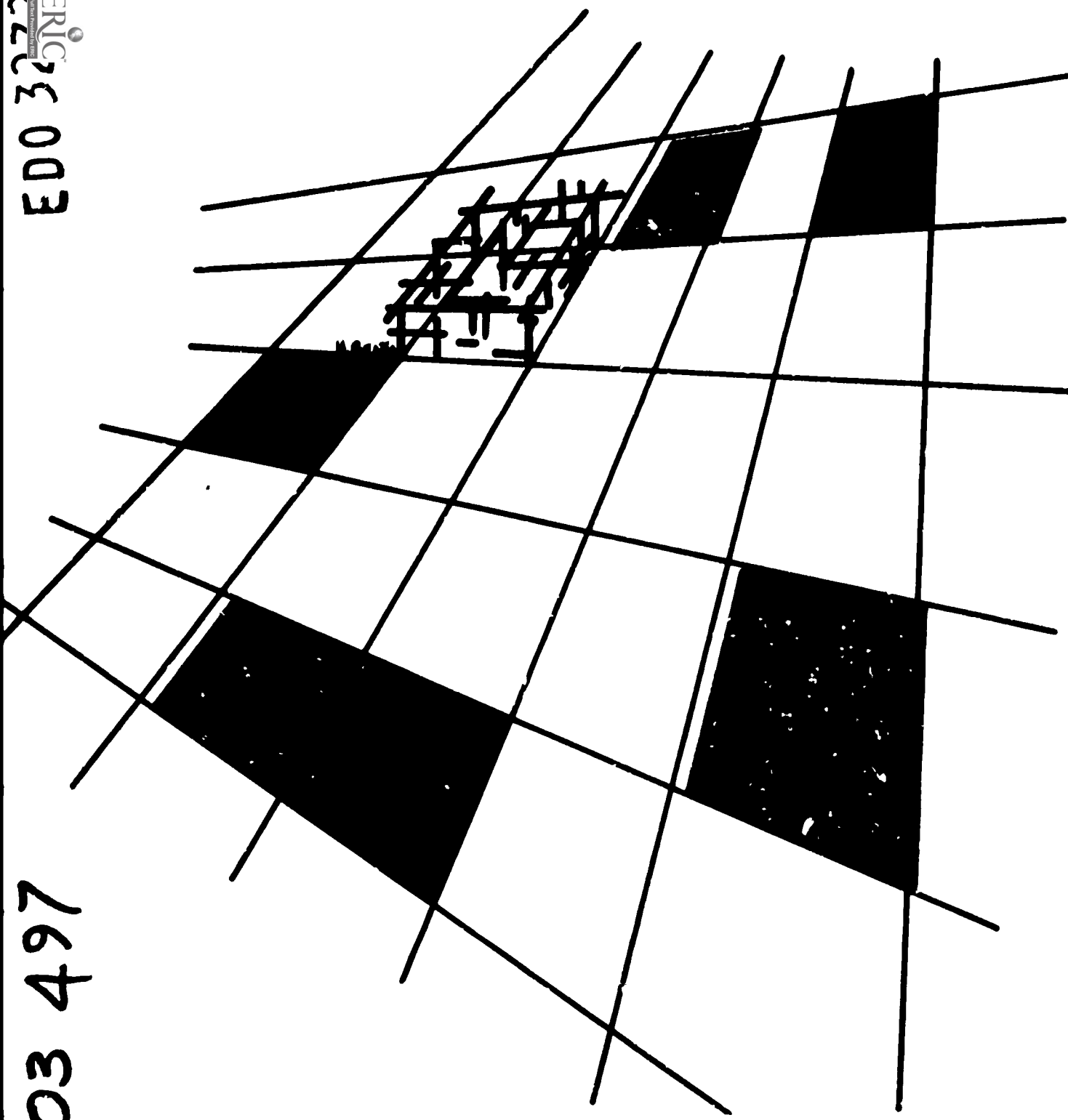
DOCUMENT RESUME

ED 032 725 EF 003 497

Educational Specifications: University City High School.
Philadelphia School District, Pa.
Report No-P-1030
Pub Date [68]
Note-130p.
EDRS Price MF-$0.75 HC-$6.60
Descriptors-Building Design, Educational Complexes, *Educational Specifications, *Facility Guidelines, Facility Requirements, *High School Design, *School Buildings, School Construction, School Planning, *Spatial Relationship

Educational specifications are presented delineating instructional space requirements and relationships for a new high school in Philadelphia, Pennsylvania. These specifications comprise a set of written instructions from which the architect can derive a design concept compatible with current educational needs and adaptable to future changes in teaching technology and methodology. Following descriptions of the educational situation and the general characteristics of the school building and its site, detailed specifications are presented for each of the school plant's 12 centers. Graphic illustrations are included throughout the document. (FS)



# Educational Specifications

UNIVERSITY CITY HIGH SCHOOL

38th & FILBERT STS.

PROJECT 1030

SCHOOL DISTRICT OF PHILADELPHIA

PHILADELPHIA, PENNSYLVANIA

SCHOOL DISTRICT OF PHILADELPHIA

Twenty-First at Parkway
Philadelphia, Pennsylvania

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## ACKNOWLEDGEMENTS

The School Planning Department and Consultants would like to acknowledge the work done by staff members in District 1 in developing the program for University City High School which formed the basis for the herein contained set of Educational Specifications.

The committee, chaired by Dr. Marechal-Neil E. Young, District 1 Superintendent, consisted of the following members.

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# F O R E W O R D

In the planning of new school facilities, the educational needs of our youth are paramount. Schools designed today must not only provide an environment for meeting these needs, as presently defined, but also, must include provision for meeting the needs of youngsters in the future. How these needs and consequent building spaces are envisioned is the topic of this document which has resulted from a study by specialists brought together in colloborative unity for the purpose of communicating to the architect the functional requirements of design for educational spaces.

These *Educational Specifications*, therefore, constitute the basic document describing educational programs and delineating instructional space requirements and relationships for the new *University City High School*. This document, together with the District's *Technical Criteria, Guides and Standards*, comprise a set of written instructions from which the architect will derive a design concept compatible with current needs and adaptable to future changes in teaching technology and methodology.

# THE EDUCATIONAL SITUATION

The study of school facilities in Philadelphia has shown the need for a new senior high school in West Philadelphia. Over a period of more than a year, a number of committees have been engaged in planning for this school and a number of decisions have been reached. These decisions established parameters from which more specific descriptions of the educational program to be housed and the kinds of facilities needed to serve that educational program can be developed.

These parameters are:

1. *There will be an enrollment of 3,000 students in grades 9-12.*

2. *The school is to be located in West Philadelphia, in the University City Urban Renewal area, near the University City Science Center, close to the University of Pennsylvania and Drexel Institute of Technology.*

3. *The educational program will be built around the concept of this school as a magnet school in science and mathematics.*

4. *It is expected that because of its status as a magnet, the school will draw approximately twenty-five percent of its enrollment from the city at large and seventy-five percent from the surrounding area.*

5. *About fifty percent of the enrollment (1500) will be enrolled in academic and college preparatory programs, thirty percent (900 pupils) will be enrolled in commercial and clerical programs, and twenty percent (600 pupils) in trade and industrial curricula.*

The decision to organize the new school in University City as a magnet school in science and mathematics, combined with its location adjacent to a regional research and development center, has a number of implications for the curriculum and organization.

Because it is both a magnet school and a neighborhood school it will enroll pupils with a wide variety of abilities, aptitudes, interests, and achievement levels. The school must, therefore, be a truly comprehensive high school with a wide variety of course offerings -- wide in the number of different subjects in the program, and wide in the different levels of courses offered within a given subject matter field.

The committee which was organized to study the curriculum for University City High School has made recommendations to this effect.* The report of this committee points out that among the factors which determine curriculum are the nature of the school population; the changes in the amount of knowledge and in the social milieu of the world, the nation, city and neighborhood; the amount of money available for implementing curriculum decisions; the social and moral values essential for productive life in society; and knowledge of pupil characteristics and of the learning process.

The school program will put major emphasis on science and mathematics so that it may, as a magnet, draw interested students from all over the city. If the school is to serve its purpose as both an area and magnet school, well-planned and taught courses in mathematics and science must be offered for each grade in the school and for a variety of levels of depth and breadth. The science curriculum, for example, must be organized around the concepts of scientific method of inquiry, but a variety of courses or course sequences should be offered to meet differing individual needs and abilities.

* Reports of the committees are available from the School Planning Office.

In all aspects of the educational program and activities, in fact, the individual student must be central, and each program tailored to fit that individual. This is to say that pupils must not be labeled and scheduled into programs determined without regard to their abilities and needs. A student who intends to enter the business world after high school graduation and who has high ability in mathematics or science should not be kept from pursuing advanced work in these fields because he or she is labeled a "commercial" or "trade and industry" student. Similarly, a college-bound pupil with high ability in the humanities or the social sciences, but average ability in mathematics, should be able to enroll in a program in mathematics which fits his past achievement, his present abilities and his needs.

The curriculum must also be designed to take advantage of the proximity of the University City Research and Development Center. Students should be able to visit and observe the scientific activities in the Center and to gain on-the-job training. Personnel from the Center will be available as resource persons to help develop the curriculum and to meet with classes.

Further, since the Joseph Priestly Science Center may be in the neighborhood, the offerings in that Center must be coordinated with the science curriculum at University City High School. The teachers will also be able to benefit from that Center in keeping abreast of the new knowledge in science.

The emphasis on science and mathematics in this magnet school must not overshadow the other areas of the curriculum. Broad offerings in commercial and clerical training, in certain areas of practical arts, and trade and industrial education must be offered. The creative, communicative,

and cultural aspects of languages and literature, both English and foreign, and the learning which comes from a wide range of offerings in the social sciences will be offered with depth and breadth.

The program of the University City High School in formal classes, in services, and in informational and cultural offerings must serve all persons of all ages in the community. The school, to accomplish this, will have to be in use all year, and from early in the morning until late at night. All night utilization of the facility is conceivable, and could be necessary to meet special needs.

To accomplish the wide range of the objectives of the curriculum, that is, in each field to transmit data, to give experience in skills, to teach concepts, and to develop attitudes, an equally wide range of pupil organization and teaching methods must be used. For some learnings, for example, the presentation of data, or introductory materials and the introduction of concepts, the organization of pupils into large groups up to 200 has been found to be effective. For other kinds of teaching-learning, seminar and discussion groups of 5 to 15 pupils can be expected to lead to greater accomplishment. Provision must also be made to organize the school so that individual pupils have the time, opportunity, motivation and materials to study on their own. This individual study would include exploratory activities, study in depth, review, and advanced work. The curriculum must be organized to allow individually paced progress and the possibility of a non-graded situation.

Coupled with the organization of the curriculum and of pupil grouping to foster the development of the individual to the extent of his ability, there must also be opportunity to develop the competence for living in the social and economic milieu of a democracy. The educational program will need to

The methodology for achievement of individual and social competence must be as broad as the objectives. It should be possible for teachers to work in teams or individually. Class schedules must be flexible - built around shorter modules of time that may be combined. Communication must have a wide variety of media in addition to the spoken and written word. Since the school is a magnet school in science and mathematics, a computer for help in the solution of problems and for the teaching of computer methodology must be supplied. The computer as an information retrieval system and as an instructional device should also be part of the enlarged communication system which must include television, both broadcast and closed circuit, and a wide variety of other audio and visual electronic and mechanical communication devices.

IMPLICATIONS FOR THE SCHOOL PLANT

The curriculum and the coadunates in teaching methodology and pupil organization have a number of implications for the new building for the University City High School. A school building must be regarded as an educational tool. Its purpose is to house and aid the educational program, not to serve as a monument nor to follow previous designs. Its construction, dimensions, spaces, and interior arrangment, as well as its equipment and furniture, must be built around the educational program. Too often, however, the reverse is true, that is, the educational program is forced to fit a structure built without regard for its use. To serve its purpose as an educational tool, a school building must be carefully designed with the educational program as a base. To enable the architect to design a building which will serve the educational purposes for which it is built, the program must be analyzed and the activities which arise out of its implementation specified. From this kind of analysis, the general characteristics of the building, the size and numbers of various spaces needed,

their relation to each other, special design considerations for the spaces, and the environmental requirements can be specified. Such specifications, written out, then serve as a program for the architect. The educational specifications do not hamper the architect but rather aid him to design a building in which form fits the function and utility is enhanced. Since educationally an aesthetically pleasing building is more functional than an unpleasant building, the educational specifications do not hamper design in this aspect either.

The process outlined above has been followed in developing these educational specifications for the University City High School. The materials which follow present first certain general characteristics the building must have if it is to function effectively, lists the spaces and their relationships which must be included, and then examines each group of categories by function or subject matter.

SPACE NEEDS

Educational program is of prime consideration in developing the design of a school building. Another important factor is the number of pupils and their distribution by grades and program.

The decision has been made, as previously reported, that the school will enroll 3,000 pupils, and as a magnet school will draw, it is estimated, twenty-five percent of this number from outside the immediate service area. Although there will be, if the program is developed as decided upon, no rigid boundaries between the various curricula or sequence of courses, for convenience in determining the numbers of pupils in various subject matter classes, some categorization of the student body by area of major interest is necessary. Information from the committees studying the program for the University City High School and comparison with similar existing schools in Philadelphia was used to determine the three main categories and the numbers in them. Further data on grade progression

ratios by major groups were used to project the number in each grade. These figures are given in detail in Table I. They serve as the basis for the determination of space needs. They should be reviewed before final plans are accepted, and if new data which are then available indicate changes should be made, then new calculations of space needs can be made.

TABLE I
DISTRIBUTION BY GRADE AND CURRICULA
UNIVERSITY CITY HIGH SCHOOL

| | ACADEMIC | | COMMERCIAL | | TRADE AND INDUSTRY | | |
|---|---|---|---|---|---|---|---|
| Grade | Magnet | Neighborhood | Percent | No. | Percent | No. | Total |
| 9 | 195 | 236 | 31.5 | 284 | 33.3 | 200 | 915 |
| 10 | 190 | 222 | 29.5 | 266 | 30.6 | 183 | 861 |
| 11 | 185 | 153 | 20.4 | 184 | 19.5 | 117 | 639 |
| 12 | 180 | 139 | 18.5 | 166 | (16.6) | 100 | 585 |
| TOTAL | 750 | 750 | (100) | 900 | (100) | 600 | 3.000 |
| % of Total | 25% | 25% | | 30% | | 20% | |
| % of Neighborhood | | 33.3% | | 40% | | 26.7% | |

After the number in each grade in each of the broad curriculum categories was determined, the educational program as set forth in the descriptions of curriculum in the Philadelphia high schools plus the recommendations of the District committees for this school were used to determine the number of classrooms needed. Also taken into account were the number of periods per week each class was to meet, the size of classes and the length of the school day. The number of classrooms and laboratories needed are set forth in Table II.

Although the use of each classroom or teaching-learning spaces for all of the time school is in session would be highly desirable from an economy standpoint, practically, such 100 percent utilization is impossible because of scheduling difficulties, and, perhaps, not desirable educationally since it would leave no flexibility within the schedule. A lower rate of utilization must, therefore, be used in calculation of space needs. In this case, a utilization rate of 80 percent was used.

Given below is the number of teaching spaces which will be needed to house 3,000 students calculated according to the following variables:

A class size of 25 in general classrooms

A class size of 24 in most laboratories and special classrooms

An eight period building utilization day

An eighty percent rate of utilization

TABLE II

NUMBER OF CLASSROOMS AND LABORATORIES NEEDED

| Subject: Area | NUMBER OF TEACHING SPACES | |
|---|---|---|
| | Regular Class Size | Variable Class Size |
| **General Purpose Classrooms** | | |
| Humanities | 42 | 32 |
| Mathematics/Science | 14 | 11 |
| Technology | 42 | 3 |
| Commerce | 4 | 3 |
| P.E. | 1 | 1 |
| **Laboratories** | | |
| Science | 19 | 19 |
| Foreign Language | 11 | 11 |
| Reading | 1 | 1 |
| Practical Arts and Personal Services | 7 | 7 |
| Technology | 8 | 8 |
| Commerce | 10 | 10 |
| Driver Training | 1 | 1 |
| P.E. | 5 | 5 |
| Art | 4 | 4 |
| Music | 3 | 3 |

Although the calculation of classroom needs is based on the time module for periods currently in use in most Philadelphia high schools, the numbers of rooms shown will also be adequate in number if a different time module and a flexible schedule are developed for the University City High School. However, if various sized groups are also scheduled, that is, large groups, seminar groups, and individual study, then the number of classrooms needed will vary from the number calculated using the common class size as the basis. If large group instruction is introduced as recommended,

the amount of space needed will be less, as will the number of teaching spaces. Dividing regular-sized classes into seminars will, however, not change the space needed appreciably, since a classroom can be divided into as many smaller spaces as the regular class group is divided into smaller seminar groups.

Large group instruction, suitable primarily in the subject matter areas of English, social studies, science, and mathematics, will be used for approximately twenty-five percent of the time a pupil spends in school. The need for regular classrooms will thus be decreased by the same percentage (25%). The numbers of regular classrooms and laboratories needed under this latter assumption are also given in the table showing classroom needs. Not shown are the three lecture and demonstration halls needed when large group instruction is part of the school organization.

General Classrooms - The teaching spaces for groups within a school can be divided into two main classes -- general classrooms and special classrooms. General classrooms are those which can serve a number of subject matter fields since the furniture and equipment are not so specialized as to preclude use for any other purpose than that for which they were designed. Much of the curriculum in English, the social studies, some of mathematics, business education, and foreign language can be taught in general classrooms.

These classrooms should have movable furniture, chalkboard and bulletin board space. If the chalkboard at the front of the room is to be used mainly by the teacher, the bottom of the board should be at least 50 inches above the floor and the top at about 84 inches. Any chalkboard below 50 inches cannot be seen by most of the students.

The room should be equipped for use of all visual aids. There should be no desk, but a table or lectern with overhead projector should be provided, and there needs to be either one screen for projection which can be slanted to avoid distortion of the images from the overhead projector, or there should be two screens. Screens should be high on the wall for good sight lines from any point in the room. Connections to the Communications Control Center must provide for broadcast radio and television. Cable for closed-circuit television must be present. Electrical power connections must be available at front, rear, and side. Provision must be made for ceiling-mounted television receivers. It must be possible to darken the room for movie and slide projection. (This is simple if windows are with low transmission glass or are few in number.) Lighting control should make it possible to brighten or darken the front or back of the room. Carpeting will improve the acoustic and psychological environment. At least 30 lineal feet of bookshelving is needed, plus storage cabinets. A number of sets of classrooms should be separated by movable partitions. Similar partitions in other rooms will make it possible to divide them into smaller rooms.

Large Group Instructional Space - There will be a need for three large group instructional spaces, with a capacity of 120 pupils, in the school.

The teachers using each of these spaces should have all of the many audio-visual aids to teaching at their command. Television cameras and monitors will give close-ups of demonstrations. Broadcast and closed-circuit television must also be available. Rear screen projection should be used for television, movies, and slides. A number of low-level speakers should be installed. The teacher should be able to control lighting in the room and all audio-visual aids from a lectern. At least

one room should have a large science demonstration table with all utilities. Seating, on risers, should be individual, with movable tablet arms. Sight lines should be carefully calculated.

Each lecture hall will need to have a projection room behind the translucent screen, with all machines controlled from the teaching station, which should also have an overhead projector. A feedback system to the radio and television distribution center in the building and to the District distribution center must be supplied, so that requests for transmission may be placed and errors in distribution or mechanical failure may be reported immediately. There should also be a room for the preparation of demonstration material. The room will contain storage cabinets, work tables, and sink. It must be at the same level as the front of the lecture hall and connected to it so that carts may be moved from one space to another.

Greater economy can be achieved if one projection room and one preparation room can serve all three lecture rooms.

The lecture room should have an area of 1,600 to 1,800 square feet. The actual area will depend on the shape. Sufficient floor space (500 to 600 sq.ft.) for lecture, demonstration, and panel discussion must be supplied at the front of the room.

The projection room must be designed with the kind of equipment to be used in mind. It will need to be about 400 square feet in size, larger if it serves all three lecture spaces.

The preparation room should contain 300 square feet.

SUMMARY

*The program at University City High School will place major emphasis on science and mathematics; however, because it is also a neighborhood school, it will enroll students with a variety of*

*abilities, aptitudes, interests and achievement levels. Accordingly, it must be a truly comprehensive high school with a wide variety of course offerings. The individualized program of instruction with provisions for a great choice of subject selection will provide an enriched education.*

There are certain implications which arise from the proposed educational program which must be reflected in the design of the new high school. A number of these characteristics will apply to all aspects of the building and must be kept in mind in the design of any section of the building and of the building as an entity.

1. *Both long-term adaptability and short-term flexibility must be built into the structure.*

The educational program outlined for the school emphasizes adaptability, flexible scheduling, variable-sized groups, and individual study. Because of the knowledge explosion both the content of the curriculum and teaching methodology will change over the years and the building can be expected to be in use for fifty years at least. The building, therefore, must be designed and constructed so that interior space dividers can be rearranged and utility services moved so that both the size and function of a room can be changed.

Long-term flexibility can be achieved by longer spans, non-bearing interior walls, utility runs which are not embedded in walls and other similar construction features which make it possible to change interior arrangements over a weekend or during the time school is not in session.

It should be possible to expand or contract a given space in at least two directions. An arrangement of structural components which results in rooms which are limited in

expansion by a fixed corridor and in long narrow rooms must be avoided, since spaces of this shape are inefficient educationally. Short-term-flexbility, in which a teacher or group of teachers can combine or divide teaching spaces "at will at once" so that groups of different sizes can be accommodated, implies movable partitions, either manually or motor-operated. Such partitions must have a fairly high noise-dampening effect to insure acoustic separation of spaces.

2. *Provision must be made for the use of a wide variety of audio and visual aids to teaching and learning.*

It must be possible for any teacher or student to have at his command any single communication medium of combination of media. Since the school is a part of a larger system, a number of communications or lessons will originate outside the school. One source will be television programs broadcasted from the central studio of the District. These programs will include live productions and programs previously presented and recorded on moving picture film or on video tape and rebroadcasted. The District may also broadcast films or tapes received from other sources such as other educational stations, libraries, and commercial sources. This material will be drawn from a District central audio-visual library. It must be possible to view these programs in regular and special classrooms, in seminar spaces, and in individual study spaces.

A second source of television programs will be recorded programs sent to classrooms, seminar rooms and individual study spaces on coaxial cable from a source within the school. The messages may be audio or visual, or both. There must be a space within the school

for equipment to originate and distribute these messages, a cable system to carry them, and connections to the viewing system also used for broadcast programs. Within the school, in addition to the distribution center, there will need to be a storage space for all kinds of audio and visual aids. The storage space must be set up and organized with catalog, librarian, and technicians so that material from it may be sent to the distribution center for sending over cables, may be sent to teachers for their use on machines in the teaching spaces, or distributed electronically or manually for use by students in individual study spaces.

Within the school and District system it must be possible for a teacher to be fully informed on what is available on any of the media and be able to use it at a specific time and place. Further, any teacher must be able to create a teaching aid to fit a specific need if the required material is not otherwise available. Methodological and technical help in programming and technicians to create the teaching aid must be on hand, as well as space and equipment for the creation of the aid.

