental rehearsal room	
80 students at 15 sq. ft.	1,200
Forespace	400
Choral rehearsal room	
100 students at 10 sq. ft.	1,000
Forespace	400
Music library and listening area (listening area in main library), independent work in music theory and appreciation, study of scores, and sorting and storage of scores for performing groups	400
Instrumental storage, band and orchestra	300
Uniform storage, 100 at .5 sq. ft.	50
Robe storage, 100 at .5 sq. ft.	50
Dressing rooms, 2 at 300 sq. ft. Use for stage as well. Access to toilets required.	600
Music office—3 members	180
2 ensemble rooms at 200 sq. ft.	400
5 individual practice rooms at 50 sq. ft.	250
	5,230

Music already has varied its grouping and developed independent work to a fine art. The matter of sound isolation should receive careful consideration.

Occupational Education

The current program in industrial arts and occupational education is confined to simple industrial arts programs in general shop, drafting and printing. A major thrust, suggested by students, faculty, and representatives of the community, is proposed in extending the range of occupational and vocational programs.

Two notions are proposed. One is to extend the cooperative program involving on the job training. A second is to introduce an inquiry program in industrial arts, parallel to the ideas produced by Yoho at Indiana State University or the American Industries program at Stout State University, Menomonie, Wisconsin.

Space needs, redeployed, are:

		Square Feet
Mechanical drawing		1,200
Reproduction and storage		100
General shop, including storage and finishing		2,500
Graphic arts—with strong emphasis on offset, layout, and creative graphics, including darkroom and storage		2,500
American Industry—inquiry program		2,500
Faculty work area, 5 at 60 sq. ft.		300
Seminar space, 2 at 200 sq. ft.		400
Cooperative programs		
Meeting	700	
Staff, 4 at 60 sq. ft.	240	940
		10,440

Driver Education

1 Simulator—classroom	1,500
Staff space, 2 at 60 sq. ft.	120
Storage	100
Garage—1 car	
	1,720

Physical Education

At 1,500 students and three periods of physical education a week, four stations are required.

With 5,000 square feet a station, a total of 20,000 square feet of floor area is involved.

This could take the shape of:

Teaching Stations		
Gymnasium—84′ x 50′ court and 8′ each end and 6′ each side or 100′ x 62′ with 2,000 seats totals about		10,000
Swimming Pool—including seating		7,000
Wrestling room (2 mats 32′ square)		2,500
Dancing		2,500
Corrective and adaptive physical education		1,200
Weight lifting		800
Storage, 6 at 100 sq. ft.		600
Total Physical Education Stations		24,600

Auxiliary Spaces

Boys' lockers—800 storage lockers at .5 sq. ft.	400	
80 dressing lockers at 15 sq. ft. (in 2 cages)	1,200	
shower and drying, 20 at 15 sq. ft.	300	
toilet	150	2,050
Girls' lockers		2,050
2 Health Classrooms @ 750′		1,500
Provide movable wall between two rooms.		
Instructors' offices—2 offices for 3 instructors, shower, dressing at 300 sq. ft.		600
Shower, dressing and lockers for coaches and officials		400
Storage, supplies—2 at 200 sq. ft.		400
Laundry	400	
Uniform drying	400	
Training room	200	
Off-season uniform storage	600	1,600
Total: Auxiliary		8,600
Grand Total		33,200

Library-Learning Center

	Square Feet
Student work area	
Seating 25% of student body, or 300 students at 30 sq. ft. per student (reduce to 30 sq. ft. per student)	9,000
100 at tables and chairs	
100 at carrels	
100 at comfortable chairs	
Stack space, 30,000 volumes at .075 sq. ft. per volume	2,250
4 Conference rooms at 200 sq. ft	
2 adjacent with folding partition for library class use	800
Checkout counter and reserve book space, glass enclosed	(included in floor space)
Librarian's office	150
Work area—staff	300
Back periodicals	300
Graphics work space	200
Photographic darkroom	50
TV studio and control room	400
Storage (TV studio)	400
Audiovisual space or information retrieval system hardware—TV system equipment	1,000
	14,850

Note: 1. Language laboratory and speech laboratory can be located near audiovisual space.
2. Graphics work space, darkroom, and TV space are linked as a graphics area for staff—if possible, some relation to the larger art and graphics program would be desirable.