Material from whatever source and whatever medium -- printing, audio or video tapes, moving pictures, discs, slides and other transparencies -- should be cataloged, stored, and distributed from a central facility in the school. Such a space could be called a library, but the addition of many other media than books implies a wider range than implied in the word "library", and, therefore, this space has generally been called an Instructional Materials Center.

Provision must be made in the new building for efficient usage of the variety of teaching aids and devices. Some material will be offered by devices in the teaching-learning space. Power must be available to operate these devices. An abundance of electrical wall outlets (C.E.O.'s) must be supplied. Classrooms must have outlet jacks to receive broadcast programs and distribution from the school communications center by coaxial cable. Projection screens should be mounted away from the wall with a tie-back clip at the chalkrail so the screen can be angled to avoid keystone effect when overhead projectors are used. Earphones for individual listening and connections for sending and receiving messages from the computer will be necessary in specialized spaces. Television receiver, yoke-hung from walls or ceiling, must also be easily installable in any space. Loudspeakers are also needed.

3. *The building must be planned to be aesthetically pleasing in dimension and relationship, in color, and in surfaces.*

The building must be a credit to the District, serve to improve the neighborhood, and give the students a beautiful environment to stimulate pride, and serve as a basis for future aesthetic judgments.

As part of the total design concept, the architect should include provision for decorative fine arts in the University City High School. This provision may take the form of murals, mosaics, sculpture, bas reliefs, frescoes, monuments or stained glass, and should convey the relationship between the particular school and the generalized concept of education.

4. *The physical environment must be carefully designed to promote effective teaching and learning.*

Acoustics. Noise can be defined as sound which interferes with effective communication. It must be kept at levels which insure effective learning. Noise control can be achieved by design and use of materials which lessen the changes of its generation, by isolating noise producing areas, and by absorbing or dampening after the noise has been generated.

Carpeting has been shown to eliminate a great deal of noise generation and should be installed in general classrooms, offices, the Instructional Materials Center, and individual and group study spaces as a minimum. The installation of carpeting seems to have the added advantage of improving student behavior. Noise from student lockers can be diminished by the use of non-metallic components. The possibility of sound from loudspeaker systems becoming noise in adjoining areas can be lessened by the use of a number of low-level speakers scattered through a room rather than one or two high sound-level speakers.

Noise producing activities such as those in shops, music, or physical education, should be located away from quiet areas such as the Instructional Materials Center and study spaces. Machinery should be isolated by distance or sound dampening enclosures. Sound can be further absorbed by the use of proper materials on walls and ceilings. Because of the effect of carpet in cutting down on noise generation and in absorbing sound, the need for acoustic materials on walls and ceilings of carpeted areas is reduced. Partitions, both fixed and movable, should be designed to limit noise transmission from one space to another. Transmission loss should be at least 25 to 30 decibels.

Visual Environment. In lighting, the new Pennsylvania code on schoolroom lighting should be followed. The object of the lighting system, which must be carefully designed, is to furnish sufficient light for the various tasks the staff and students must perform with a low level of glare and of contrast except for emphasis. Light levels should fit the task. For example, in large-group instruction spaces only a low level of light is needed for note-taking, but in the same space, a higher level will be needed for writing examinations. Still higher levels are necessary for laboratories or for home economics, for example. It should be possible to control the light intensity in most spaces. This can be accomplished more economically by turning banks of lights on or off than by installing dimming devices. When high brightness levels are achieved in teaching spaces, the contrast necessary for reading material on the chalkboard may disappear. Vertical surface lighting should be considered as a solution.

Important also in the visual environment is the use of color to diminish or increase contrast, or to give cool or warm connotations to various areas. Colors must be chosen from a complete palette and used to complement the activities, amount of light needed, and the tone desired in a given space.

Control of both lighting and temperature is more easily acheived, and greater economy made possible if the number of windows is sharply limited. Windows should be used only for the psychological effect desired and should not be considered as a primary source of light. All instructional stations should include minimal periphery windows, or vision strips, in accordance with State requirements.

Thermal Environment. Research has shown that human efficiency is adversely affected by temperature deviations in the environment both above and below the desirable range. It can be expected that in Philadelphia the in-school temperature will rise above the desired range as often as it falls below. The University City High School will be used year-round for twelve months, and thermal environment must be planned so that fresh air of constant temperature is supplied. This means heating or cooling and filtering -- true air-conditioning. Temperature controls should be zoned to allow for different types of activities and for use of parts of the building in off hours. The regular classrooms and laboratories, all office spaces, the Instructional Materials Center, student carrels, student activity areas, and the computer center should be completely air-conditioned. Heating in cold weather may be sufficient for the physical education spaces and certain shops.

5. *The building plan must allow the free circulation of people and of a variety of materials without congestion and inconvenience.*

There are a number of patterns of circulation which must be taken into account. There is the movement of people -- students, staff, and visitors to and from the site. Materials -- supplies, books, equipment -- will be brought to the school and waste will need to be removed.

Pupils will arrive by public transportation and as pedestrians. It may be that some, in the future, may arrive by school bus, and this eventuality must be considered in planning. The possibility for a pull-off road for the buses and a loading and unloading zone must exist on the site. A driveway and loading dock for trucks must be located so that it does not interfere with student traffic. The loading dock should be convenient to the primary destinations

of delivered materials -- supply room, Instructional Materials Center, and food service, and for the removal of waste. Elevators for moving supplies and equipment are needed.

Interior circulation will consist mainly of students moving from room to room, and within teaching spaces. Students will enter the school and move to lockers for the storage of outdoor clothes and then to teaching spaces. There must be a number of entrances. Corridors must be wide enough for student movement even though locker doors are open on both sides of the corridor. The auditorium and the large group instructional spaces must be so located and served by wide corridors so that congestion does not occur. Since large numbers of students will be moving at one time, many from floor to floor, the possibility of using escalators should be explored.

6. *The building must be safe for staff and students and for property.*

The responsibility for safety resting on a school district when it assembles 3,000 students plus the necessary staff in a school building is tremendous, and every effort must be made to provide a safe environment for them.

Wall surfaces which students may bump into must be non-abrasive. Stairs, corridors, and exits should be designed in harmony with recognized safety codes. Rapid and easy exit from any part of the building must be possible. Floor surfaces should not be slippery. Both effective lighting and the use of colors to highlight potential danger can lessen the possibility of injury. Fire alarms and fire extinguishers must be easily available and flame-retardant materials used. In laboratories and shops special care must be taken to

avoid building -- in danger, and extra provision made for equipment for emergency use such as extra fire extinguishers and showers for washing off spilled chemicals.

7. *An office space should be provided for each teacher.*

Teachers as professionals should have a space in an office where planning can be done, books and other materials kept, papers and examinations read, and materials prepared. This space should not be in a classroom but in a special area with other professionals. Further, for economy and efficiency any teaching space must be in use most of the time, which means that a number of teachers will meet with students in that classroom during the course of the day. The classroom thus cannot be used as an office.

Each subject matter group of teachers should have an open office area, with a desk, file cabinet, and bookcases for each teacher. Visual privacy can be achieved by the use of bookcases and screens as dividers. The department head should have a private office and there should be space for non-professional aids and clerks. There must be provision for storage of overcoats and other outdoor clothing, for departmental books, audio-visual aids and machines, including maps and charts, and for a simple duplicating machine. Conference rooms for team-teaching planning and conferences with student groups should be provided. Student study carrels may be located nearby, but not within the departmental office complex. Connections for all audio-visual aids including broadcast and closed-circuit television, to the computer for solution of problems and information retrieval must be present in the office area. It must be possible to order various teaching aids by dialing or by telephone conversation from this complex.

The teachers' office area will be home base and must be convenient and pleasant, and must be located near the classrooms most apt to be used by those in the department and to any special facilities commonly used.

8. *The school must be equipped with the latest in electronic, instructional and communication equipment.*

Provisions should be made for the following:

a. A complete, fully-integrated instructional television system with capacity for both open and closed circuit broadcasts. This system should include central distribution from a communication center located in or adjacent to the Instructional Materials Center and should provide for monitors in each classroom, connections for program origination via closed-circuit T.V. from classroom areas, remote dial access from each instructional station, and capacity for future installation of slow scan television (or similar system) for data retrieval.

b. A one-way public address system with capacity for all calls emanating from the general office area. This system must reach all instructional stations including outdoor areas, and the audio portion may be combined with a television system if practical.

c. A signal and tone system with automatic program. The control panel for this unit should be located in the general office. A light or music signal is preferable to any type bell except for outdoor stations such as fields and courts.

d. A master clock and control system should be installed in the general office under the supervision of the switchboard-receptionist. A clock should be placed in every instructional station and each auxiliary area, as well as in several corridor and outside locations. Unless otherwide noted, clocks in instructional spaces should be installed in a side wall.

e. A fire and disaster alarm system should be installed according to specifications and requirements of the local code.

f. A privacy telephone intercommunication system should provide for verbal communication

among and between the major areas of the school plant. The control panel for this unit should be centered in the communication center adjacent to the library and capacity should be included for future installation of a dial access instructional materials.

g. Outside access public telephones should be installed in each departmental office, in the central offices and in certain auxiliary and services spaces to enable personnel to make outside calls. In addition, public telephone booths should be located adjacent to the administration center, the gymnasium, the auditorium, and the cafeteria for student and public use.

h. A computer system, installed in the Math-Science Center, to be used by entire school for computer assisted instruction (CAI), data retrieval, and administration functions.

9. *Off-street parking must be provided for the members of the staff and students who drive to school.*

Due to restrictions arising from the placement of a 3,000 student high school on a site of 13.8 acres, the provision of 250 parking spaces for staff members is deemed adequate. Underground and off-site parking should be explored and additional space acquired for this purpose when feasible.

10. *Student lockers should be provided for each member of the student body for the storage of books, outer clothing and personal items.*

A locker approximately 6" in width, 60" high and 18" deep should be provided for each student of the school. Each locker should be equipped with the built-in combination lock which may be opened with a master key. Consideration should be given to the location of these lockers in corridor spaces so as to minimize traffic congestion. Effort should be made to originate a new concept of student storage to substitute for the traditional corridor lockers.

11. *Display spaces must be provided throughout the school.*

Space for the display of all types of art work, posters, trophies, and exhibits should be located at conspicuous well-traveled positions throughout the school plant. These areas should be so designed that they are not unsightly even when not in use. Some glass enclosed space with suitable locks or other security measures is desired for display of valuable or fragile items.

12. *Toilet and lavatory facilities should be provided in accordance with the uniform building code.*

Toilet units should be distributed throughout the entire school plant and should be located so as to minimize circulation and supervision problems. Consideration must be given to the zoning of toilet locations so that security can be gained when the building is open for public activity, especially near such spaces as the auditorium, cafeteria or gymnasium.

13. *Drinking fountains should be distributed through the school plant.*

Chilled water drinking fountains should be located throughout the school plant. Attention should be given to the locations where the nature of the activity promotes water consumption or where people are gathered for spectator or participatory activities. Fountain heads should be of the spray type, and fountain units should be individually chilled.

14. *Provision must be made for central supply receiving.*

A receiving-storing-distribution-maintenance center should be located at street level with convenient access for delivery of supplies. This area must contain a loading dock and

adequate space for storage of certain custodial and instructional supplies.

15. *Janitorial areas should be distributed throughout the school plant.*

Custodial areas containing a standard floor slop-sink with hot and cold running water must be available on each floor. Space must be adequate for the housing of a variety of floor machines and for the storage of sanitary supplies.

16. *The innovative spaces in this school demand innovative furniture and equipment.*

Certain facets of the educational program represent new methods of teaching. Spaces are provided to house these programs, and in certain of these spaces it will be necessary to seek the latest developments of furniture and equipment.

17. *Security, simplicity, and economy should be guidelines for planning of this school.*

A functional, pleasing, and economical project both in first cost and in cost of operation and maintenance is desired. The building is to be compact in structure and related appropriately to the site and surrounding. Design must be an integrated composition wherein the engineering is blended with the architecture to produce an optimum arrangement of space with visual, sonic, and thermal environment consistent with the needs of each area and conducive to the learning process.

18. *The new University City High School must contain a factor for future expansion.*

Even the most refined procedures for predicting student enrollment include an operational percentage of error. On the basis that it may be necessary in the future to expand this school plant, provision must be made for 25 percent expansibility, and for the utility capacity to handle the additional plumbing, electrical and ventilating units required.

19. *Nighttime use of this building requires exterior lighting.*

With respect to use of this building after dark, appropriate provisions must be made for driveways, walkways and entrances to be lighted. The secluded parts of the school should be illuminated effectively by spottype floodlights, established on a time control manual override.

20. *Adult and community use of this building implies storage needs.*

Certain spaces within this school which will be used by the community or adult education programs will require additional storage for protection of the special materials for those programs. These spaces include the gymnasium, the vocational home economics spaces, vocational counseling spaces, and at least one complex of the general purpose classroom spaces. In addition, men's, women's, boys', and girls' toilet facilities should be provided with means for isolation from the balance of the school building. Suitable provision should be made also for coat and hat storage, especially in an area near the auditorium.

21. *The school site must be landscaped, and relationships between outdoor areas clearly established.*

Appropriate landscaping is required in the design of this new school plant. Plantings should

be selected for the practical qualities of minimum maintenance and growing and maximum abuse resistance. Sod is required for grass areas instead of seeding, and freeze-protected hose bibs are necessary. Of major importance is the relationship between existing and new buildings and the space for outdoor teaching stations. The following areas are considered minimal:

a) FOOTBALL FIELD. The recommended dimensions are 190' x 420'. Since most of the play is lengthwise of the field, it is desirable to have the long axis extend northwest and southeast, framing an angle of 45 degrees from the north, to avoid glare from the sun. The football field should be crowned in the center.

b) BLEACHERS. If spectator bleachers are to be provided on one side of the field only, they should be located on the west side. Extra care should be taken to construct bleachers at an angle sharp enough to provide clear sight lines for every seat.

c) RUNNING TRACK. A one-fourth mile running track is recommended. The track is to be located around the football field. The width of the straightway should be 28' (Provide for 8 lanes of 42" each all around the track). The inside curve of the track is 110' with a true semi-circle for the curve. The straightway should be the west side and should be extended to a minimum straightway distance of 700'. The space required for laying out the oval for a one-fourth mile track is approximately 260' x 590', with additional space required for the extended straightway.

d) JUMPING PITS. Separate pits with runways should be provided for broad jump and pole vault. One set of these pits should be located inside the running track between a side of the football field and the track on both sides of the field. Two high-jump pits should be placed in the semi-circular area near one end of the field.

| | Width | Length | Length of Runway |
|---|---|---|---|
| Broad jump pit | 10' | 22' | 125' to take-off board |
| Pole vault pit | 16' | 12' | 100' |
| High jump | 12' | | 50' |

e) WEIGHT THROWING EVENTS (shot-put, discus). These events should be located at one end of the football field or in the semi-circular area near one end of the field. Approximate dimensions of the shot-put are 100' x 100'. Two layouts are recommended.

f) FIELD GAME AREA. An area with dimensions of approximately 200' x 400' should be provided to allow maximum participation in such large space games as field ball, field hockey, touch football, soccer, speedball, etc. This area may also be used as a practice field for football. Fields, backstops, and goals for the various games should be laid out in such a way as to permit overlapping use of the area during different seasons.

g) TENNIS. Approximately 46,000 square feet should be designated for eight tennis courts 45 x 120 (36' x 78' and clearance) and two backboards for practice stations. Tennis courts should be enclosed by woven-wire fencing 10' - 12' high.

h) BASEBALL FIELD. An area with dimensions of 350' x 350' is recommended for layout regulation baseball field. This area may overlap other playing areas.

i) FENCING. The entire site should be enclosed with woven-wire (cyclone-type fencing) 6-10' high.

j) FIELD STORAGE. Although field storage is not instructional space, proper care of certain physical education and recreation equipment suggests that such a facility would be beneficial. It is recommended that such footage not be included in original plans, but be obtained by use of relocatable or other economical buildings.

## UTILIZATION OF EXISTING STRUCTURE

The University City High School site is to be located in West Philadelphia, bordered by Lancaster Avenue, 38th Street, Filbert Street and 36th Street. The Drew Elementary School is located on this site (see Figure 1 on next page.) This building, constructed in 1954 and consisting of approximately 60,000 square feet, will remain on the site. Therefore, a relationship between the existing facilities and new construction must be provided, and the architect should investigate the feasibility of utilizing the Drew Elementary School building as part of the high school complex. All facets should be explored, including complete utilization, partial utilization and use in future expansion. Such feasibility studies whould be submitted to the Division of School Planning for review.

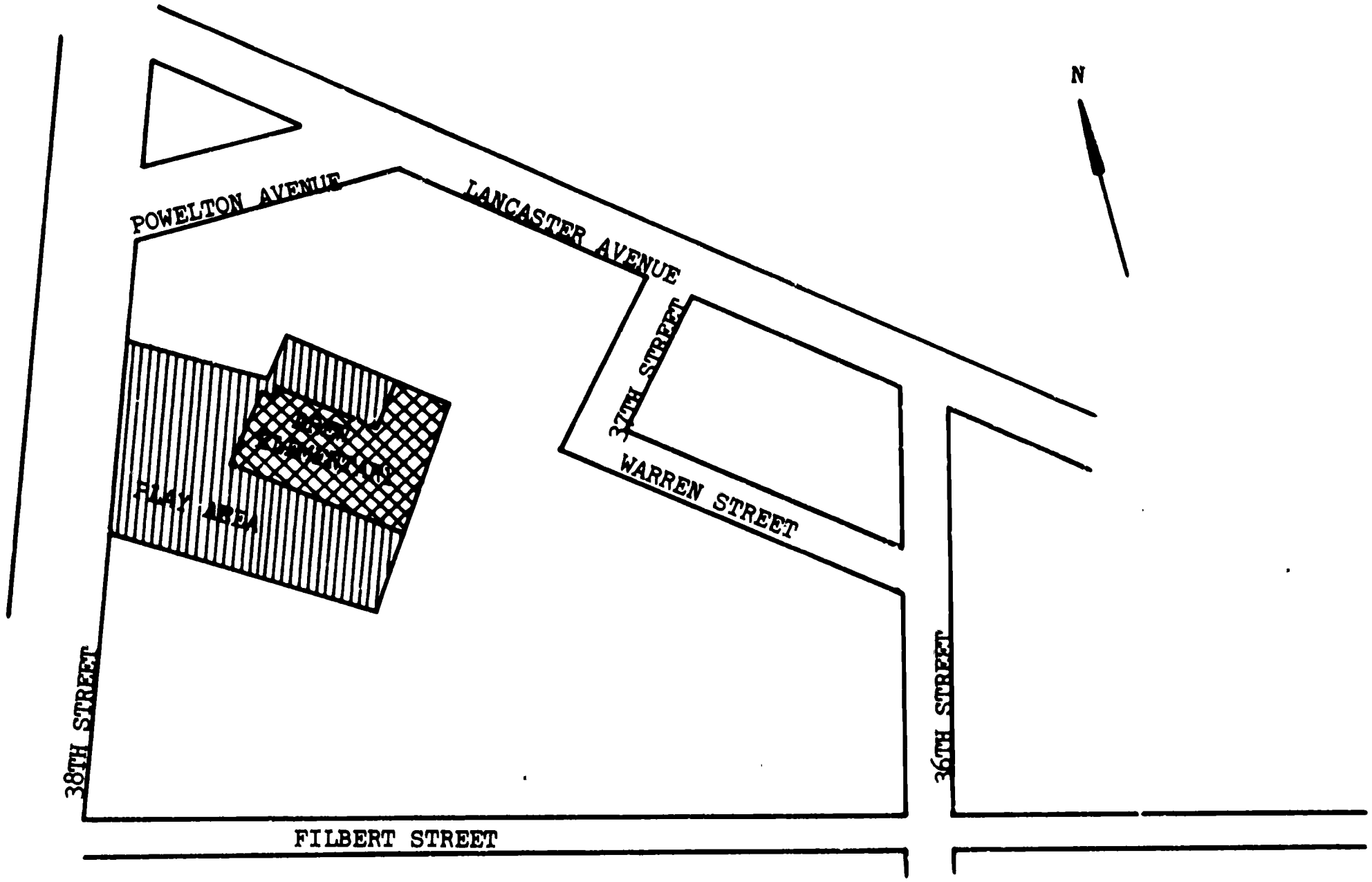

N
POWELTON AVENUE
LANCASTER AVENUE
37TH STREET
WARREN STREET
PLAY AREA
38TH STREET
36TH STREET
FILBERT STREET

FIGURE 1

# THE SCHOOL PLANT

The School District of Philadelphia desires a facility which will accommodate a comprehensive high school program, a magnet program in mathematics and science, and an extensive school-community program as well. Such a school plant requires a variety of spaces, each designed to facilitate a variety of functions. It is necessary, therefore, that the following information be developed concerning each space within the school:

1. *The expected occupancy of each area.*
2. *The approximate square footage of each area.*
3. *A description of the primary activities and purposes for which the area should be designed.*
4. *A description of major furnishings and equipment which relate to superficial floor space for each area.*
5. *Appropriate general considerations for each area and space.*
6. *Special utilities required for the operation of the school plant.*
7. *Schematic drawings showing the general relationships within and between area of the school plant.*

With this information about the salient relationships which should exist between the school's program and facilities, the architect should be prepared to give form to the school and to create a design appropriate in every respect to the needs of the community.

In the sections that follow, these detailed facility specifications are developed. The

sequence presents first a summary of space requirements, followed by a schematic description of the total school.

Twelve identifiable areas of the school plant are treated separately:

A. Administration Center. Encompassed in this classification are public and student reception area, private offices for building administrators and visiting supervisors or professors, the counseling and medical suites, and Home and School Association offices.

B. Instructional Materials Center. This Center is the focal point of all circulation within the school. It contains the material resources of the school, including books, films, pictures, recordings, and all other sight and sound media. The Electronic Communications Control Center is located in this complex.

C. Humanities Center. Incorporated into this complex are all general purpose classrooms of the school and a few relatively specialized laboratory-type facilities. These spaces are intended to house instruction in communications, English, foreign language, and social studies. The complex must be directly related to the Instructional Materials Center and to the large group lecture spaces of the auditorium.

D. Fine Arts Center. This Center combines space for instruction in instrumental and vocal music with laboratories for the fine arts, painting and crafts. The auditorium is located in this complex and access is provided for use by art and music students directly to the stage area.

E. Math-Science Center. Mathematics and Science, classrooms and laboratories are clustered around a central preparation-teacher office area. Since this is the area of the Magnet concept, extensive facilities are available for both large and small group instruction, as well as individual projects and experimentation.

F. Commerce Center. The grouping of instructional activities in the business and distributive occupations as well as secretarial science, etc. Laboratories are included for business machines, typing, occupational training, and distributive education.

G. Student Center. Student activities and certain non-instructional facilities are located in this complex which combines dining functions with space for social/recreational activity and student government and associations.

H. Home Arts and Personal Service. Space is provided for both the typical "home economics" situations and practical vocational training for entry-level positions in the womens' world. The center deals with seven specialized areas, which includes adjustable and mobile equipment of various brands and makes.

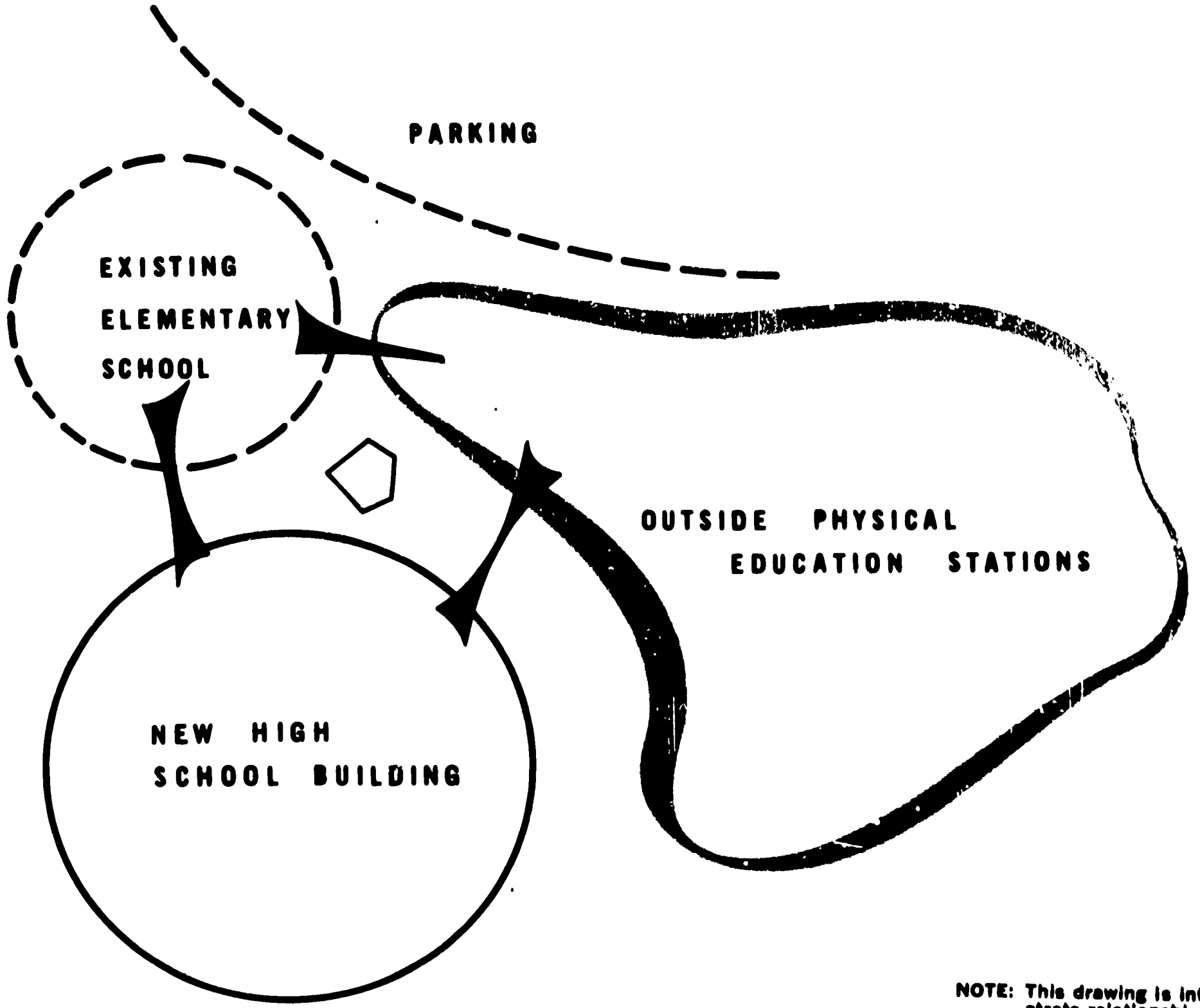
I. Technology Center. The instructional and laboratory areas designed for both the "industrial arts" and occupational skills developmental programs. This unit contains four theory instruction rooms, laboratories and/or project work areas for graphics arts, power mechanics, drafting, wood and synthetics, metals and automobile shop.

J. Physical Education Center. Included in this area are the gymnasiums, locker rooms, swimming pool with multi-use physical education field areas. These spaces should be conveniently located with respect to student center and access for the general public.

K. Special Education Center. Housing programs for the educably handicapped, this Center includes seven special classrooms. Spaces are flexible to allow a wide variety of learning activities to be taught in small groups or by individual instruction.

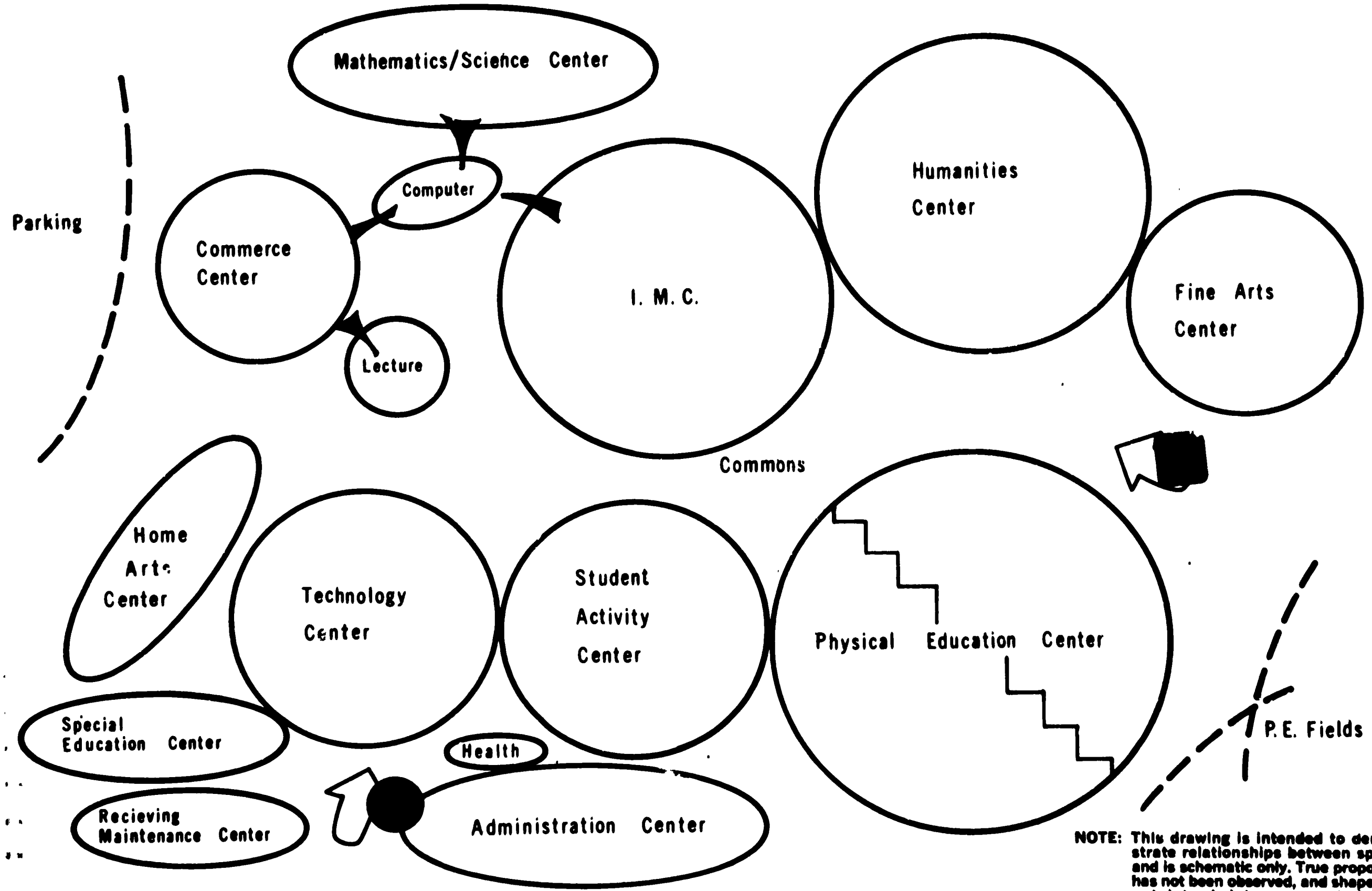
L. Maintenance Center. This area is to accommodate the functions of receiving and distribution of supplies and equipment, minor repairs, and maintenance, storage of operational and instructional supplies, control for all mechanical equipment and offices for the non-teaching staff of the school.

# SITE RELATIONSHIPS




NOTE: This drawing is intended to demonstrate relationships between spaces and is schematic only. True proportion has not been observed, and shapes are not intended to represent desired

# GENERAL SPACE RELATIONSHIPS




**NOTE:** This drawing is intended to demonstrate relationships between spaces and is schematic only. True proportion has not been observed, and shapes are not intended to represent desired design.

## APPROXIMATE SPACE ALLOCATIONS

| AREA | | APPROXIMATE SQUARE FEET |
|---|---|---|
| A. ADMINISTRATION | | 9,500 |
| 1. General Office | 1,800 | |
| 2. Record Storage | 500 | |
| 3. School Administrators | 1,330 | |
| 4. Faculty | 800 | |
| 5. Health Suite | 1.150 | |
| 6. Organization | 800 | |
| 7. Counseling & Guidance | 1,760 | |
| 8. Visiting Staff | 600 | |
| 9. Community-School | 760 | |
| B. INSTRUCTIONAL MATERIALS CENTER | | 18,250 |
| 1. Individual Study | 4,600 | |
| 2. Conference Classrooms | 600 | |
| 3. Communications Control | 1,500 | |
| 4. IMC Staff | 550 | |
| 5. Learning Center | 5,000 | |
| 6. Humanities Departmental Offices | 6,000 | |
| C. HUMANITIES CENTER | | 39,290 |
| 1. General Purpose Classrooms | 25,500 | |
| 2. Electronic Classrooms | 8,500 | |
| 3. Reading Laboratory | 1,810 | |
| 4. Journalism Laboratory | 3,480 | |
| D. FINE ARTS CENTER | | 32,290 |
| 1. Art | 5,950 | |
| 2. Auditorium | 20,200 | |
| 3. Music | 6,140 | |

APPROXIMATE SPACE ALLOCATIONS (continued)

| AREA | | APPROXIMATE SQUARE FEET |
|---|---|---|
| E. MATH-SCIENCE CENTER | | 47,270 |
| 1. Math Laboratory and Classrooms | 5,100 | |
| 2. Biology Laboratory/Classrooms | 7,800 | |
| 3. Earth Science Laboratory/Classroom | 2,400 | |
| 4. Chemistry Laboratory Equipped Classrooms | 5,200 | |
| 5. Physics Laboratory/Classroom | 2,600 | |
| 6. Electronics/Electricity Laboratory | 1,300 | |
| 7. General Purpose Classroom | 8,500 | |
| 8. Classrooms Divisible | 1,500 | |
| 9. Individual Project Laboratories | 3,600 | |
| 10. Live House | 1,200 | |
| 11. Large Group Lecture Laboratory | 1,400 | |
| 12. Computer Programming | 3,000 | |
| 13. Departmental Offices | 3,670 | |
| F. COMMERCE CENTER | | 13,800 |
| 1. Typing | 4,200 | |
| 2. Office Practice Laboratories | 2,800 | |
| 3. Stenography | 900 | |
| 4. Distributive Education | 1,800 | |
| 5. General Business Classrooms | 3,200 | |
| 6. Departmental Offices | 900 | |
| G. STUDENT ACTIVITY CENTER | | 19,460 |
| 1. Student Dining | 15,000 | |
| 2. Kitchen | 4,500 | |
| 3. Faculty Dining | 2,000 | |
| 4. Student Association | 800 | |
| 5. Bookstore | 400 | |
| 6. Token Booths | 60 | |
| 7. Recreation/Auxiliary Gyms | 3,200 | |

* Classified as SMSC space and not included in total of net educational space allocation.

APPROXIMATE SPACE ALLOCATIONS (continued)

| AREA | | APPROXIMATE SQUARE FEET |
|---|---|---|
| H. HOME ARTS & PERSONAL SERVICES | | 12,930 |
| 1. Homemaking Laboratories | 1,600 | |
| 2. Foods Related | 3,050 | |
| 3. Living/Dining Room Laboratory | 1,000 | |
| 4. Home Management | 1,630 | |
| 5. Clothing Related | 1,400 | |
| 6. Child Development | 3,550 | |
| 7. Departmental Offices | 500 | |
| 8. Conference Room | 200 | |
| I. TECHNOLOGY CENTER | | 16,080 |
| 1. Departmental Offices | 480 | |
| 2. Theory Rooms | 1,200 | |
| 3. Graphic Arts Shop | 2,400 | |
| 4. General Metals Laboratory | 2,400 | |
| 5. Drafting Laboratories | 2,400 | |
| 6. Wood and Synthetics Laboratory | 2,400 | |
| 7. Automotive Laboratory | 2,400 | |
| 8. Power Mechanics Laboratory | 2,400 | |
| J. PHYSICAL EDUCATION, HEALTH, SAFETY, & RECREATION CENTER | | 46,330 |
| 1. Main Unit | 20,510 | |
| 2. Boys' Service Unit | 8,150 | |
| 3. Girls' Service Unit | 6,000 | |
| 4. Swimming Facilities | 8,470 | |
| 5. Health Education Classrooms (Divisible) | 1,400 | |
| 6. Driver Education | 1,800 | |
| 7. Field Areas | ----- | |
| K. SPECIAL EDUCATION | | 7,300 |
| 1. Laboratories/Classrooms | 6,300 | |
| 2. Departmental Offices | 1,000 | |

APPROXIMATE SPACE ALLOCATIONS (continued)

| AREA | | | APPROXIMATE SQUARE FEET |
|---|---|---|---|
| L. RECEIVING & MAINTENANCE | | | 3,090* |
| 1. Receiving | | 1,200 | |
| 2. Staff and Control | | 1,290 | |
| 3. Maintenance | | 600 | |
| | TOTAL NET EDUCATIONAL AREA | (75%) | 262,500 |
| Structural, Mechanical, Service, & Circulation (SMSC) ** | | (25%) | 87,500 |
| | TOTAL GROSS AREA | (100%) | 350,000 |

* Classified as SMSC space and not included in total of net education space allocation.

** SMSC space to include:
Toilets, stairs, boiler room, corridors, janitorial rooms, non-instructional storage, teachers' dining, kitchen, mechanical, receiving, and elevator areas.

# ADMINISTRATION CENTER

CONCEPT:

The Administration Complex is the nerve center of a modern high school. It serves as the control point for all activities of the school for staff, students, and parents.

This area should be designed for administrative efficiency. The general office and record storage area should form the core of the administrative suite. Clustered around this core will be offices for administrators, counselors, conference rooms, the health center, and spaces for community-school coordination and the faculty ready room.

As an administrative center, the complex will house management and coordination services for the school. These administrative functions will be performed by a principal with the aid of an administrative staff and secretaries. The secretaries will perform all clerical duties concerned with administration and the pupil record-keeping for the school.

The medical, psychological, and social services of this center will serve students of the school and members of the community in spaces designed for testing, medical examination, counseling, and community-school coordination. Due to this school's function as a magnet for science and mathematics, office spaces will be available for visiting staff members from Temple University and for other specialized consultants.

The faculty ready room will facilitate teacher check-in, distribution of daily bulletins and assignments, and collection of mail and materials.

SPACES:

1. General Office
2. Record Storage
3. School Administration
4. Faculty Ready Room
5. Health Suite
6. Organization/Roster
7. Counseling and Guidance
8. Visiting Staff
9. Community-School Coordination

ADMINISTRATIVE CENTER

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. GENERAL OFFICE AREA | | | 1,800 | Focus of visitor traffic into the school and control for this traffic. |
| a. Public Reception Area | - | 1 | (500) | . Space to serve as circulation area for the administrative complex.<br>. Relate to public entrance and provide a comfortable, welcoming atmosphere. |
| b. Clerical & Business Area | 8 | 1 | (1.300) | . Open area separated from reception lobby by counter top.<br>. Space for business and clerical operations of school.<br>. Provide six secretarial positions.<br>. Semi-enclosed space for senior secretary and also semi-enclosed office space for school treasurer. |
| 2. RECORD STORAGE | - | 1 | 500 | Central location for accessibility to all offices of the administration center. Work area for general office staff with storage for student records. Provide built-in tank-type safe for storage of money and tokens. Should be fire resistant construction. |

A.

ADMINISTRATIVE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 3. SCHOOL ADMINISTRATOR AREA | | | 1,330 | Headquarters for the administrative staff. Easily accessible from the general office and the public reception area. |
| a. Principal's Office | 5 | 1 | (200) | . The principal's office is primarily his workroom where he plans the operation of the school, carries on study activities which promote the general welfare of the school community, visits with parents and patrons, confers with staff and students, and from which he communicates with those agencies most important to educational planning and programming.<br><br>. Relate to public entrance and teacher traffic via public waiting and principal's secretary.<br><br>. Direct access to conference room via principal's reception/secretary area. Direct access from office to exterior circulation.<br><br>. Sound isolation required. |
| b. Secretary/Reception (Principal) | 3 | 1 | (120) | . Controls access to the principal's office, the conference room and performs the secretarial tasks required by the principal.<br><br>. Relate to general office and public access. |

A.

ADMINISTRATIVE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 3. SCHOOL ADMINISTRATOR AREA (con't) | | | | |
| c. Conference Room | 25 | 1 | (420) | . Conference area primarily for use of administrative staff, for department heads, the principal's cabinet, and conference with small groups of parents.<br><br>. Relate directly to principal and vice-principal, reception areas. |
| d. Vice-Principal's Office Area | 4 | 2 | (240) | . Offices for vice-principals. Relate to principal, general office and record storage.<br><br>. Access through reception area. |
| e. Secretary/Reception Area (Vice-Principals) | 5 | 1 | (200) | . Control of access of vice-principals' and auxiliary discipline offices, and performance of secretarial tasks for vice-principals.<br><br>. Convenient to public reception, administrative conference room, record storage. |
| f. Auxiliary Office (discipline) | 4 | 1 | (150) | . Functions of discipline take place in this space.<br><br>. Relate directly to record storage. |

A.

ADMINISTRATIVE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 4. Faculty Ready Room | 120 | 1 | 800 | . Headquarters for the instructional staff of the school. Separate traffic lanes from public access and pupil access. Area where staff reports in the morning, picks up keys and mail, receives any special daily instruction, etc. Furnish with combination of work tables and lounge furniture. Relate to general office and administrator area. |
| 5. Health Suite | | | 1,150 | . Relate to student access. |
| a. Reception/Waiting Room | 10 | 1 | (100) | . Receiving and waiting area for the students. Seating for 10 pupils.<br>. Visual privacy from work room. |
| b. Health Office | 3 | 1 | (120) | . Private office space for school nurse. |
| c. Examination/Workroom | 15 | 1 | (330) | . First aid and work space for nurse, and examination room for visiting physician.<br>. Four screened areas for examination at 30 sq.ft each.<br>. Direct access to cot rooms, office and lavatory<br>. Lock storage for supplies.<br>. Twenty-two foot clear path for vision testing. |

A.

ADMINISTRATIVE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 6. ORGANIZATION/ROSTER ROOM SUITE (continued) | | | | |
| b. Organization Chairman's Office | 4 | 1 | (100) | . Private office for organization chairman who directs the scheduling activities of a number of grade level chairmen. |
| c. Grade Level Chairmen Offices | 3 | 4 | (320) | . Four private offices, assigned one per grade level, to accommodate from one to five grade level chairmen each during different periods of the school day.<br><br>. Provide filing cabinet (vertical file), table, and chairs. |
| d. Roster Room | 10 | 1 | (250) | . A conference space with pinwall construction to accommodate wall display of student and faculty schedules.<br><br>. Furnish with conference-type furniture with seating for ten. |
| 7. COUNSELING & GUIDANCE AREA | | | 1,760 | Centralized location of counselors and guidance personnel for the school. Relate to record storage and general office area. |
| a. Secretary/Reception Areas & Counselor Aides | 10 | 1 | (400) | . Controls traffic to and from student circulation and counselor offices, testing room, and cultural office.<br><br>. Desk area for counselor aides.<br><br>. Waiting space for eight to ten students. |

A.