Food Service

	Square Feet
Cafeteria	
Seating 500 in pleasant lounge-type space at 14 sq. ft.	
Broken into a variety of areas. Developed as lounge space.	
Food preparation and auxiliary classroom.	3,000
Food production course classroom	600
	10,600

Faculty Spaces

Provide one large faculty lounge and work area for entire school	2,000
Subdivided into a variety of pleasant rooms.	
In each main area of building provide men's and women's toilets.	
Faculty dining and conference room: provide a faculty dining room near administrative area adjacent to a kitchen or serving area.	
Assume 140 staff members; room should seat 70 at 14 sq. ft.	980
Serving area	200
	3,180

Auditorium

A community facility to seat over 1,000 students is contemplated. It should be possible to subdivide the space to provide additional lecture and presentation spaces. Storage will be required off each lecture space. Audiovisual aids are needed. A good stage, access to music department dressing rooms, a stage shop and stage storage are required.

	Square Feet
Seating for 1,000 at 8 sq. ft.	8,000
Stage (open)	1,800
Stage shop	1,800
Storage	600
	12,200

Administration

The leadership role of the principal represents the most important single factor in the success of the school. Consequently, it is necessary to organize the administrative facility to reduce the impact on the principal of paper work and to free his energy for educational leadership. The facilities will reflect this goal.

	Square Feet	
Principal's office suite		
Waiting room	100	
Secretary's space	150	
Conference room	200	
Principal's office	200	650
General office		
Receptionist and waiting	100	
Secretarial space, 4 at 75 sq. ft.	300	
Storage	100	
Record storage (fire resistive)	100	
Workroom	100	700
Attendance office		
Counter, reception, and clerical	300	
Attendance supervisor's office	150	
Social worker	150	600
Guidance		
Director's office	150	
Testing	200	
Waiting and secretarial	200	
Storage	100	650
Data Processing Equipment		
Work space	1,200	
Office and programming	300	
Storage	300	1,800
Health Services		
Waiting room	100	
Nurse's office	150	
Examination room	100	
2 Cot rooms with toilet, at 150 sq. ft.	300	
Storage	50	700
Building Service		
Head custodian's office	150	
Male custodian's locker room	300	
Female cleaners' locker room	200	
Lunchroom	200	
Maintenance shop	800	
General building storage, 2 at 1,200 sq. ft.	2,400	4,050
		9,150

the WISE project

The WISE Project was cooperatively developed by five representatives each from the District of Columbia Public Schools, The George Washington University and The Community Coordinating Council.

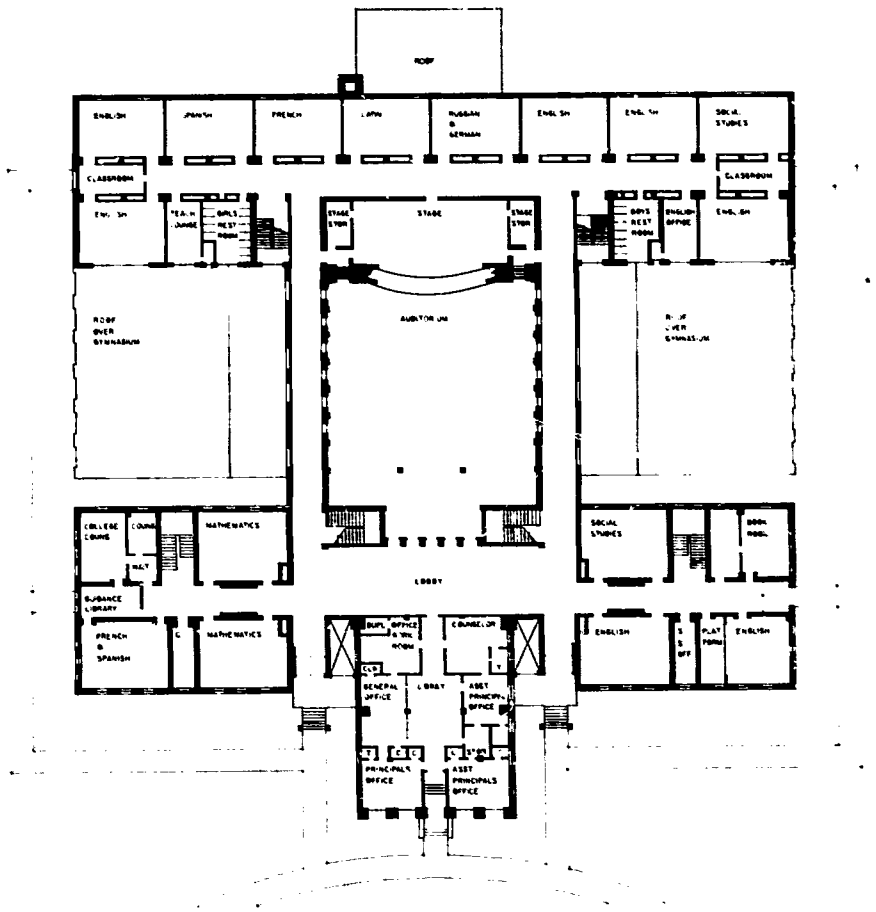
The objectives of the project are directed toward excellence in the educational program to develop inter-cultural, economic and racial understanding among the social, economic and racial groups in four schools in Washington, D.C.