ADMINISTRATIVE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 7. COUNSELING & GUIDANCE AREA (continued) | | | | |
| a. Secretary/Reception Area & Counselor Aides (continued) | | | | . Relate to record storage for access to student records.<br><br>. Area should provide space for guidance secretary, and display space for guidance books, pamphlets, and vocational and college entrance information.<br><br>. Easily accessible from exterior student circulation. |
| b. Counseling Offices (12 @ 80 sq. ft.) | 3 | 12 | (960) | . Each counselor's office should seat a counselor and two other persons comfortably. These offices should provide maximum privacy to establish an atmosphere of confidence between counselor and students and/or parents.<br><br>. Window area desirable.<br><br>. Relate to record storage and the clerical reception area and also to vocational counseling and the grade level/roster office areas. |
| c. Conference/Testing Room (divisible) | 15 | 1 | (200) | . Utilize for testing of small groups, conferences with other counselors or parents, or small group guidance center.<br><br>. Sound isolation required for each divisible space. |

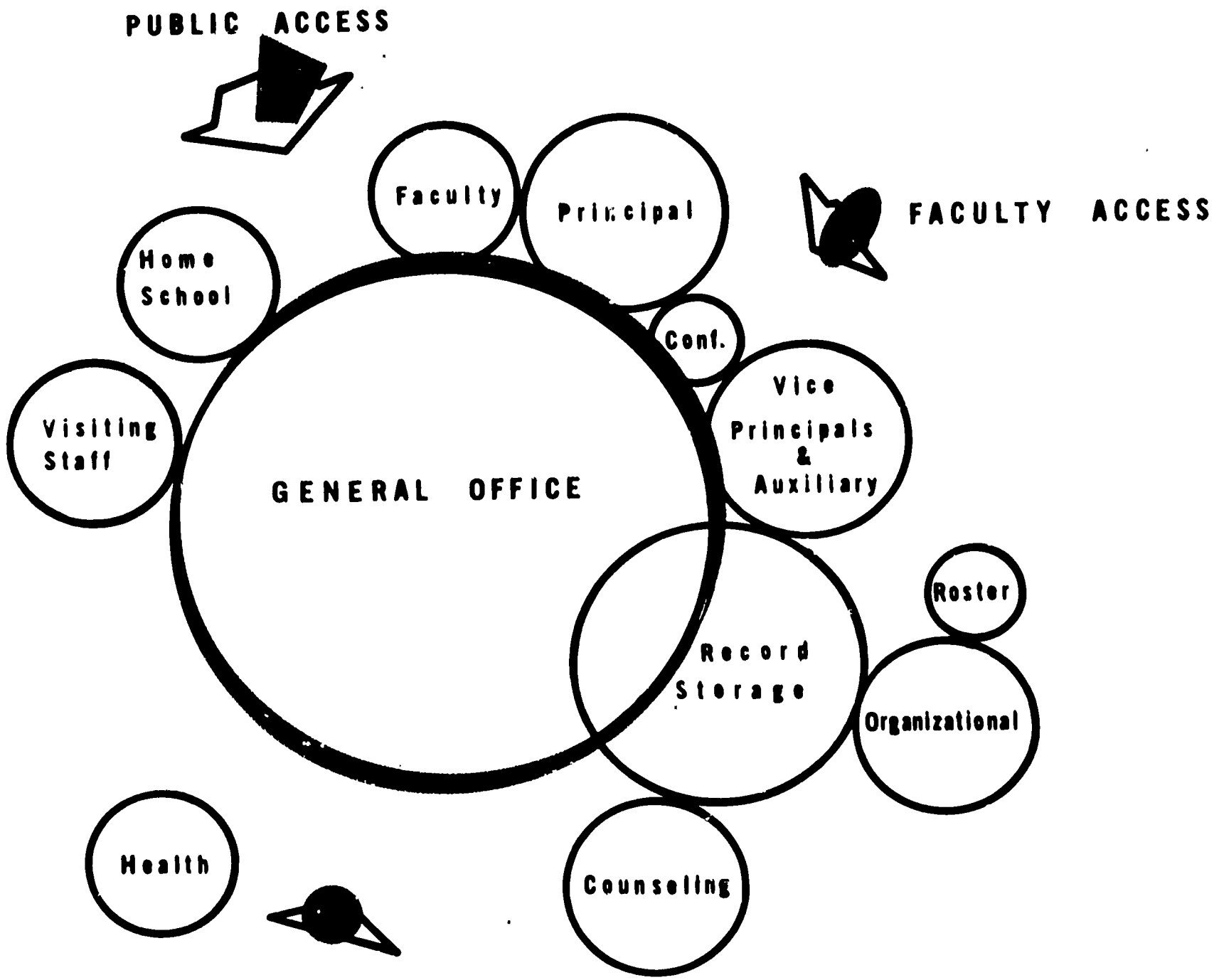
ADMINISTRATIVE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 7. COUNSELING & GUIDANCE AREA (continued) | | | | |
| c. Conference & Testing Room (continued) | | | | . Provide for visual access from reception/secretary area to permit supervisi of students being tested.<br>. Easily accessible from counseling circulation. |
| d. Consultant's Office | 1 | 1 | (120) | . Office space for district psychologist or other itinerant consultants. Conference furnishings.<br>. Adjacent to counselors' offices and reception/secretarial area. |
| e. Cultural Office | 3 | 1 | (80) | . Office space for cultural counselor. Access from student circulation through counselor/secretary/reception area. |
| 8. VISITING STAFF AREA | | | 600 | . Spaces provided for visiting or itinerant district-wide personnel, or for use by professorial staff of the University-connecte programs. (Magnet). |
| a. Clerical Reception Area | 4 | 1 | (120) | . Circulation space to each of the private offices. |
| b. Staff Offices | 2 | 6 | (480) | . Private offices for visiting staff and/ or professors. |
| 9. COMMUNITY & SCHOOL COORDINATION | | | 760 | The focal center for Home and School Coordination activities. Relate to the general office and to public access. |
| a. Reception Area | 4 | 1 | (200) | . Circulation space for access to this complex. Secretarial services to Home and School Coordinators and counselor aides. |

A.

ADMINISTRATIVE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 9. COMMUNITY & SCHOOL COORDINATION (continued) | | | | |
| b. Home & School Association Office | 15 | 1 | (400) | . Conference-type space for office of the Home and School Association. |
| c. Coordinators' Offices | 3 | 2 | (160) | . Office space for Home and School Coordinators. |

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# INSTRUCTIONAL MATERIALS CENTER

CONCEPT:

There is a growing awareness of the importance of combining and integrating the materials of instruction -- books, films, recordings, pictures, etc. -- into a coordinated program of resource supply and service to students and staff alike. The Instructional Materials Center (IMC) houses such coordinative functions and includes spaces for production, storage, previewing, and distribution of materials. A large portion of the IMC is devoted to housing a circulating library collection of approximately 20,000 volumes in wall and free-standing cases. Study carrels provide spaces for independent study and use of the library reference materials. Conference classrooms are designed for flexibility to enable use as either classrooms or as seminar spaces. Provision for storage and issue of textbooks is provided within each departmental office in other areas of the school.

The Instructional Materials Center will further serve as the nerve center of an electronically controlled communication and distribution center. Audio and/or video instructional information will be provided on schedule or demand to designated educational spaces throughout the school. Selected distribution will be accomplished through intercommunication with classrooms.

In an effort to provide better coordination functions between IMC staff and teaching staff, two joint staff complexes are provided; the first to be shared by an IMC media specialist and social studies teachers, the second to encourage professional contact between an IMC curriculum specialist and language teachers. Special library collections might surround these joint staff areas. Further, the office complex . r staff members of the Humanities subjects is included in the IMC complex and these spaces related to the appropriate instructional stations of the Humanities Center.

A learning center supplements spaces of the IMC and provides a designated area for individual study activities of students at a place where the principle resources of the school are most readily available.

SPACES:

1. Individual Study and Investigation Area
2. Group Instruction-Conference Area (2)
3. Electro-mechanical Communications Complex
4. Staff Areas
5. Learning Center
6. Humanities Departmental Offices

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. INDIVIDUAL INVESTIGATION & STUDY AREA | | | 4,600 | Focal point of the Center. Single outside entrance becomes material control point. All divisions below entirely open and connected. Provide 35 sq. ft. per student for seating and free movement. "Curriculum-Media Coordinator" located centrally. |
| a. General Book Area | 50 | 1 | (2,000) | . Intersperse with individual seating. Free-standing shelving 60" and/or 42" high for ease of supervision. Total capacity 15,000 volumes. Provide wall shelving - full height for maximum shelving capacity.<br><br>. Locate at end of circulation for quietness Floor covering -- electronic carpets carrying program emanating in A-V control area, or utilize carpet with loop antenna underneath and wireless inductance-type earphones.<br><br>. Individual study carrels for 30 students at 20 sq. ft. per student (includes space for traffic - extra space allowed for shelving). Lounge-type seating to accommodate 20 students. |
| b. Reference Area | 50 | 1 | (2,000) | . This area to accommodate approximately 5,000 volumes of reference books, bound magazines and indexes. Card catalog, magazine indexes, vertical files, and circulation desk in this area.<br><br>. Individual study carrels for 30 students. |

B.

INSTRUCTIONAL MATERIALS CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. INDIVIDUAL INVESTIGATION & STUDY AREA (continued) | | | | |
| b. Reference Area (continued) | | | | . Seating of 20 students at tables for 4 (include index tables).<br><br>. Card catalog and magazine index tables near conference rooms for large group instruction.<br><br>. Floor covering should be carpet with sound antenna beneath. |
| c. Audio-Visual Study Area | 10 | 1 | (300) | . Individual study carrels with c.e.o., built-in projection screen, book shelf, and equipment shelf. For use with portable equipment available from Communications Center.<br><br>. Located in open Investigation and Study Area near Communications Service counter. |
| d. Electronic Study Area | 10 | 1 | (300) | . Individual study carrels with audio jack, T-V monitor; dial access to control center for audio and/or video programs. |

B.

INSTRUCTIONAL MATERIALS CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 2. CONFERENCE CLASSROOMS | 30 | 2 | 600 | Locate adjacent to Reference Area. Each classroom to be divisible into two conference rooms by means of operable wall, each to accommodate 15 students. Capability to open onto Reference Area by means of operable partitions to provide a "classroom" with the teacher at the card catalog and students seated in conference area. |
| 3. ELECTRO-MECHANICAL COMMUNICATIONS COMPLEX | | | 1,500 | The nerve center of the non-book instructional material program. Locate on periphery of IMC and provide direct access from Communications Center. Provide adequate conduits for coaxial cables, for audio, telephone, and video reception, transmission, and distribution. |
| a. Booking Area | - | 1 | (100) | . Serves as booking office for teaching staff. Adjacent to Storage and Circulation Area. |
| b. High-Speed Tape Duplication Area | - | 1 | (100) | . Capture instructional materials from central library via high speed audio and high speed video tape recorders. |
| c. Transmission Area | - | 1 | (350) | . Transmit programs thus captured via video playback and ten audio playback units to classrooms on schedule and to electronic carrels as requested via dial access. |

B.

INSTRUCTIONAL MATERIALS CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 3. ELECTRO-MECHANICAL COMMUNICATIONS COMPLEX (continued) | | | | |
| d. Storage & Circulation Area | - | 1 | (650) | . Store and circulate instructional materials and portable equipment for use in audio-visual carrels: filmstrips, 8mm. film loops, 2 x 2 slides, etc. |
| e. Live Recording Area | - | 1 | (100) | . Record audio and/or video programs as necessary which emanate from classroom video cameras and audio microphones. |
| f. Materials Production | - | 1 | (200) | . Production of static graphic instructional materials involving use of diazo process and/or photographic process. |
| 4. STAFF AREAS | | | 550 | |
| a. Joint Staff Complex | 5 | 2 | (400) | . 200 sq. ft. is the IMC contribution to a joint Staff Complex designed to provide the following facilities for the IMC Media Specialist and the social studies teachers: office space, joint planning space, area for producing simple instructional materials requiring only office duplication equipment (Thermofax for overhead transparencies, spirit duplicator, etc.), space to house small collection of professional literature, space to exhibit various types of instructional aids.<br><br>. The second Joint Staff Complex should be shared by the IMC "Curriculum Specialist and the language teachers. |

B.

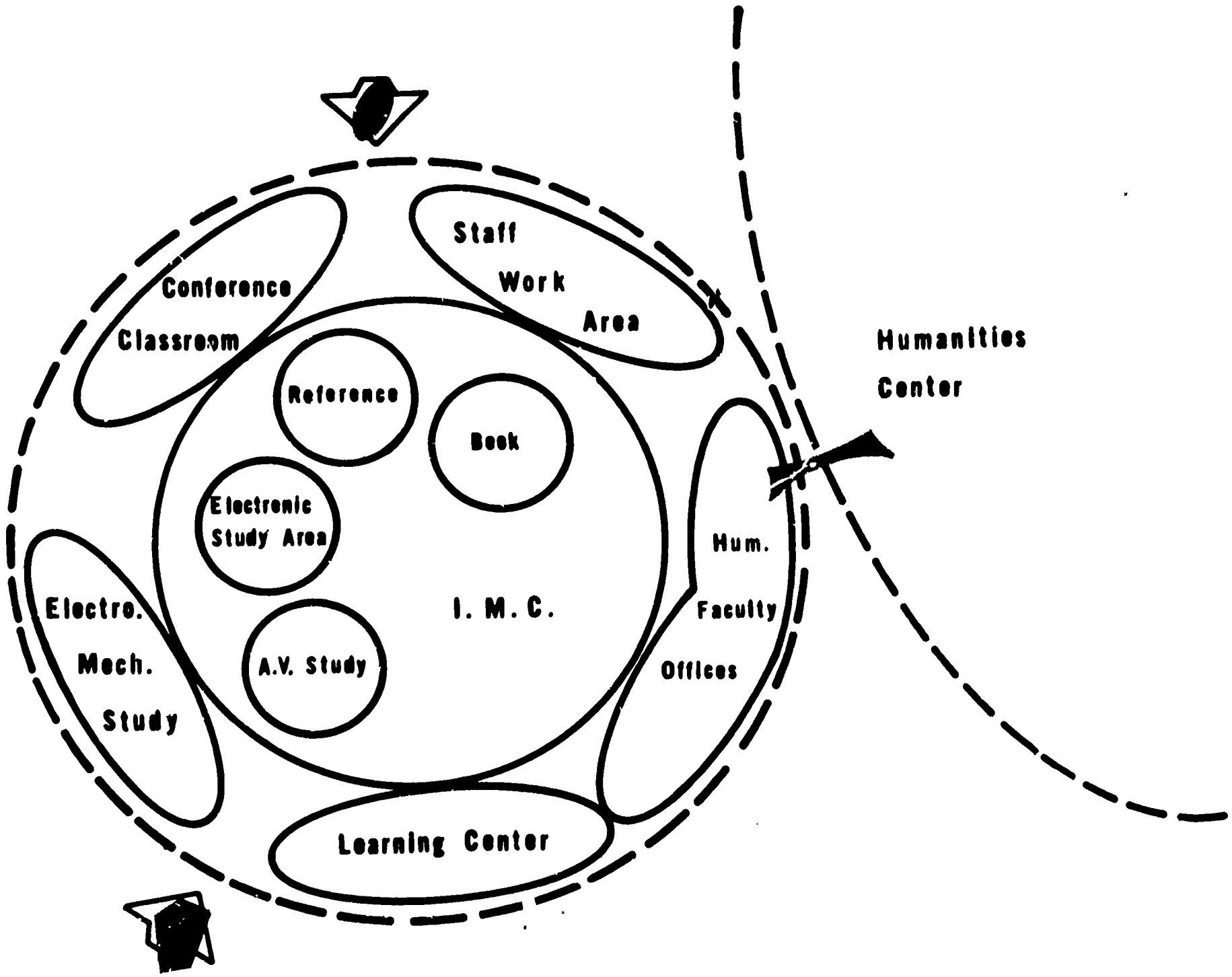
INSTRUCTIONAL MATERIALS CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 4. STAFF AREAS (continued | | | | |
| b. Book Receiving & Preparation | - | 1 | (150) | . Relate to book storage area. Accommodate one clerk. Design for good flow of work in orderly fashion. (Note: if centralized processing of books is not supplied, this area should be increased to 500 sq. ft. |
| 5. LEARNING CENTER | 500 | 1 | 5,000 | . Student work/study center for individualized research activity. Provide seating in a variety of table arrangements for small group (acoustical semi-privacy), individual student desks.<br><br>. Provide individual lockable student filing space in wall-mounted units, vertical filing 8"w x 12"h x 15"d, recessing door, movable partition. These locker units will be used for file folder and book storage displacing need for corridor lockers. |

B.

INSTRUCTIONAL MATERIALS CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 6. FACULTY DEPARTMENTAL OFFICES (2 @ 3000) | 25 | 2 | 6,000 | Planning and workspace for departmental faculty members. Provide two centers and subdivide each by demountable partitions into two departmental areas. Locate in close or direct relationship to student Learning Centers, and to Humanities classrooms.<br><br>. Basically open space areas subdivisible by furniture arrangements and portable space dividers into semi-private offices for each two staff members. Private offices for departmental heads (4 @ 100 sq. ft.). Conference rooms for team plannning, meetings between students and staff, seminars, conferences with parents, etc. (2 @ 150, 2 @ 300 divisible). Locate between departments for joint use.<br><br>Casework counter along one wall with two counter-top sinks, under-counter lockable storage, over-counter electric service. Cabinet wardrobe storage adequate for entire departmental staff. Storage rooms for departmental books, supplies and equipment (2 @ 500).<br><br>Provide spirit and mimeo duplication equipment plus photostatic copying/ transparency capacity. |

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# HUMANITIES CENTER

## CONCEPT:

The Humanities Center houses academic instruction for English, foreign language, and social studies. These subject areas are most concerned with the use and development of oral and written skills, and emphasize reading, writing, speaking, and reasoning. Methods and techniques of instruction used in these courses are similar.

Spaces provided to house instruction in these departments are generally similar with respect to size, furniture, and student capacity, and can be assumed to be interchangeable if the need arises. Emphasis in this area should be placed on a theme of flexibility -- immediate flexibility to accommodate change from one size group to another. Operable or demountable walls can be employed to combine two, three, or four classrooms into one larger space, or to create smaller seminar rooms within a standard classroom. By these means, different spaces in this center will accommodate groups from 10 to 120 and, in addition, the auditorium in the Fine Arts Center will seat varying-sized larger groups.

In addition to general purpose classrooms, the Humanities Center will include special purpose classroom facilities for instruction in modern foreign language, techniques of mass communication, and a reading laboratory. Many of these spaces are designated as electronic classrooms and will contain equipment appropriate to the instructional task.

The Learning Center located in the IMC has been designated as individual study space with direct relationship to the Humanities Center. Departmental offices are also located in the IMC and will offer the opportunity for staff to work together in an area where planning can be more easily accomplished.

## SPACES:

1. General Purpose Classrooms (30)
2. Electronic Classrooms (10)
3. Reading Laboratory
4. Journalism Laboratories (2)

C.

HUMANITIES CENTER

| SPACE | UNIT CAP. | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. GENERAL PURPOSE CLASSROOMS (30 @ 850) | 25 | 30 | 25,000 | Lecture/study-type classroom space for use by any subject area. Furnish with 25-30 student chair desks. Provide one teacher lecturn, table-type with lecturn and overhead projector. Tilt-wall space over teacher station above vision monitor, at least one per classroom depending on space volume, ceiling-mounted.<br><br>Provide 16 lineal ft. chalkboard and 16 lineal feet of corkboard in each classroom.<br><br>Soft floor coverings desirable. Air conditioning required, no windows desired, zone lighting for audio-visual.<br><br>Private intercom phone, lockable door, one-way P.A. system (may serve as entire audio system including television audio) |
| 2. ELECTRONIC CLASSROOMS | | | 8,500 | Classrooms specially equipped to accommodate electronic assisted instruction in a variety of subject areas. Includes Computer. Suggested type IBM 1500. |
| a. Computer Classrooms | 25 | 2 | (1,700) | Space to accommodate computer assisted instruction. Locate one computer classroom in close relationship or combined with Instructional Materials Center. |

C.

HUMANITIES CENTER (continued)

| SPACE | UNIT CAP. | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 2. ELECTRONIC CLASSROOMS (continued) | | | | |
| a. Computer Classrooms (continued) | | | | . Provide 25 remote computer carrels and utility chases.<br><br>. Computer stations to be utilized for programmed individual instruction, as a problem solving tool, as a testing device, and for instruction in business and vocational courses.<br><br>. Variecy of non-instructional uses of same equipment includes data bank of student and staff personnel records, scheduling (rostering), etc. |
| b. Level II Electronic Classroom (Listen-Respond) (6 @ 850) | 30 | 6 | (5,100) | . Instruction station utilizing electronic equipment for communication between prerecorded program sources, pupils, and teachers. Space used primarily for foreign language instruction, but may also be used effectively for speech training and any other curricular requiring prerecorded materials or aural transmission.<br><br>. Provide teacher console and 30 student stations. Student stations may be simple furniture with desk-top writing surface and some method of storing mike-earphones, etc. |

C.

HUMANITIES CENTER (continued)

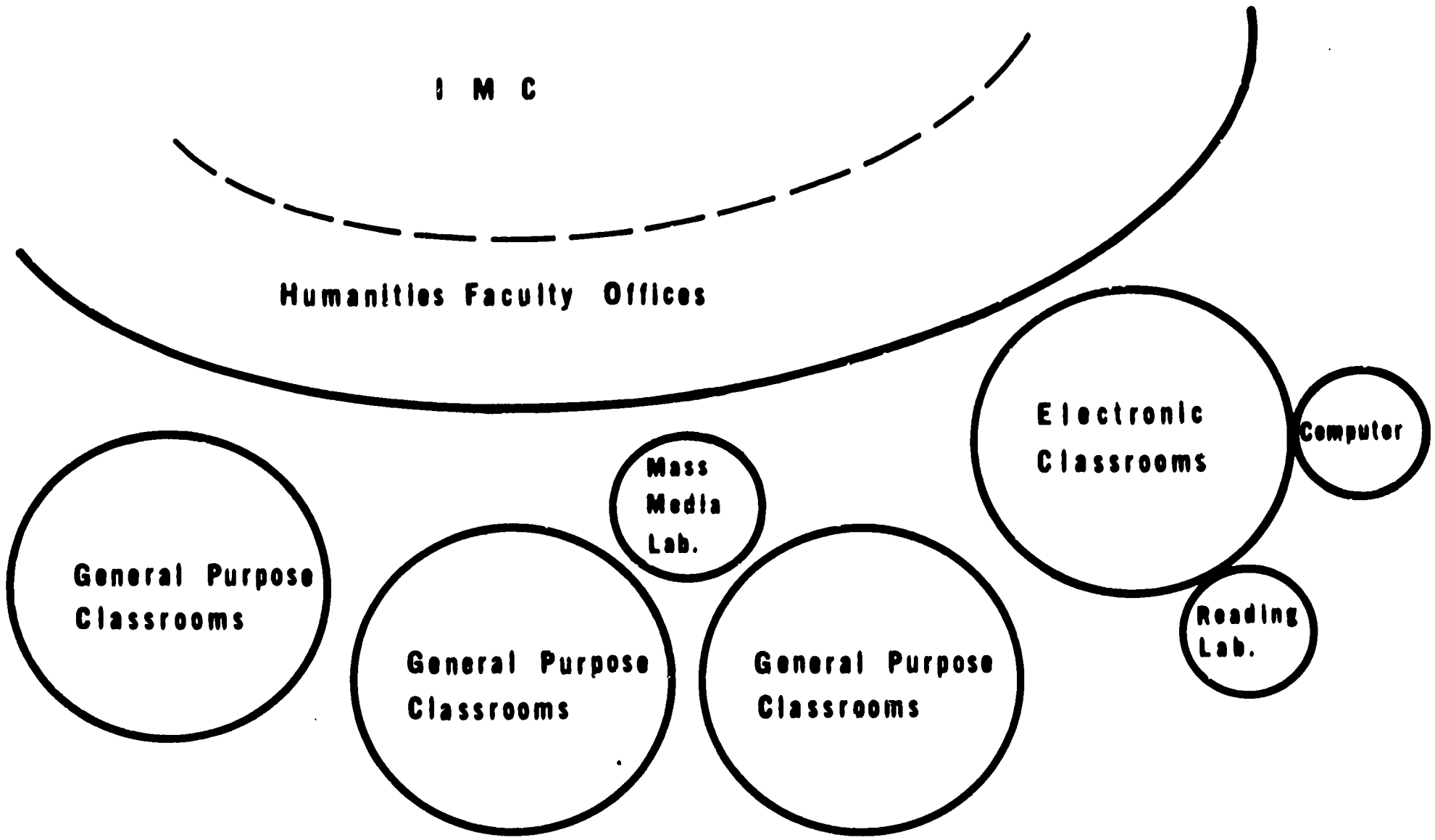
| SPACE | UNIT CAP. | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 2. ELECTRONIC CLASSROOMS (continued) | | | | |
| b. Level II Electronic Classroom (continued) | | | | . Teacher console to have capacity for disc and two dual track tape sources, one tape recorder for student respor , and selective switching system o accommodate all-call, teacher-pupil, and pupil-pupil contact. |
| c. Level III Electronic Classroom (Listen-Respond-Record) (2 @ 850) | 30 | 2 | (1,700) | . Space similar in all aspects to Level II electronic classrooms, but with the additional capacity for students to record both program source and their own responses for playback analysis.<br><br>. Seating at electronic carrels. |
| 3. READING LABORATORY | 25 | 1 | 1,500 | Space for developmental instruction in reading and speech. This room must be zoned for a variety of instructional stations:<br>. Controlled reading-tachistoscope projection area with tablet arm chair (600 sq.ft.).<br>. Individual carrels with electronic equipment similar to Level III electronic classrooms (400 sq.ft.).<br>. Seminar area with conference table seating for 10 (150 sq.ft. ).<br>. Reading device area (550 sq.ft.). |

| SPACE | UNIT CAP. | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 4. MASS MEDIA COMMUNICATIONS LABORATORIES | | | 3,480 | Stations for instruction in communication - the theory, the process, the media, and the technology. This area of Humanities instruction should be most closely related to the Instructional Materials Center. |
| a. Journalism Laboratory | 25 | 1 | (2,280) | . Laboratory, darkroom, and lecture space for instruction and practice in the development of printed communications. Should be zoned into four areas through use of demountable partitions: lecture area-600 sq.ft.; yearbook lab space-700 sq.ft.; newspaper lab space-700 sq.ft.; a darkroom-280 sq.ft.<br><br>. Furnishings for lecture area should include chair desks, ceiling-hung television monitor, chalkboard, and projection surface.<br><br>. Furnishings for labs should include lockable storage, layout tables, countertop with sink, and over-counter electric sources.<br><br>, Darkroom to be equipped for full film processing, printing, and enlarging. |
| b. Audio-Video Communications Studio/Theater | 25 | 1 | (1,200) | . Small studio for demo stration and practice in production of radio and television programs. Seating for audience of 20 in folding or stackable chairs. |

C.

HUMANITIES CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 4. MASS MEDIA COMMUNICATIONS (continued) | | | | |
| b. Audio-Video Communications Studio/Theater | | | | . Closed-circuit television capacity. Equip as studio with monitors, control booth, etc. No loft space required. Walls to be draped.<br><br>. Special acoustical treatment required.<br><br>. Relate to IMC electronic communication control center. |

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# FINE ARTS CENTER

## CONCEPT:

The high school of today must offer sufficient breadth of program to enable all students to gain an appreciation of the fine and performing arts. This Center should be one of the focal points of the hign school plant and should provide space for instruction in art, music, and drama. An auditorium must be convenient for community, as well as student use, and should be closely related to the Humanities Center for multi-use as large-group instructional space.

Spaces for vocal and instrumental music should be designed to accommodate a basic program, and include large-group rehearsal halls as well as ensemble and individual practice rooms.

Through the art and crafts program, the objectives of several aspects of the high school curriculum are fulfilled. Emphasis is placed on the development of personal skills, abilities, and talents that may lead to future vocation, or be useful in avocational pursuits.

Both the art and the music spaces should be directly related to the stage area of the auditorium to allow access to and from the stage for movement of personnel and/or materials such as stage settings.

In order to increase utility and justify expense, the space devoted to an auditorium must serve both as an audience/spectator area and also have the capacity for division into several instructional areas. The dividing partitions should be mechanically operated and provide an adequate sound barrier to permit medium and large group instruction. In addition, each instructional space must provide the following: a level area in front, of adequate size, for teaching activities; chalkboard surfaces; provisions for A-V projection and for TV reception; adequate ventilation and air conditioning; adequate intensity and quality of lighting; and exits.

## SPACES:

1. Art
2. Auditorium
3. Music

D.

FINE ARTS CENTER

| SPACE | UNIT CAP. | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. ART DEPARTMENT | | | 5,950 | Focus of instruction in drawing, painting, sculpture, crafts, and associated activities. Relate to auditorium via stage wings and to stage craft classroom for scenery construction. Group two classrooms together separated by common storage or kiln room. |
| a. Multi-Media Arts Laboratories (4 @ 1300 sq.ft.) | 30 | 4 | (5,200) | . Instructional stations equipped for multi-media; both arts and crafts activities. Open walls to be of pin-wall construction for display of materials.<br><br>. Provide counter or island-type sinks with hot and cold water. Drains should be equipped with clay traps.<br><br>. Natural lighting NOT required. Zone artificial lighting for varying intensity and color. Provide spots for highlighting.<br><br>. Provide wide casework counter along one wall with under-counter storage. Four storage units must be capable of accommodating poster board stock 36" wide. Utility connections above counter should provide 110 v. twist-type electric connections for power drive tools, enamel kiln, etc.<br><br>. Provide fume hood and exhaust system in two classrooms over counter space (for removal of acid fumes during copper enameling, etc.). |

D.

FINE ARTS CENTER (continued)

| SPACE | UNIT CAP. | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. ART DEPARTMENT (continued) | | | | |
| a. Multi-Media Art Laboratories (continued) | | | | . Teaching station to allow audio-visual projection on tilt-wall or tie-back screen over 16 lineal ft. chalkboard. Connections for television to be mounted on a movable cart. |
| b. Kiln Room/Clay Storage | - | 1 | (200) | . Locate this space between two classrooms with access from classroom area. Clay storage to be provided in "wet room" where humidity is controlled (30 sq.ft.).<br><br>. Provide 220/208 volt service for kiln.<br><br>. Provide metal racks for molds. Floor to be washable. |
| c. Central Storage | - | 1 | (200) | . Departmental storage for paper and art supplies and equipment not in use. Locate between two classrooms as alternate to kiln room.<br><br>. Relate to corridor for access from remaining classrooms. |
| d. Departmental Office/Workspace | - | 1 | (350) | . Homebase for art department instructors. Open area subdividable by movable furniture. |

FINE ARTS CENTER (continued)

| SPACE | UNIT CAP. | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 2. AUDITORIUM | | | 20,000 | |
| a. Lecture/Theater (Divisible into 6 spaces - 1 @ 700 capacity 3 @ 200 capacity 2 @ 100 capacity) | 1500 | 1 | (15,000) | . Large group assembly area for student drama and music productions, student assemblies, community programs and for use by any department having need for these sizes of instructional spaces.<br><br>. Divisible into differing-sized large group lecture areas. Each space to contain capacity for individual audio-visual service controlled from teaching station. Flat floor teaching station required. Ceiling-mounted TV monitor in each of the 100-200 capacity stations.<br><br>. Relate main entrance to exterior access and use secured corridor space as lobby. Public telephone located near entrance. Provide two ticket booths in corridor near main floor entrances.<br><br>. Sloped and fixed seating arranged for greatest visibility of stage and teaching stations. Direct access to backstage required without crossing stage aprons.<br><br>. Provide projection booth located at rear of auditorium.<br><br>. Operable wall units to be equipped with chalkboard writing surface.<br><br>. Auditorium lighting should be adequate to meet classroom study standards. |

D.

FINE ARTS CENTER (continued)

| SPACE | UNIT CAP. | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 2. AUDITORIUM (continued) | | | | |
| b. Stage & Wings | - | 1 | (2,400) | . Design for standard dramatic productions. Direct access to stagecraft area for dressing rooms, scenery, etc., and also to both Art and Music Departments.<br><br>. Provide complete lighting and audio control system. |
| c. Stagecraft Area | - | 1 | (2,800) | . The combination of spaces required to support full dramatic and musical productions. |
| 1) Green Room | - | 1 | (2,000) | . Large open area for construction and storage of scenery and other realia. |
| 2) Men's Dressing Area | - | 1 | (400) | . Dressing area for men and boys. Provide make-up counter with mirror overhead. Two sinks with hot and cold water, one commode, shelf with clothes pole beneath, one shower stall. |
| 3) Women's Dressing Area | - | 1 | (400) | . Dressing area for women and girls. Same as Men's Dressing Area. |
| 3. MUSIC DEPARTMENT | | | 6,140 | Area for instruction and rehearsal of vocal and instrumental music. Relate to the stage and wings of the auditorium. |

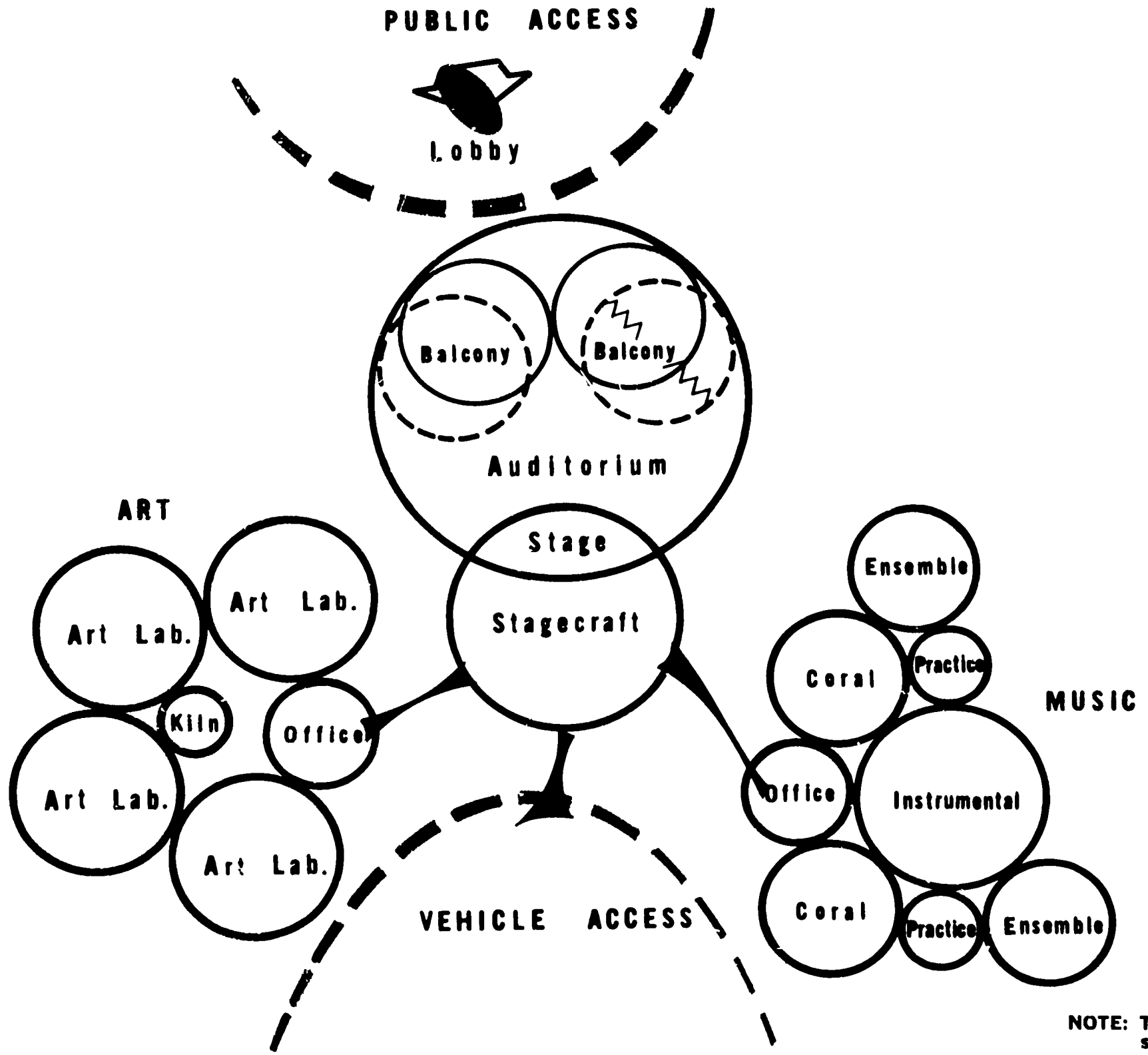
D.

FINE ARTS CENTER (continued)

| SPACE | UNIT CAP. | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| a. Choral Halls (tiered) (2 @ 1400 sq.ft.) | 120 | 2 | (2,800) | . Rehearsal and instruction in vocal music. Fixed radial tiers and 14' minimum ceiling height. Accessible through double doors. Relate to Music Office.<br><br>. Shape and treat for acoustical control -- walls non-parallel, movable sound baffles for flexibility -- exterior sound isolation.<br><br>. Provide lockable casework wardrobes for storage of 120 choral robes in each hall. Also provide chalkboard with 4 scores plus 8 lineal ft. blank chalkboard.<br><br>. Light signal to supplement passing bell system.<br><br>. Provide spray-type drinking fountain. |
| b. Instrumental Hall (tiered) | 90 | 1 | (1,800) | . Instruction and rehearsal for band and orcherstra. Tiered with minimum tread depth of 5' and minimum riser of 6". Accessible through double doors. Relate to Music Office and circulation to stage and wings of Auditorium.<br><br>. Shape and treat space for instrumental acoustics. Provide movable sound baffles for acoustical flexibility. Exterior sound isolation required.<br><br>. Provide chalkboard at 4 scorces plus additional 8 lineal ft. blank chalkboard. Also provide casework storage for instruments within classroom. |

FINE ARTS CENTER (continued)

| SPACE | UNIT CAP. | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| b. Instrumental Hall (continued) | | | | . Provide spray-type drinking fountain.<br><br>. Provide lockable cabinet in classroom for 90 band uniforms. |
| c. Ensemble Rooms (2 @ 250 sq.ft.) | 20 | 2 | (550) | . For rehearsal of small chorale and instrumental groups. Flat floor, acoustical isolation, non-parallel walls. Direct access from music halls' circulation. |
| d. Practice Rooms (10 @ 60 sq.ft.) | 2 | 10 | (600) | . Practice rooms for one or two persons. Direct access only from music halls for supervision.<br><br>. Flat floor, acoustical isolation, non-parallel walls. |
| e. Departmental Office/ Library | 18 | 1 | (440) | . Office and conference space for music teachers, and library for sheet music. Zone space for small group conference or music appreciation.<br><br>. Direct access to rehearsal halls and practice room area desirable.<br><br>. Provide files and cabinets for storage of departmental music folders. |

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# SCIENCE AND MATHEMATICS CENTER

## CONCEPT

This Center provides facilities for the Science and Mathematics Sequence which will attempt to conjoin these two academic areas with new ideas of learning and teaching. Learning in these areas of study is facilitated if the student, in addition to watching and listening to the teacher, also participates actively in a variety of learning activities and experiences. Examples of such activities include individual projects in Science and Mathematics. For Science: The collection of data, laboratory experimentation and analysis. For Mathematics: Collection of data, computational problems requiring the use of calculators and the making of mathematical models. The Center should be designed to meet the varying needs of an expanding and ever changing program. It includes specialized laboratories, large-group lecture areas, preparation and storage areas, plus office spaces for teachers and a number of project and study areas for independent student research.

The space devoted to science must be flexible in nature in order to maintain a current functional program. The function of this school is to enable students to understand the facts, concepts, principles, and generalization of science as we know them today, but must retain the ability to change instructional approaches as technological changes occur in the state of Art.

This Center will house a four-year math program and must include a certain flexibility to accommodate changes and refinements in presentation that may occur in our rapid changing world. Hence, computer theory and data processing becomes an integral part of this curriculum. The initial program is visualized to include three phases of mathematics to meet a broad specturm of needs. For sake of understanding these are labeled as follows: Modified Program, Average Program, and Advanced Program. Also there is room for a combination of these as the need arises. A basic computer (IBM 1400) should be included in the equipment.

This Center should be designed to accommodate the Unified Science Sequence, as envisioned for this school it becomes a two year sequence of expanding experience in science. Its key features include:

a. Unification of Science subject matter into a well ordered sequence of learning materials drawn from the various areas of science.

b. Emphasis on the process of inquiry and

c. Emphasis on the conceptual schemes of science.

d. Instruction based on laboratory investigation, carried on by individuals and in small or large groups.

e. Guidance of learning activities by a team of teachers.

The desired learning objectives for the present proposed program include the following:

a. Develop an understanding of the processes of scientific inquiry.

b. Acquire insight in present day principles and theories of natural science.

c. Expand general knowledge in Scientific Literacy.

The school will encompass a program similar to the one suggested below.

| GRADE LEVEL | STANDARD PROGRAM | | AVERAGE COLLEGE BOUND STUDENT | DEPTH PROGRAM |
|---|---|---|---|---|
| 9 | Earth Science | | Biology | Biology |
| 10 | Biology | | Chemistry | ** Chemistry or Physics |
| 11 | Unified Science I | | Physics | Physics |
| 12 | Unified Science | ** | ECCP Program | Advanced Science |

It is assumed that instruction will occur as follows:

| | |
|---|---|
| Depth program | 25% |
| Average program | 40% |
| Standard program | 35% |

SPACES:

1. Mathematics Laboratories (6)
2. Biology Laboratories (6)
3. Earth Science Laboratories (2)
4. Chemistry Laboratories (4)
5. Physics Laboratories (2)
6. Electronic/Electricity Laboratory (1)
7. General Purpose Classrooms (10)
8. Classroom Divisible (2)

9. Individual Project Laboratories (18)
10. Live House
11. Large Group Lecture Laboratory
12. Computer Programming and use (2)
13. Departmental Offices

E.

MATHEMATICS SCIENCE CENTER

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. Mathematics Laboratory Equipped Classrooms (6 @ 850) | 28 | 6 | 5,100 | . Classrooms for mathematics instruction. Classrooms grouping of 20 to 30 students.<br><br>. Classroom activity to include lecture, demonstration and individual student work in chalkboard and individual projects.<br><br>. Sections wall standards 4 ft. module with:<br>Chalkboard drafting machine, 8' x 4'<br>Tilting projection screen, 50" x 50"<br>Polar coordinate panel, 4' x 4'<br>Demonstration slide rule, 4' tandem-mounted<br>Polar coordinate panel, 4' x 4'<br>Square coordinate panel, 4' x 4'<br>Chalkboard panels, steel, 4' x 8'<br>Chalkboard panels, steel, 4' x 4'<br>Corkboard panels, 4' x 4'<br>Easel 4' x 3', w/self storing flannel board 44" x 30"<br>Book shelves, 4'<br>Magazines, 4'<br><br>. Lockable storage. |
| 2. Biology Laboratory and Classroom | 24 | 6 | 7,800 | . Biological Science instruction and experimentation. Direct access to central prep/storage lab and corridor circulation. Relate to live house. Provide portable plant growth units.<br><br>. Provide individual student stations at single place tables (18" x 24") also provide teachers demonstration unit with all utilities.<br><br>. Counter top along one wall with two shallow and two deep coverable sinks. Under counter storage and over counter utility sources. Also provide cabinet storage for microscope. |

E.

MATHEMATICS SCIENCE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| | | | | . Overhead micro, and other projection on tilt-wall or tie-back screen above chalkboard-16 lineal feet. Chalkboard (may be sliding), television monitor to be ceiling-hung, capacity for closed circuit and/or program origination-television taping. |
| 3. Earth Science Laboratories and Classrooms (2 @ 1200) | 24 | 2 | 2,400 | . Instructional and experimentation space for Earth Science courses. Direct space and equipment to earth and space sciences.<br><br>. Furnish with individual tables (18" x 24") also provides demonstration unit with all utilities.<br><br>. Long-wall formica counter with utilities, two shallow and two deep convertible sinks, under counter lockable storage.<br><br>. Tilt wall or tie-back projection surface with 16 lineal ft. of chalkboard (may be vertical sliding) Television monitor to be ceiling hung. |
| 4. Chemistry Laboratories Equipped Classrooms (4 @ 1300) | 24 | 4 | 5,200 | . Chemistry instruction and experimentation. Direct access from each lab to control prep storage lab and corridor circulation. Locate Chemistry vault in central prep lab immediately adjacent to Chemistry Labs.<br><br>. Provide individual student stations in perimeter arrangements. Located sink, gas and electric service convenient to each student station; fountain eye wash units-one for each lab station.<br><br>. Place master switches and valves in secure area.<br><br>. Demonstration unit to contain ALL UTILITIES. |

MATHEMATICS SCIENCE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| | | | | . Classroom source for distilled water provide fume hood installation.<br><br>. Overhead and other projection on tilt-wall or tie-back screen over chalkboard - 16 lineal ft. Chalkboard (may be vertical sliding), ceiling-hung television monitor. |
| 5. Physics Laboratory and Classroom (2 @ 1,300) | 24 | 2 | 2,600 | . Conduct instruction and experimentation in Physics.<br><br>. Direct access to central prep laboratory and corridor circulation.<br><br>. Perimeter lab station for individual student stations to be equipped with lab volt unit and gas. Place master switches and valve in secure area.<br><br>. Provide demonstration unit with complete utilities and lockable storage. |
| 6. Electronics/Electricity Laboratory | 24 | 1 | 1,300 | . Electronics and electricity instruction, lecture and demonstration. |
| 7. General Purpose Classroom for Mathematics and Science (10 @ 850) | 24 | 10 | 8,500 | . Instructional space for Mathematics, Unified Science and Engineering Concepts Curriculum.<br><br>. Provide 16 lineal feet chalkboard in 6 classrooms 48 lineal feet chalkboard in 4 classrooms. Pin-wall construction, at least two walls in 4 classrooms.<br><br>. Provide overhead, micro and other projection on tilt-wall or tie-back screen above chalkboard. Television monitor-ceiling-hung capacity. Furnish to accommodate 20-30 students stations for closed circuit and/or program organization television taping. |

E.