The major objectives are to close the gap between educational research and practice through demonstration projects, seminars, the utilization of community resources, and a new use of teacher time; and to develop a new approach to school community relations through the involvement of all people who are directly concerned with the teaching-learning process.

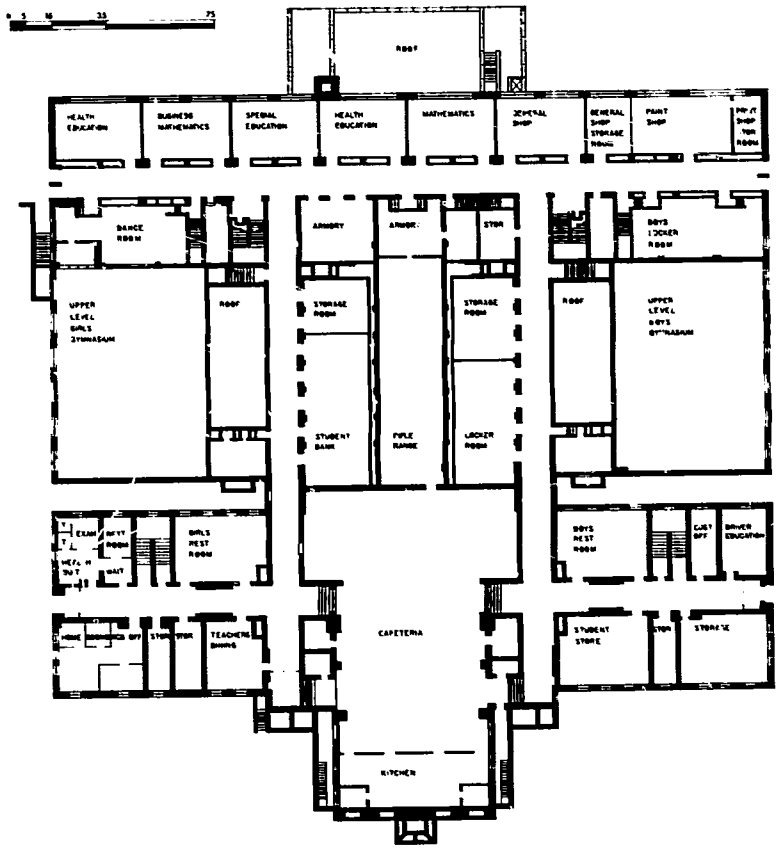
To close the gap between educational research and practice, educational goals, as defined by the various groups, that need the greatest attention have been defined:

1. Cooperative planning and implementation of demonstration projects.
2. Revision of seminars and workshops to meet current needs of the teaching staff.
3. Revision and coordination of curriculum.
4. Selection and use of current materials and equipment.
5. A greater sensitivity to individual, group and social needs.
6. The use of additional professional and para-professional assistance.
7. The revision of pre and in-service training to increase the professional competence of personnel.
8. A closer working relationship among the university, school and parent representatives in developing a cooperative program.
9. A greater use of community and national resources in resolving some of the current challenges confronting education in an urban setting.