MATHEMATICS SCIENCE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 8. Classrooms Divisible | 60 | 2 | 1,500 | . Standard classroom for math-science instruction, divisible into two seminar-size rooms by use of operable wall. Provide utility outlets for portable equipment suitable for math and science experiments.<br><br>. Provide 48 lineal feet of chalkboard and two walls.<br><br>. Overhead projection on tilt volt or tie-back screen over chalkboard (may be vertical sliding) ceiling-hung television monitor. |
| 9. Individual Project Laboratory (Math and Science) | 5 | 18 | 3,600 | . Space for experimentation by individuals with the capacity for storage without disturbance. Locate these lab areas between laboratory classrooms.<br><br>. Provide utility outlets for portable laboratory equipment suitable for experimentation in Physics, Chemistry and Biology. |
| 10. Live House | - | 1 | 1,200 | . Area with two zones -- Zoological and Botonical. Space may be zoned and be divisible by partition or two spaces separated by semi-permanent wall connecting door may be provided.<br><br>. Live plant room to allow direct sunlight greenhouse-type. Both spaces to have temperature and humidity control.<br><br>. Units will be designed with laboratory facilities to include individual student stations in perimeter arrangement. Suitable for experimentation in Physics, Chemistry and Biology. Place master switches in secure area. Demonstration unit to contain all utilities, including distilled water source, fume hood and lab volt unit and gas. Provide projection on tilt wall or tie-back screen over chalkboard (may be vertical sliding). Ceiling hung television monitor. |

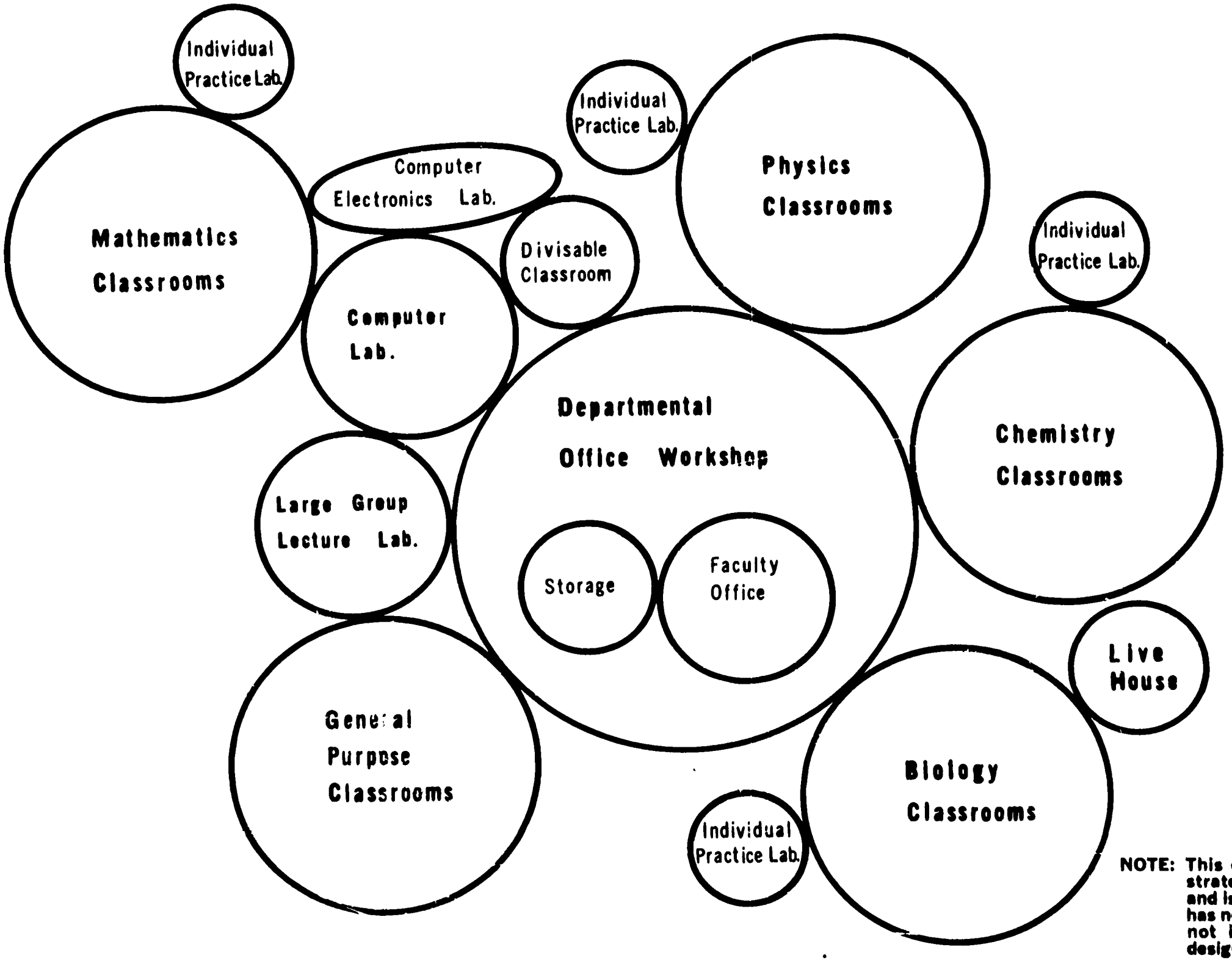
MATHEMATICS SCIENCE CENTER ( ontinued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 11. Large Group Lecture Laboratory | 140 | 1 | 1,400 | . For primary use of Mathematics Science Department but usable by other departments with need for this space. Tierred seating for 140 students in auditorium chair with tablet arm.<br><br>. Demonstration table with mounting for "vidi con".<br><br>. Projection surface, 6 ft. minimum, over chalkboard 16 lineal feet. Chalkboard - capacity to tilt to avoid keystone effect required two-four television monitors are needed. |
| 12. Computer programming and use | 32 | 2 | 3,000 | . Provide space for classrooms to be divisible by operable wall or half wall to form computer center for Math-Science for computer assisted instruction (CAI), located adjacent to Electronic Classrooms. |
| 13. Departmental Office/Workshop | - | - | 3,670 | . One central preparation, storage, and office space complex with access to each laboratory and individual projector lab. |
| a. Preparation/Storage | 20 | 1 | (1,750) | . Central preparation/storage area to facilitate set-up of lab demonstration on portable demonstration units.<br><br>. Cabinets and shelving for storage of apparatus and materials.<br><br>. . Chemical vault for storage of chemicals related to area nearest chemical lab. .<br><br>. Safety fountain eye wash and safety shower to be provided in this area. |
| b. Faculty Office Area | 24 | 1 | (1,920) | . Homebase for all Math and Science teachers, in an open space divisible by furniture bookcase arrangement and portable sight screen to provide privacy. |

E.

MATHEMATICS SCIENCE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| | | | | . Casework counter with under-counter storage units in all open-wall spaces.<br><br>. Visual access to prep-storage area and student project area. |




NOTE: This drawing is intended to demonstrate relationships between spaces and is schematic only. True proportion has not been observed, and shapes are not intended to represent desired design.

# COMMERCE CENTER

CONCEPT:

Instruction in commercial subjects provides students with an association with all types of business problems, situations, and equipment. Trends in teaching methodology and techniques have affected the physical environment required by these disciplines. Individual laboratories are provided for typing, office practice, stenography, and the distributive occupations.

General purpose classrooms are used for lecture-type instruction. In business education, however, the use of more electric and electronic machines, including electric typewriters, office machines, accounting machines, data processing machines, etc., has created a demand for more specialized spaces. Learning in these subjects is facilitated if a student not merely sees and hears what the teacher does, but also participates in a variety of learning activities. Some of these activities include machine skill operations; mechandise displays; collection of data and problems with machine and electronic devices.

SPACES:

1. Typing (3)
2. Office Practice (5)
3. Stenography
4. Distributive Education Laboratories (2)
5. General Purpose Classrooms (4)
6. Departmental Office

F

COMMERCE CENTER

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. Typing Laboratories | | | 4,200 | . A variety of spaces to accommodate instructional programs emphasizing use of typewriters. Space must be instantaneously flexible for change from large group to standard group teaching.<br><br>. Each space to contain: casework counter with sink, under-counter storage, over-counter electrical service; connector for television monitor which may be mounted on a movable cart; tote-tray storage.<br><br>. Each teaching station to contain 16 lineal feet chalkboard and over-board projection surface (either tilt-wall or tie-back screen). |
| a. Typing Lab (divisible) | 100 | 1 | (3000) | . Space for large or standard-sized instructional groups. Partition must provide instantaneous flexibility.<br><br>. Partitioned spaces to provide for 40 manual typing stations and 60 electric typing stations.<br><br>. Provide conduit for future electrification of manual typing stations.<br><br>. Furnish with adjustable single-place typing tables with electrical outlet, and secretarial posture chair with castors. |
| b. Clercial Typing Practice Lab | 40 | 1 | (1,200) | . Classrooms for advanced typing and clerical practice. Electrical service to all student stations.<br><br>. Furnish with "L-shaped" desks and secretarial posture chair. |
| 2. Office Practice Laboratories | | | 2,800 | . Instruction in office routines and techniques. Group labs together and relate to departmental office. All placed in one office practice room, separated by metal |

F.

COMMERCE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| | | | | and glass partitions. |
| a. Machines Space | 15 | 1 | (600) | . Instruction/practice in use of office machines, including adding machines, calculators, spirit duplicators, mineograph, etc.<br><br>. Casework counter along one wall with counter top sink, under-counter storage, and electric outlets.<br><br>. Furnish with individual typing desks and planning tables.<br><br>. Provide electric service to pupil stations, including two keypunch and four simulators. Also provide tote-tray storage, connector for television monitor and 16 lineal feet chalkboard.<br><br>. Zone classroom for machine area and lecture area. |
| b. Filing Room | 15 | 1 | (500) | . Instruction and practice in filing. Furnish with variety of filing devices and layout tables. Include collator and alphabetizer. |
| c. Duplication Laboratory | 15 | 1 | (500) | . Instruction, practice and production in duplicated materials. Equip with all types of duplicating equipment, including photocopy.<br><br>. Provide casework counter with sink and under-counter storage. Also provide paper storage.<br><br>. Furnish with tables. |
| d. Key Punch Laboratories | 15 | 1 | (600) | . Instruction and practice in key punch operation of the data processing field. |

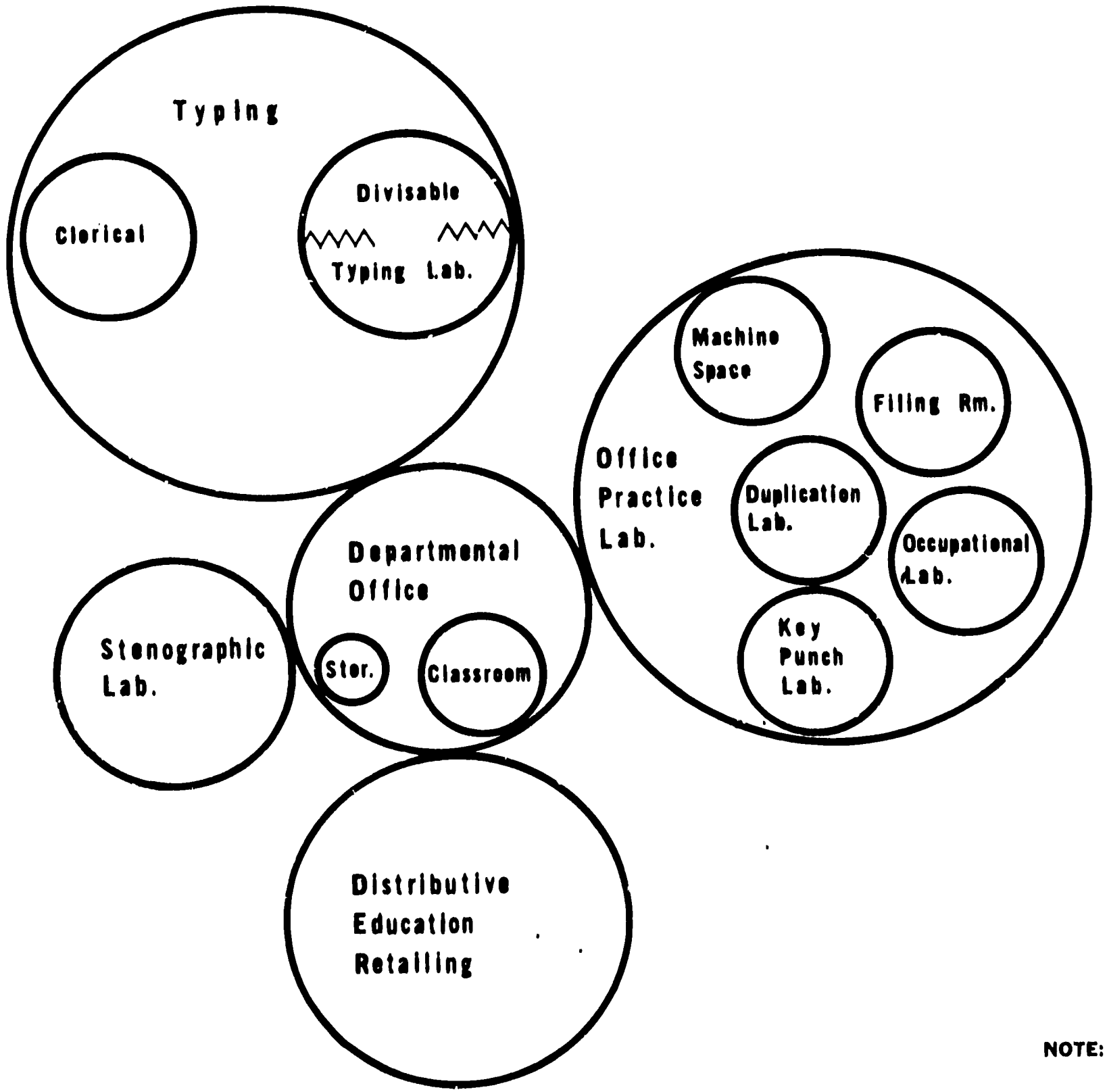
COMMERCE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| | | | | . Electrical service to 20 key punch machines. |
| e. Occupational Laboratory | 10 | 1 | (600) | . Specialized instructional/practice program. Direct access to Duplication Lab.<br><br>. Provide casework counter with sink and under-counter storage along one wall. |
| 3. Stenography Laboratory | 25 | 1 | 900 | . Electronic lab for dictation and transcription. Provide channels for connection between teacher console and student stations. Provide storage cabinet for dictation tapes and also electric service at each student station.<br><br>. Furnish with "L-shaped" tables and equipment with electronic dictation. |
| 4. Distributive Education | | | 1,800 | . Headquarters for instruction and practice in distributive occupations. |
| a. Distributive Education Lab | 25 | 1 | (900) | . Lecture-demonstration area for general instruction of clerks and kindred occupations. Provide sample check-out counter, cash register, etc.<br><br>. Furnish with work tables for poster construction and project assembly. Also provide counter-top storage for projects. |
| b. Retailing Rooms | 18 | 1 | (900) | . Instruction in techniques of retailing. Provide display case and display windows opening onto corridor.<br><br>. Furnish with flat-top chair desks and work tables. |

F.

COMMERCE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 5. General Purpose Classrooms (4 @ 800) | 30 | 4 | 3,200 | . General purpose classrooms used primarily for bookkeeping. Arrange in clusters of four with operable wall for large group instruction. Furnish with individual flat-top desks (20" x 33") |
| 6. Department Office/Workspace | | | 900 | . Homebase for all commercial teachers with office and workspace. |
| a. Faculty Office/Workspace | 7 | 1 | (600) | . Provide private office for Department Head.<br>. Large open area for desks and work area of teachers. Provide wardrobe cabinet for teachers. |
| b. Central Storage/Bookroom | - | - | (150) | . Central storage for the Commerce Department. Direct access from faculty office/workspace. |
| c. Conference Room | 15 | 1 | (150) | . Space for faculty or teacher-student conferences.<br>. Furnish with conference table and chairs. |

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# STUDENT ACTIVITIES CENTER

CONCEPT:

Increased recognition has been made by educators of the educational values associated with various student experiences and activities which take place outside the formal curriculum. Thus, to house the total educational program, provisions must be made for student activities other than those occuring in classrooms and specialized laboratories. Activities such as student government, publications, and formal and informal and informal events contribute to the instructional program either in a direct manner or to certain aspects related to the social adjustment of students.

To facilitate the administration, ortanization, and supervision of these activities, the physical spaces needed for student activities should be incorporated into one center. Included in the Student Activities Center are dining facilities, student association offices, a bookstore, and recreation rooms.

SPACES:

1. Student Dining
2. Food Preparation and Service
3. Faculty Dining/Lounge
4. Student Association Offices
5. Bookstore
6. Ticket/Token Booth
7. Recreation Rooms/Auxiliary Gyms (2)

G.

STUDENT ACTIVITY CENTER

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. STUDENT DINING | 1500 | 1 | 15,000 | Space for student dining. Design for environmental effect, restaurant instead of institutional seating, at or above ground level, use of windows and relate to outdoor eating patio. Design to accommodate 1500 students during lunch periods with a variety of seating and tables grouped into dining areas. Use of color and materials to provide bright and cheerful atmosphere. Easy access from serving area required. Avoid crossing of traffic from food pick-up to dish return. |
| 2. FOOD PREPARATION & SERVICE | - | 1 | 4,500 | Preparation kitchen and variety of methods of food service -- a la carte service to operate on principle of "scramble" service. Provide cafeteria line service for full meal, or offer pre-service meal, with provision for hot cart service to faculty dining area. Provide for mechanical vending areas. Foodstaff flow pattern from receiving to storage to preparation to cooking to serving.<br><br>Receiving should be related to vehicle service road or elevator if loading dock is in basement. Relate kitchen staff lockers and toilet area to receiving and office area. Provide office for cafeteria supervisor. Provide dry storage, cold storage, and walk-in freezer capacity. |

G.

STUDENT ACTIVITY CENTER (continued)

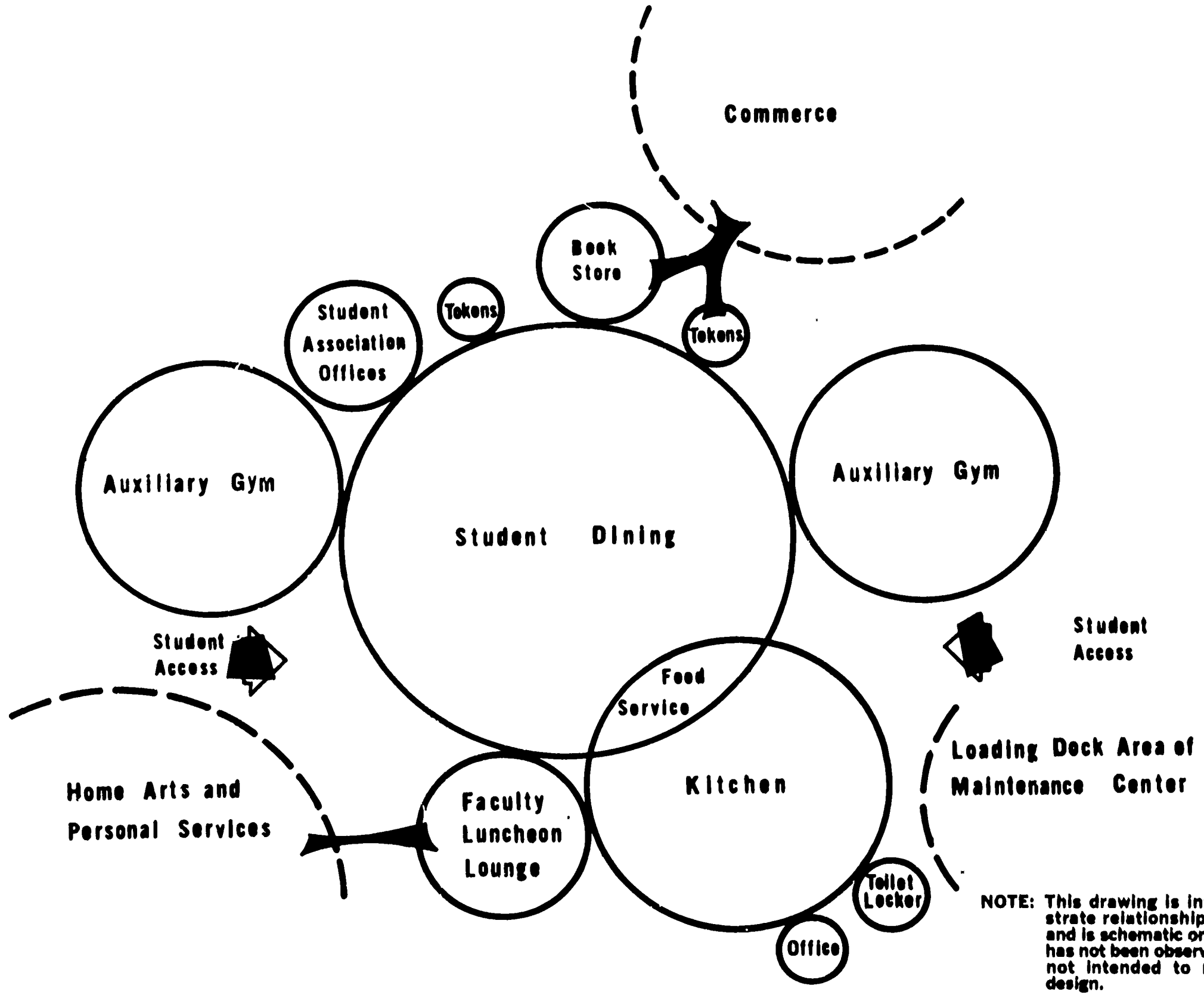
| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 3. FACULTY DINING/LOUNGE | 100 | 1 | 2,000 | Dining and lounge facilities to be separated by an operable wall or flexible partition -- acoustical privacy not required. Provide seating at 4-6 place round or square tables with chairs. Create warm atmosphere through use of color and materials. Limited bulletin-board display desirable. Provide ventilation assist to remove smoke from this area. Relate to kitchen for food service; food service by hot cart. Also relate to restaurant practice classroom area to provide students opportunity to practice serving teachers. |
| 4. STUDENT ASSOCIATION OFFICES | - | 1 | 800 | Headquarters for student government and student-controlled activities and associations. Relate to cafeteria circulation. Provide separate offices through use of removable partitions for student body president, secretary, and treasurer; two offices for the Athletic Association and two extra offices. Provide conference table and chairs with seating for 15 in large open area. |
| 5. BOOKSTORE | 18 | 1 | 400 | Storage and sales of school supplies, trinkets, novelties, paperback books, etc. Relate to cafeteria circulation and commerce center. Provide shelving, display cases, cash register behind counter. Provide two doorways marked entrance and exit to expedite traffic. |

G.

STUDENT ACTIVITY CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 6. TICKET/TOKEN BOOTHS | 2 | 1 | 60 | Space for dispensing of tickets and tokens. Pattern after cashier's cage. Relate to bookstore with direct access from cafeteria circulation. |
| 7. RECREATION ROOMS/AUXILIARY GYMS (2 @ 1500) | 300 | 2 | 3,200 | For use as recreation and milling space for students during lunch period after eating, and for use of physical education department as auxiliary gyms during remainder of day -- flat floor, resilient floor tile, with tile marked shuffleboard courts. Provision for electrical outlets for phonograph for social dancing and for modern dance instruction.<br><br>Direct access desirable from both cafeteria and main gym. |
| a. Storage | - | 2 | (200) | . Storage area for wrestling mats and other equipment. |

# STUDENT ACTIVITY CENTER

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# HOME ARTS

CONCEPT:

The facilities for the teaching of Home Arts are to be located so as to provide easy accessibility from outdoor space and from the area where parents may load and unload children that are using the child care unit.

Physical facilities for teaching Home Arts are influenced by the trends and concepts which affects all education along with developments occuring specifically in this specialized field. The Home Economics curriculum is particularly sensitive to changes and conditions affecting homes and families. These include consumer aspects of the curriculum, the management of money, time, energy and human resources and human relationships which tie family relationships to community relationships. This facility properly utilized will encourage good human relations and draw parents to the school. This background gives some implications of what is desired in the facility ot teach Home Arts. These are as follows:

. Space and facility can be designed to help teachers do a specific job with ease and confidence. Facilities which assist the teacher, save time and energy, and are keyed to comtemporary life, can add to the effectiveness of teaching Home Arts.

. Flexible space and equipment which can be easily altered to accommodate one individual working along, as well as different sizes of groups and different units of instruction, add to the flexibility of a program.

. Mobile equipment and convenient space for storing make the same space available for many purposes and thus reduces overall building cost.

. An atmosphere which evident cordiality and hospitality will tend to draw people to the school, put them at ease and contribute to the enjoyment of learning.

. Cooperation among teachers in developing inter-disciplinary units of courses may be encouraged by the proximity, flexibility, and convenient of classrooms by work areas where teachers can plan together and produce materials.

. The effective use of mechanical aids - such as projectors, screens, recorders, and other devices, will depend largely on accessibility and convenient storage.

. Movable partitions, screens, folding doors, room dividers, and portable furnishings and equipment can help in adjusting space to meet specific needs.

. Accessible convenient outdoor space adds to the flexibility and the homelike character of a Home Arts department and can be used in units dealing with child care and family recreation.

Adequate and functional facilities aid learning thereby encouraging pupils to continue in school. Facilities are, in a large measure, the curriculum translated into wood, steel, brick, cement or stone. Movable partitions and storage walls, portable equipment and furnishings, and adequate electrical outlets, and water connections are means which may enable schools to adapt space and equipment for present and for undefined future needs.

A general description of the learning environment needed for the areas of curriculum to be taught in these classes follows: These provisions are needed by all classes regardless of the unit being taught such as -

. Enough space for easy movement of class members and of the teacher to walk among the group easily in supervising.

. Tables and chairs for comfortable seating of the entire group in discussion and with enough room to add some parent and community groups on occasion.

. Chalkboard, bulletin board and display areas whi h are adequate in size and available to all groups. Eight to ten linear feet of chalkboard is recommended for each room.

. An atmosphere which is condusive to and which facilitates the use of mechanical teaching devices, such as recordings, films, slides, television, and transparencies.

. Controls for outside light and adequate artificial lighting.

. A f.le case or file drawers for pamphlets, teachers records, and other materials.

Regardless of the number of rooms in a department, it is desirable to plan so that each one can be used for teaching more than one aspect of the curriculum. It is also desirable, as well as economical, to provide adequate equipment so that teaching can be carried on in more than one area. If the space is to receive maximum use, each room should be large enough to accommodate an entire class with some allowance for an increase in enrollment.

The kind of learning activities for which the room is to be used will have a definite bearing on the size of the room and the arrangement of space and equipment. If rooms are designed to be separated by movable partitions then a variety of activities can take place. For example, if an activity includes small children, the flexible space can be adjusted to meet this situation.

Specific units are focused on the family and because of this a certain bending of concepts occurs at many points. Equipment needs to be mobile so that the space can be converted to accommodate a variety of equipment, thus adding some flexibility to the program. In addition to the facilities common to all phases of Home Arts, certain specialized equipment is needed for each of the following seven areas of the curriculum.

Family Relationships: Because of the area of family relationships is often thought of as representing a thread which runs throughout the whole Home Arts curriculum, space and equipment must be planned to accommodate this function. The teaching relationships can be greatly enriched, however, by a well planned physical environment.

Child Development: This phase is closely related to family relationships and may be taught in the same space, provided some additional facilities are available for bringing children into the department on occasion to participate in the program. Equipment used in teaching Child Development should be planned for easy storage when not in use.

Foods and Nutrition: This area is one of the oldest aspects of Home Arts and one vital to the health of the family. The cost of equipment for teaching foods and nutrition represents a large percentage of the budget for physical plant and facilities, and because of technicological developments, equipment can quickly become obsolete. It is important, therefore, to plan with care the space and equipment to be used. Certain aspects of other areas of the curriculum such as child growth, management, and housing may be taught in this space. With some portable work counters in storage, electrical plug-in ovens, other small appliances, portable dishwashers, and sinks, if it is possible to eliminate some permanently located unit kitchens and thus achieve more flexible floor space. One or perhaps two kitchen ranges when supplemented with portable plug-in equipment, will meet the needs adequately.

Management and Family Economics: The use of time, energy, and money, is an intrical part of all areas. The application of certain management principles, however, may not become apparent unless they are brought out in a special unit of management. To teach these units instructors need: tables, storage space, chairs, sinks and other equipment and other furnishings of different heights and adjustable features. Included in this facility are adjustable and mobile furnishings and equipment, such as dishwashers, folding beds, small electrical equipment, with which pupils can experiment in making time and motion studies. In addition, different brands and makes of kitchen equipment, furniture, and household linens needs to be available to illustrate what families and individuals may buy in different income levels. A variety of household textiles, such as bed linen, table linen and draperies should be provided to illustrate different fiber, content, care and the uses. Also included are exhibits of varying qualities of clothing and household textiles with space designed for storage.

SPACES:

1. Multi-purpose Laboratory
2. Food Related Laboratory
3. Living Room-Dining Room Laboratory
4. Home Management
5. Clothing and Related Laboratory
6. Child Development Laboratory
7. Faculty Area
8. Conference Room

H.

HOME ARTS CENTER

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. Multi-Purpose Laboratory | 28 | 1 | 1,600 | . Exploratory instruction/practice in homemaking with primary emphasis on foods and clothing. In-depth instruction in foods preparation, four 4-station kitchen units with double sinks, disposal units. Equip one student station with dishwasher. 220 volt electric service to ranges and clothes dryer.<br><br>. Provide laundry area equipped with clothes washer, dryer, and mangle. Also provide pantry area with adjustable shelving.<br><br>. Counter construction of formica "hot top" with wall-hung cabinets above counter.<br><br>. Furnish with six 3' x 5'6" formica top all-purpose and eight sewing machines.<br><br>. Provide for visual projection by use of tilt-wall or tie-back screen over chalkboard. Chalkboard (16 lineal ft.) behind demonstration area. Demonstration table to be equipped with overhead reflecting mirror or closed circuit television. Provide ceiling-hung television monitor. |
| 2. Food Related Laboratory | - | - | 3,050 | . Space for nutrition and food services laboratories. |
| a. Nutrition | 28 | 1 | (1,400) | . Provide in each six 4 station domestic-type kitchen units with formica hot-top counter and wall/ceiling-hung cupboards above. Double sinks and disposal unit. One commercial range and bake oven arrangement. Six serving type tables 30" x 42". |

HOME ARTS CENTER (continued)

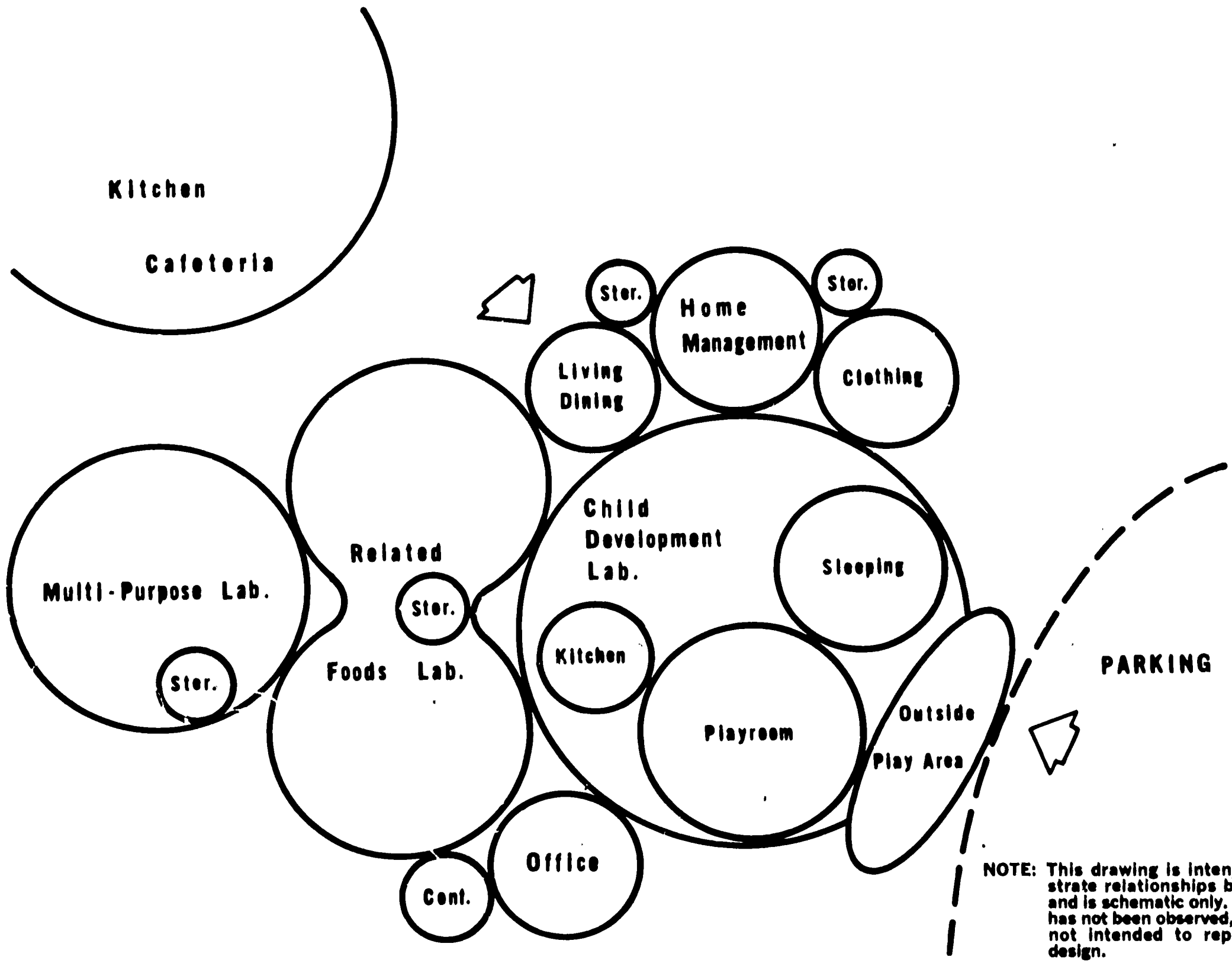
| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| b. Food Services | 28 | 1 | (1,400) | . Portable storage and work space, refrigerator, and electrical plug-in equipment to be used in demonstration flexibility in kitchen arrangement and management.<br><br>. Home type kitchen plus commercial equipment for food services. Six serving tables 30" x 42".<br><br>. Electrical outlets, conveniently located, that will carry a maximum load of current for electrial appliances.<br><br>. Water connections that will accommodate five or six sinks located around the outer wall.<br><br>. Facilities for quick freezing of foods for class use either a freezer or large freezing unit in a refrigerator. |
| c. Storage | | 1 | (250) | . Lockable storage facilities. |
| 3. Living Room Dining Room Lab | 18 | 1 | 1,000 | . A living dining room combination. Designed as a typical efficiency apartment to be used for instruction of apartment decor, furniture arrangement, cooking, entertaining, etc. Space should include living room unit, and pullman-type kitchen. With direct access to home management lab and hallway circulation. |
| a. Storage | | | (100) | . Provide lockable storage in kitchen unit plus storage for a roll away bed and other lab accessories. |
| 4. Home Management | 60 | 1 | 1,630 | . Area used primarily for lecture-type classes demonstration. Can accommodate two class groups. May be tiered for lecture activity. |

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| | | | | . Provide access to living-dining lab. |
| | | | | . Provide 16 lineal ft. chalkboard with projection surface overhead. Also ceiling-hung television monitor. |
| | | | | . Laundry unit and pullman-type kitchen unit. |
| | | | | . Built-in window and showcase. |
| a. Storage | | | (230) | . Provide lockable storage for equipment used in this lab unit. |
| 5. Clothing and Related Lab | 28 | 1 | 1,400 | . In-depth instruction in clothing design, construction and care. Zone for lecture, design, cutting, sewing, pressing and dressing. Furnish 10 or 12 sewing stations. Electrical service to all machine areas. |
| | | | | . Provide dressing area and 3-way mirror, plus grooming counter with sink and mirror over entire counter space. |
| | | | | . Television monitor to be mounted on high movable cart, projection surface for audio-visual presentations. |
| 6. Child Development Lab | | | 3,550 | . Instruction and practice in child care for student interested in behavioral aspects and for entry-level occupational training. Relate to parking and public entrance for parental delivery and pick-up of children. |
| a. Playroom | 60 | 1 | (1200) | . The main room of the center. To accommodate the play activities of small children. |
| | | | | . Zone for areas of scale model kitchen (toy), building block area, circle game area, art media area, etc. Carpet three-fourths this space; one-fourth resilient floor tile. |

II.

HOME ARTS CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| | | | | . Direct access to outdoor play patio.<br><br>. Facilities for closed-circuit television origination with monitor on high movable carts. |
| b. Kitchen Area | - | 1 | (50) | . Area for preparation and storage of "snacks" for small children. Should accommodate milk refrigeration, oven, warming oven, and four counter-top burners. All controls mounted well out of reach of small children.<br><br>. Include dishwasher and utility outlets.<br><br>. Area should be securable from playroom, but should have direct access. |
| c. Sleeping Room | 30 | 1 | (600) | . Rest area for naps. Carpet entire area. Sound separation from playroom, but direct access required.<br><br>. Storage for 30 cots. |
| d. Outdoor Play Area | - | 1 | (1250) | . Fenced outdoor area with access from both playroom and sleeping room. Grassed area for games. |
| 7. Office<br>Faculty Area | 7 | 1 | 500 | . Open area subdividable by furniture bookcase arrangements, and movable space divider. Private office (100 sq.ft.) for department head. Wardrobe cabinet with space for 7 staff members. Should be adjacent to conference room. |
| 8. Conference Room | 14 | 1 | 200 | . Conference space for department. Furnish with casework counter and lockable under-counter storage. Furnish with conference table and chairs. |

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# TECHNOLOGY CENTER

CONCEPT:

The Technology Center provides the necessary facilities for students to acquire basic knowledge and skills in using machines and hand tools and in interpreting instructions and drawings. The desired objective is to offer mechanical minded students, programs that are not available in the regular comprehensive high school. Included in this facility is space for auto shop plus Graphic Arts, Drafting, Power Mechanics, Wood and Synthetics and Metals. Shops should be designed for easy adaptability to future changes in classroom organization and curriculum requirements.

SPACES:

1. Technology Offices
2. Technology Theory Rooms (4)
3. Graphics Arts Shop
4. General Metals Laboratory
5. Drafting Laboratory (2)
6. Wood and Synthetics Laboratory
7. Automotive Laboratory
8. Power Mechanics Laboratory

I.

TECHNOLOGY CENTER

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. Technology Offices | 6 | 1 | 480 | . Homebase for technology teachers.<br>. Office area for teachers, subdivisible by desk-bookcase arrangement or space divider.<br>. Visual access to laboratory areas. |
| 2. Technology Theory (4 @ 300) | 24 | 4 | 1,200 | . Lecture and demonstration area for technology instruction.<br>. Provide for complete darkening of rooms for use of A-V material.<br>. Relate to laboratories with direct access from adjoining shops.<br>. Provide visual access to adjoining laboratories.<br>. Acoustical privacy required. |
| 3. Graphic Arts Shop | 24 | 1 | 2,400 | . Provide instruction station for various media and methods for reproducing information, experiments with and use of industrial machines and art media, reproduction technology exploration with emphasis on electrosensitive materials.<br>. Relate to drafting rooms and provide convenient access from science complex for common use of photography laboratory. |
| a. Storage | | 1 | (150) | . Provide secured storage for tools, supplies, etc. |
| b. Darkroom | 10-12 | 1 | (250) | . Provide darkroom for lab instruction in photo development processes. Includes typical counter and sink, arrangement for photo developing, including space for photo-enlargers. |

I.

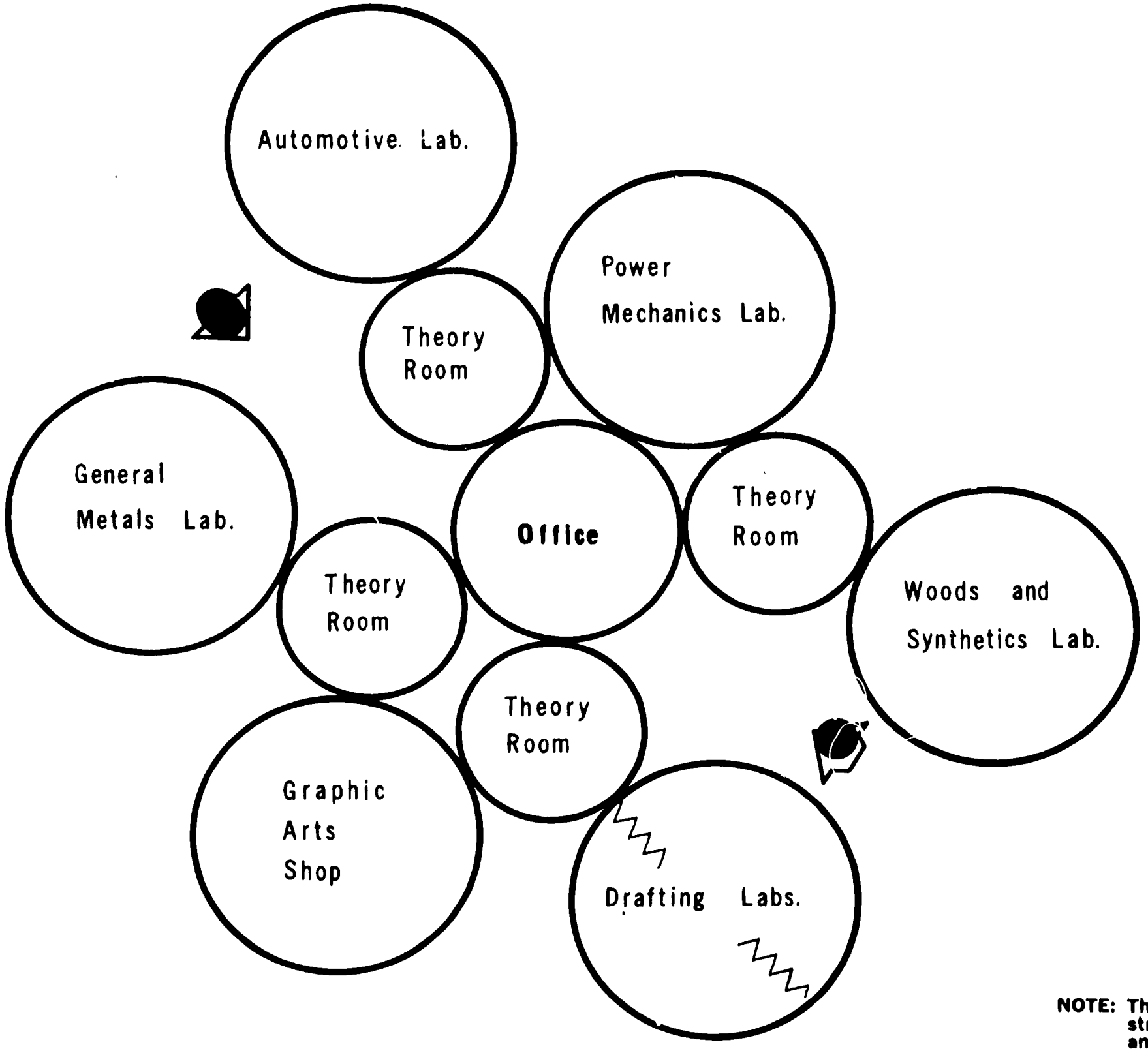
TECHNOLOGY CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| c. Darkroom | 1-2 | 1 | (24) | . Provide area for film loading. Adjacent to darkroom. |
| 4. General Metals Laboratory | 24 | 1 | 2,400 | . Metal castings and metal-working instruction lecture and demonstration area. Students provided with exploratory experiences in the use of hand and machine tools. Processes of both a basic and advanced nature offered to cater to the varying abilities and initiative of the students.<br><br>. Relate to good visual access of area for student supervision and control. |
| a. Storage-Metal | | | (100) | . Relate to exterior circulation for delivery of materials and supplies. |
| b. Storage-Tool | | | (100) | . Secured storage for tools, supplies, etc. |
| 5. Drafting Laboratory (2 @ 1200) | 24 | 2 | 2,400 | . Space for drafting instruction and demonstration.<br><br>. Provide 15 lineal feet casework storage with counter top and overhead storage 30" deep.<br><br>. Provide tack wall and 16 lineal feet of chalkboard.<br><br>. Capacity for overhead projection.<br><br>. Provide wash sink. |
| a. Storage area and Print Room (2 @ 200) | | 2 | (400) | . Counter area for reproducing machine with fume hood.<br><br>. Wash sink.<br><br>. Secured storage for paper, equipment and supplies. |

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| | | | | . Protective storage for ozalid paper. |
| 6. Wood and Synthetics Lab | 24 | 1 | 2400 | . Space for experimentation by individuals with the materials and methods of finishing wood, use of plasticizers, methods of wood impregnation, importance of abrasives, and methods of bonding and forming with the strengths of fibers. This area will provide the student with opportunities to explore the importance and uses of fibrous cellulose materials.<br><br>. Provide adequate exhaust system for sawdust and other debris.<br><br>. Relate to exterior access for delivery of materials and supplies. |
| a. Storage - Tool | - | 1 | (150) | . Secured storage for tools, supplies, etc. |
| b. Storage - Project | - | 1 | (150) | . Storage for student projects. |
| c. Storage - Project | - | 1 | (200) | . Secured storage for adult education projects. Adjacent to student project storage. |
| d. Storage - Material | - | 1 | (200) | . Vertical storage for wood supply. Provide exterior access to receive lumber supply. Relate to wood machine to facilitate cutting and preparation of lumber for individual projects. |
| e. Finishing Room | - | 1 | (350) | . Finishing area for student projects. Provide spray booth and dry room of approximately 100 sq. ft. each. |
| 7. Automotive Laboratory | 24 | 1 | 2,400 | . Instruction station for auto body and auto mechanics.<br><br>. Relate to outside with exterior automotive access.<br><br>. Provide grease trap with drain; also provide exhaust system. |

TECHNOLOGY CENTER (continued)

| SPACES | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| | | | | . Provide four utilities for 2-3 area welding stations. |
| | | | | . Provide 12 foot overhead doors along exterior wall for auto access to hydraulic hoist. |
| | | | | . Provide wash and sand area and spray booth. |
| | | | | . Provide work benches, engine stands and machine tool operation. |
| a. Tool and paint storage area | | 1 | (150) | . Relate to visual access from shop area for supervision. |
| 8. Power Mechanics Laboratory | 24 | 1 | 2,400 | . Instruction station for demonstration and experimentation in the production, transmission and use of power. Student will be introduced to methods of propulsion power transmission and generation of power. Basic and advanced instruction area includes diesel, gas and electric power. |
| | | | | . Provide 110- A.C. - D.C. exhaust system, water, compressed air, basin and lockers, engine stands, work benches, spaces for some machine tool operation, drainage and degreaser. |
| a. Tool Storage area | | 1 | (150) | . Relate to visual access from shop area for supervision. |

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# PHYSICAL EDUCATION CENTER

CONCEPT:

This area consists of multi-use physical education stations. Because of the lack of available outdoor space for athletic fields this facility must provide for flexibility of use in order to meet the educational need for the student body and community recreational activities.

It will consist of a large main bulding which will be divided into two gymnasiums to become the center of the Physical Educational activities. One gym will be for the girls P.E. classes and one for the boys P.E. classes. They will also have considerable public use for games, student social function, assemblies and be available for large public meetings.

Included is a swimming facility. This will provide a variety of Physical Education instruction for the University High School students and will open to the community a valuable recreational center.

In addition, Health Education and Driver Education labs and classrooms are provided to accomplish this need.