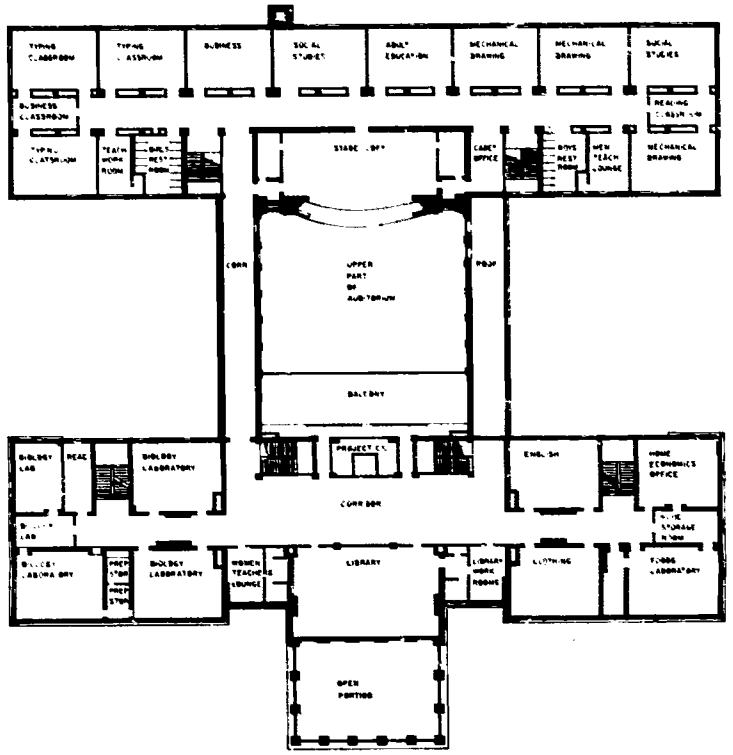
This feasibility study of Western High School in Washington, D.C. is one of the demonstration projects completed during the first year of the WISE program and was developed in cooperation with the Great Cities Research Council.



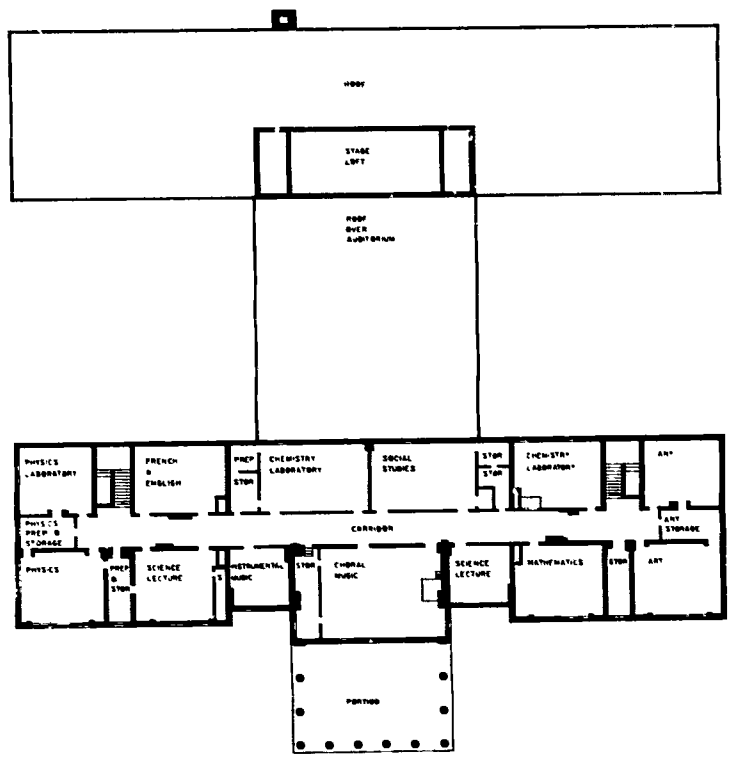
FIRST FLOOR PLAN



BASEMENT FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN

Additional copies of this report and others issued as part of the "New Life for Old Schools" study, are available from The Research Council:

NEW LIFE FOR OLD SCHOOLS

Originally published in June, 1965, and now in its second printing, this is a 100-page report on a workshop for representatives of the Great Cities in relation to the Spring, 1965 Conference of The Research Council of the Great Cities Program for School Improvement.

NEWSLETTER

A limited number of back issues of the Newsletter are available. Future issues will be mailed to interested parties on request.

AWARDS

A report of the award winning designs in the architectural competition for the modernization of the Hyde Park High School, Chicago.

THE INTERMEDIATE SCHOOL

A report on the award winning designs for the conversion of New York City's Joseph H. Wade Junior High School to house an innovative educational concept.

PITTSBURGH DESIGN STUDIES

The Liberty Elementary School, The Wightman Elementary School. Reports of a cooperative study with the Pittsburgh Board of Education and the Department of Architecture, Carnegie Institute of Technology.

SPACE IS WHERE YOU FIND IT

A report on the feasibility of converting a non-educational building in Philadelphia to educational use. The concepts have application for any school district considering the use of loft-type buildings.

NEW LIFE FOR OLD SCHOOLS—AN INTERIM REPORT

A 20-minute, sound, color motion picture showing examples of good school modernization currently completed or under construction.

Fold out this sheet and Page 14 to compare the existing facility with Scheme 1.