SPACES:

1. Main Unit
2. Boys Service Unit
3. Girls Service Unit
4. Swimming Facility
5. Health Education classroom
6. Driver Education and Health Education
7. Field Areas

PHYSICAL EDUCATION

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. Main Unit | | | 20,510 | |
| a. Main Building (Boys & Girls Gym) | 1,800 | 1 | (17,860) | . The main building will be constructed to house the bulk of the physical education activities. There will be a divider in the center of the building to separate the boys gym from the girls gym. It will also have considerable public use for games, student social functions, assemblies, and it will be available for large public meetings.<br><br>. Provide access to auxiliary gym rooms, (s.a.c.) girls and boys service units, and main gym storage room.<br><br>. Each gym will be provided with acoustical material to reduce echos during P.E. classes.<br><br>. Seating for 1800 spectators. Clear ceiling height 22 feet.<br><br>. Each gym will have regulation main court with three cross courts that are divisible into physical education spaces.<br><br>. Two ticket booths at 30 sq. ft. each. Relate to gym entrance and exterior circulation. |
| b. Remedial Gym | - | 1 | (2,400) | . Instructional station for small group physical development. After school community use for posture development, and for modern dance instruction. Allow 150 sq. ft. for lockable storage. Divisible to provide one facility for boys and one for girls. |
| c. Ticket Booth | - | 2 | (50) | . Relate to exterior traffic into main gymnasium. |
| d. Laundry Room | - | 2 | (200) | . Relate to service center with convenient access from service room. |
| 2. Boys Service Unit | | | 8,150 | |

J. PHYSICAL EDUCATION (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| a. Locker/Dressing Room | 250 | 1 | (4800) | . Direct access to Shower/Toweling room, toilets, team rooms, training rooms, and equipment issue.<br>. Relate directly to main campus circulation, then to gyms, fields, and to pool through shower area.<br>. Separate wet and dry foot traffic. |
| b. Shower/Toweling | 100 | 1 | (900) | . Direct access to pool and Locker/Dressing room. Towel issue station in drying area (50 sq. ft.) |
| c. Toilets | - | 1 | - | . Handy access to Locker/Dressing room. Relate to pool area for indoor-outdoor use. |
| d. Seasonal Equipment Issue and Storage | - | 1 | (100) | . Access from Locker/Dressing area. Relate to interior circulation to outdoor field area. |
| e. Non-seasonal equipment storage | - | 1 | (400) | . Access from Locker/Dressing area. Relate to seasonal equipment storage (I.2.d.). |
| f. Team Rooms | 50 | 2 | (1000) | . Access from Locker/Dressing and shower/toweling areas. Handy to training room. |
| g. Training Room | - | 1 | (150) | . Direct access from Locker/Dressing room and adjacent to team rooms. Visual access. |
| h. Department Office | 8 | 1 | (500) | . To include office, shower, toilet and dressing areas for instructors and coaches.<br>. Visual supervision of Locker/Dressing and Shower/Toweling areas.<br>. Locate near interior circulation exit to main campus. |
| i. Uniform Drying Room | - | 1 | (300) | . Locate adjacent to team rooms. Provide issue window for dispensing of uniforms. |

PHYSICAL EDUCATION (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 3. Girls Service Unit | | | 6,000 | |
| a. Locker/Dressing Room | 100 | 1 | (4200) | . Direct access to Shower/Toweling room, toilets and equipment issue.<br>. Relate directly to main campus circulation, then to gyms, fields, and to pool through shower are..<br>. Separate wet and dry foot traffic.<br>. Provide visual supervision from office area. |
| b. Shower/Toweling | 100 | 1 | (900) | . Direct access to pool and Locker/Dressing room.<br>. Provide towel issue station in drying area (50 sq. ft.) and four private shower stalls. |
| c. Toilets | - | 1 | - | . Handy access to Locker/Dressing room. Relate to pool area for indoor-outdoor field area. |
| d. Seasonal Equipment Issue and Storage | - | 1 | (100) | . Access from Locker/Dressing area. Relate to interior circulation to outdoor field area. |
| e. Non-seasonal Equipment Storage | - | 1 | (300) | . Access from Locker/Dressing area. Relate to seasonal equipment storage. |
| f. Departmental Offices | 7 | 1 | (500) | . To include office, shower, toilet and dressing areas for physical education instructors. |
| 4. Swimming Facility | | | 8,470 . | |
| a. Main Pool | 80 | 1 | (3,420) | . Main pool for swimming instruction. Provide 6-8 racing lanes for competition, marked with tile, 7 ft. width. Pool dimensions 45' x 75' - depth 3'6" at ends to 4'6" in middle. |
| b. Diving Pool | - | 1 | (1050) | . Separate pool for diving instruction. Provide two one-meter boards in pool with dimensions 30" x 35' with minimum depth of 12'. |

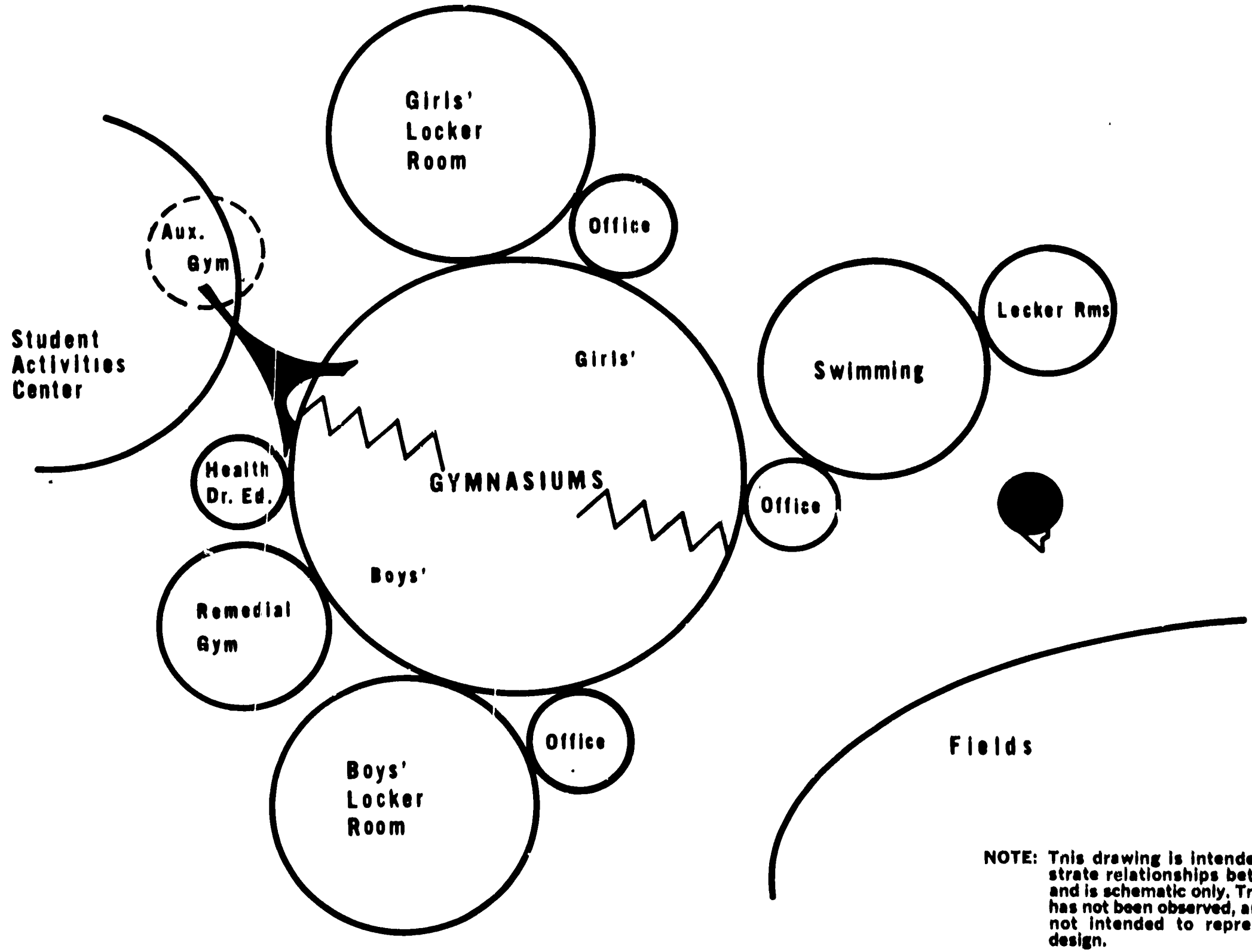
J. PHYSICAL EDUCATION (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| | | | | . The pool will have . . . . |
| c. Spectator Area | 200 | 1 | (900) | . Minimum spectator seating in fixed bleacher space. |
| d. Supervision Office | - | 1 | (300) | . Office for supervision of pool area. Include dressing area for teachers and supervisors. |
| e. Filtration, Utilities and Storage | - | 3 | (400) | . Spaces for storage and mechanical equipment. |
| f. Locker Rooms (Boys @ 1200) (Girls @ 1200) plus toilets | - | - | (2400) | . Desirable to provide locker rooms separate from regular physical education area for community use. |
| g. Deck Area (Circulation) | - | - | *(4020) | . Movement and milling. |
| 5. Health Education Classroom (divisible) | 80 | 1 | 1,400 | . Instruction in Health Education. A large space divisible into two lecture-type classrooms, or a grouping of two 700 sq. ft. classrooms so that the space may be combined. Furnish with tablet arm pupil desks.<br><br>. Teaching stations to allow audio-visual projection on tilt-wall or tie-back screen over 16 lineal ft. chalkboard. Provide connections for cart-mounted television monitor. |
| 6. Driver Education & Health Education | 60 | 1 | 1,800 | . To accommodate large group lecture and activity space for instruction in driver education and health education. Space to be divisible into two areas by operable partition.<br><br>. Casework storage with counter-top sink and over-counter wall-hung cabinets. Counter-top location of: reaction times, color blindness test, depth perception equipment, field of vision equipment, televinocular equipment, steadiness equipment. |

J. PHYSICAL EDUCATION ( ontinued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| | | | | . Teaching station to accommodate audio-visual projection on tilt-wall or tie-back screen; chalkboard to be magnetic.<br><br>. Utilities to be provided for 30 driving stimulator units. |
| 7. Field Areas | - | - | - | . Area for field activities such as hockey, archery and soccer. Limited site indicates desirability of roof-top location for some of these activities. Use of artificial turf is recommended. Direct access from shower/locker area desirable. |

* Square footage not counted as academic space.

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# SPECIAL EDUCATION CENTER

CONCEPT:

The underlying aim of all education in a free society is the fullest possible development of the individual - each individual - and the School District of Philadelphia, in its concern for the atypical as well as the normal child, conducts special educational programs for the intellectually handicapped. The basic purpose of these programs is to enable handicapped children to develop their potential, however limited, for individual acceptance, social adjustment, and economical usefulness. Every attempt is made to prepare each student for adult life as a responsible and productive citizen.

Spaces to accommodate an instructional program with these purposes must be flexible to allow for a wide variety of learning activities to be taught in small groups or by individual instruction. Spaces should be available in high schools to facilitate special instructional programs, and these spaces should be related to commercial and occupational areas of the school.

SPACES:

1. Special education classrooms (7)
2. Departmental office/work space

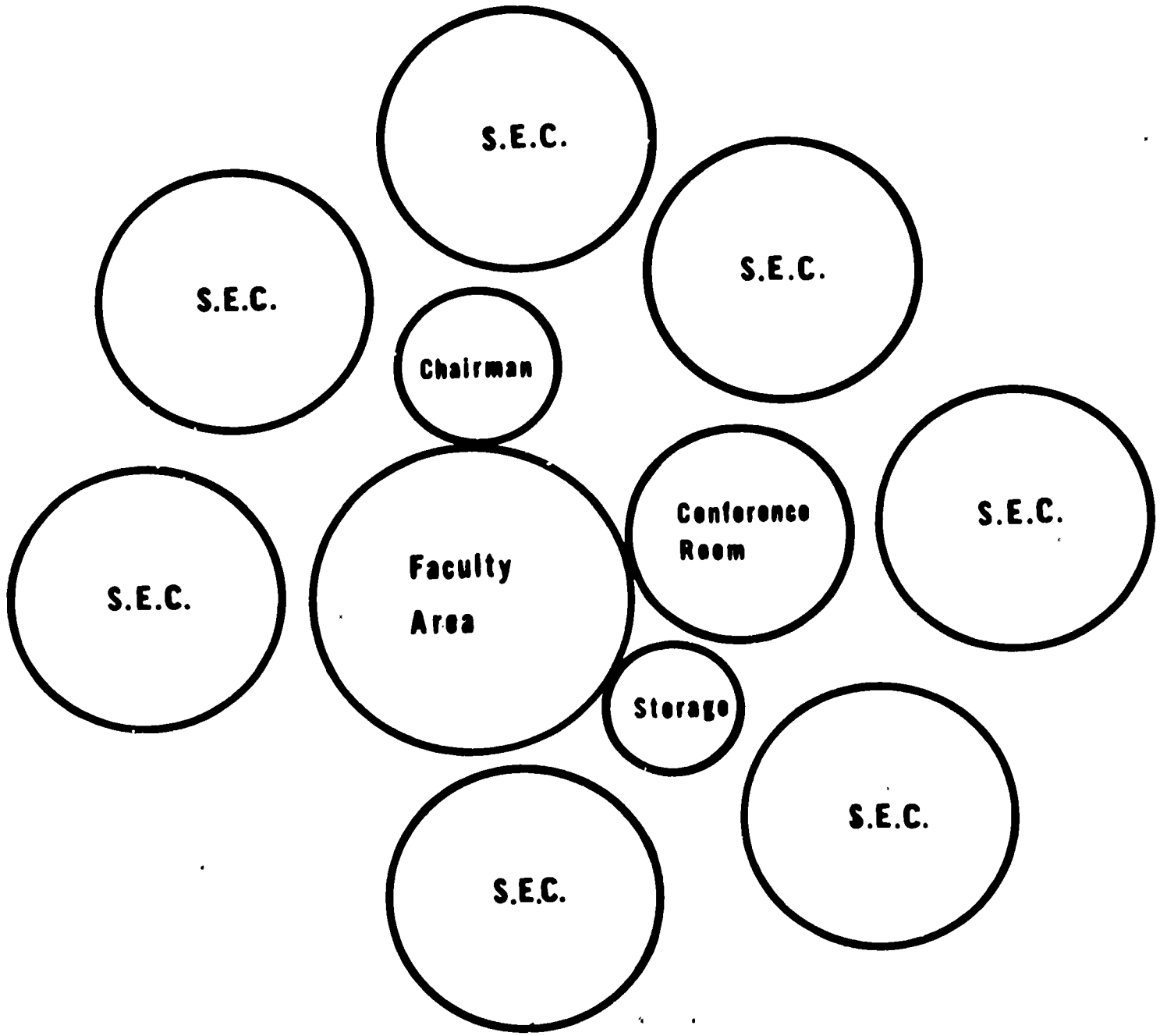
K.

SPECIAL EDUCATION CENTER

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. SPECIAL EDUCATION CLASSROOMS | 18 | 7 | 6,300 | Laboratory and classroom activity space to serve as homebase and primary instructional area for special education students. Relate to Home and Practical Arts Center. Group classrooms in complex allowing future combination of two or more spaces by use of demountable wall partitions.<br><br>Provide casework counter-top with under-counter storage, counter-top double basin sink with gooseneck water mixer and spray-type drinking fountain.<br><br>Furnish two classrooms with science demonstration table with gas, water, air, and electrical services controlled by lockable master switch/valve.<br><br>Ceiling-mounted television monitor for each space. Projection surface over 16 lineal ft. of chalk-board along teaching wall. |
| 2. DEPARTMENTAL OFFICE/WORKSPACE | | | 1,000 | Headquarters for special education staff members and visiting consultants/supervisors. |
| a. Department Chairman | 4 | 1 | (100) | . Provide semi-privacy for Department Chairman through use of partition (100 sq. ft.). |
| b. Faculty Area | 10 | 1 | (600) | . Homebase for each teacher in this department.<br><br>. Open area subdividable through use of furniture, movable casework, and movable partition to allow semi-private space for 2-3 teachers. |

SPECIAL EDUCATION CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. DEPARTMENTAL OFFICE/WORKSPACE (continued) | | | | |
| b. Faculty Area (continued) | | | | . Provide desk and two-drawer filing cabinet for each teacher. Also provide spirit duplicator and transparency machine.<br><br>. Casework wardrobe adequate for total departmental staff. Also casework counter with sink for materials production and duplication. |
| c. Conference Room | 10 | 1 | (150) | . Space for departmental staff meetings, pupils or parental conference, testing, etc. |
| d. Departmental Storage | - | 1 | (150) | . Central lockable storage for departmental supplies, equipment, and instructional aids. |

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# RECEIVING AND MAINTENANCE CENTER

CONCEPT:

Through the centralization of certain services within a school, efficiency and economy can be gained, and greater control will be available for supplies and materials. Located in the central maintenance and receiving center will be the functions: receiving of supplies and materials, control room for all mechanical equipment, storage of certain supplies and materials, and headquarters for the non-teaching staff of the school.

SPACES:

1. Supply receiving, processing, distribution
2. Staff and control center
3. Maintenance center

L.

RECEIVING AND MAINTENANCE CENTER

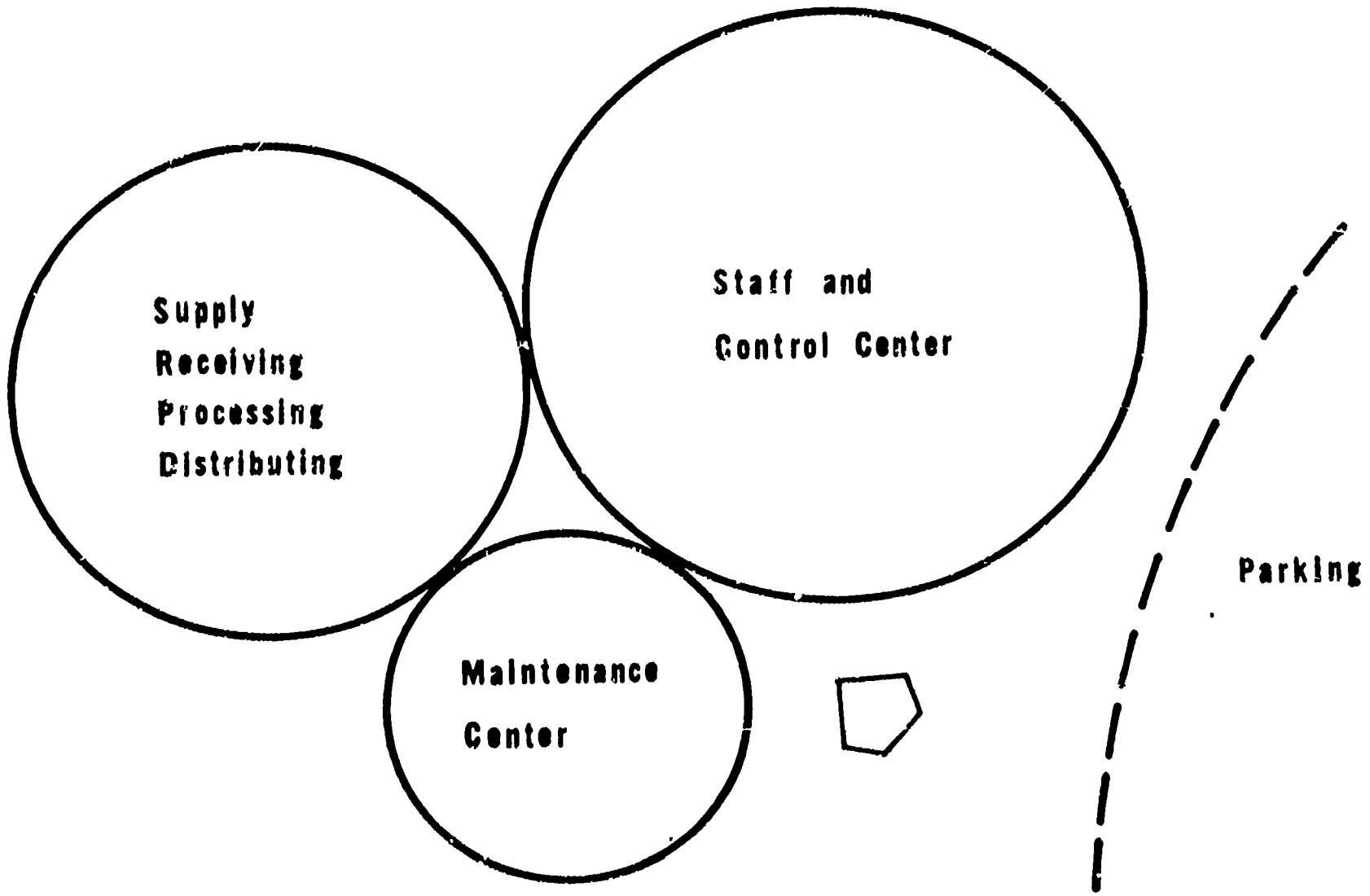
| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 1. SUPPLY RECEIVING, PROCESSING - DISTRIBUTING | - | 1 | 1,200 | Area for receiving of instructional and operation supplies and materials. Should include space for storage of operational and instructional supplies (500 sq. ft. each). Provide loading dock (150 sq. ft.). Relate to exterior street or vehicular service road for truck delivery. Also relate to service elevator for distribution of materials received. |
| 2. STAFF AND CONTROL CENTER | | | 1,290 | Headquarters for operational non-teaching building personnel. |
| a. Control Room | - | 1 | (200) | . Location of all operational controls for heating, air conditioning, electronic detectors, etc. Relate to mechanical room. |
| b. Operational Staff Ready Room | 30 | 1 | (450) | . Homebase for operational staff. Provide table chairs and lounge furniture in open area (300 sq. ft.). |
| c. Matrons' Office | 4 | 1 | (120) | . Office space for two matrons. Furnish with two teachers' desks and four chairs.<br>. Relate to Operational Staff Ready Room. |
| d. Non-Teaching Assistants' | 4 | 1 | (120) | . Office for non-teaching assistants. Equip with two teachers desks and four chairs.<br>. Relate to Operational Staff Ready Room. |
| e. Men's Locker Room | 12 | 1 | (150) | . Direct access from Ready Room. Provide dressing locker for 20 men. Include one water closet and two urinals. Two shower stalls. |
| f. Women's Locker Room | 20 | 1 | (200) | . Direct access from Ready Room. Provide |

L.

RECEIVING AND MAINTENANCE CENTER (continued)

| SPACE | UNIT CAP | NUMBER UNITS | TOTAL AREA | DESCRIPTION OF FUNCTIONS AND SPECIAL CONSIDERATIONS |
|---|---|---|---|---|
| 2. STAFF AND CONTROL CENTER (continued) | | | | |
| | | | | . dressing locker for 20 men. Include one water closet and two urinals. Two shower stalls. |
| f. Women's Locker Room | 20 | 1 | (200) | . Direct access from Ready Room. Provide two enclosed water closets and two shower stalls. Include dressing lockers for 30 women. |
| 3. MAINTENANCE CENTER | - | 1 | 600 | Headquarters for minor repairs and maintenance. Provide workbench, tool storage, bins for small parts, shelves for supplies. |

# RECEIVING and MAINTENANCE CENTER

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A N D  F I N A L L Y . . . . .

These Educational Specifications reflect the functional requirements of design for the educational needs in University City High School. They have been developed cooperatively with members of the Philadelphia School District staff, and represent the thinking of many individuals as well as the incorporation of information furnished by the consultants. The design objectives of University City High School include facilities to house specialized instruction in Science and Mathematics along with general education in arts, homemaking, occupational training, physical education, commerce, and non-specialized general classroom instructional programs. The preceding contents describe this educational program in terms of space requirements and relationships, and in architectural design objectives. Thus, the architect using these guidelines may derive functional relationships which best serve the educational requirements of the people of Philadelphia.