

DESIGN OF A COMMUNITY SCHOOL IN A MIXED-USE CONTEXT
IN THE SOUTH END --DUDLEY STATION AREA

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Submitted in Partial Fulfillment
of the Requirements for the
Degree of Bachelor of Architecture
at the
Massachusetts Institute of Technology

FEBRUARY, 1969

Signature of author _____

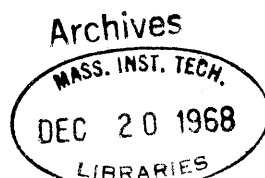
Dept. of Architecture, May 17, 1968

Certified by _____

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The Search for the Community School

Urban schools must look beyond their present role to find elements in the community they serve which will link them to the life and activities of the widest range of people and will reinforce the identity of that community in the city. The potential service such a school can perform for the community is closely associated with the value which any parent or non-parent places on education. Learning and a continuing re-appraisal of one's environment and behavior are prerequisites for an ability to shape habitable space¹ and to relate to others through its use. Above all, the user must find in his immediate environment the range and vocabulary of spaces and activities which will encourage his response and participation. Without his direct involvement--equally in time, money, and skill supplied--the environment can not achieve an identity and supply a range of experiences beyond those of a servicing mechanism.

A primary intent of architecture is social contact and communication. It is not enough to assure that a building will provide shelter or provoke movement and subsidiary activities within itself. The internal workings of buildings modify movement and activity in the community at large. Places, activities, and designated uses should not be highly differentiated and discontinuous but instead should provide a maximum range of clear choices and degrees of involvement.

Two concepts underly such formulations. The first one, mixed-use, assumes certain differences among groups and activities in a particular

context. It furthermore demands that certain uses be specifically linked to each other and to residences, while others, with less public contact, can exist without direct and fixed contact. The second concept requires that the mixed-use matrix be responsive to changing qualities of site and place. Together these concepts provide a range of alternatives of path and place and then qualify and clarify these alternatives in terms of the specific site, activity, people, and intensity of use.

Mixed-use is a relative term, closely tied to scale. A city viewed as a totality is by definition "mixed-use." However, entire areas of the city may be single-use and zoned accordingly. A house is also a mixed-use unit, with each occupant engaging in varied activities at different times. Yet the house as known today can supply only a circumscribed range of activities, limited by the dimensions of the rooms and the flow of people in and out. It is the transition from the house to the city, from block to community and zone, which defines mixed-use as a design tool, as a set of alternatives involving contacts beyond the immediate family, and as an agglomerate of overlapping roles (banker, grocer, student, worker, mother, etc.).

Related and associated uses are only one step toward mixed-use. Classification of uses implies connections among them and perhaps groupings of related uses, groupings which in turn must either be directly connected or associated. Implicit also is the idea that the architect's task includes putting in the connections and making the associations. The problem lies not in accepting current definitions of uses which are then

associated, but in reanalyzing each use from the viewpoints of behavior and form to see what aspects it shares with other uses. This means stating the essential distinctions of how activities and uses function singly and together, with a view to establishing maximum continuity and forming a rich matrix which will be readily and easily employable. This matrix could take form either as a set of grid dimensions or as a spatial system of open-ended use-relations where location is not as critical as accessibility and availability of space and activity. The individual's involvement with the surroundings and matrix defines his domain. Thus physical boundaries are a point in time of the domain, which is changeable as are the roles which the individual can assume according to need and circumstance.²

Discussion of an urban elementary school immediately raises the problem that the child's experience in school is often counteracted by his contacts and associations at home and outside school. The contact of school is frequently the first consistent, daily experience outside of the home and immediate neighborhood. The school can provide the child with a means for relating to different scales of activities, spaces, and movements and can encourage him to make new choices. Often this stimulation is beyond the experience and means of the child's parents.

Who is the rightful mentor of the child--the tightly limited parent or the school which can give him the means to understand his environment and learn to use it? Is it enough to send the child to school for six hours and then to have undone at home what was painstakingly built up at school?

Can the school be a substitute home, or should the school be a prepared environment where parents are encouraged to teach their children, to help other children, and in turn to learn themselves? And if then the parent becomes disinterested in his child, can the school take charge of him?

These questions go beyond the architect's competence, and even the educator's, and concern the community's and parents' involvement in education. Each child and parent needs space and time to learn. The city can not totally take care of deprived children, but it can show the parents, Negro or white, how to care for their children. This is not to say that the school is the center of a community. Communal sentiment is the complex result of associations and of learning to exploit the environment and to shape it around personal identity and the need to increase the range of contacts and shared places. Recently emerging forces, such as "black power" groups, are demanding recognition of the colored man's need for communal feeling, of his desperate plea for identity and equal status, and of the problem of creating a Negro community. Before this is possible, the Negro must learn that he can create and exploit his environment. Neither Negro nor white man is currently doing this with any degree of success. Power politics and inadequate representation have cut the Negro off from the advantages of a highly sophisticated educational system. Federal money is made available to school systems which enforce integrated schools, even if Negro children are to be bussed many miles. Unfortunately this has meant fewer or no new schools within the

Negro community, a loss of the valuable contact possible between teachers and parents, and the reinforcement in the child's mind that he is an undesirable person from an undesirable part of the city. Thus the ghetto is further isolated and downgraded.

To implement a racially balanced education, a number of plans other than bussing are available.³ School districts can be redrawn so as to include racially mixed communities. This permits the primary neighborhood schools to serve as feeders to the secondary schools, whose location within the district is not critical. Both neighborhood and secondary schools are active elements in the community. The Princeton plan calls for the pairing of white and Negro schools along the ghetto border. Depending on the location, the border schools will either be in some other mixed zone or at the junction of the ghetto with another residential area. In either case, the school will not be actively involved in the existing communities. Only by fostering a new community around the school (ideally an integrated community) can this program be valuable. Likewise the campus school must either be inserted into an existing community center or developed as part of a new environment. Variations in the campus plan call for differing arrangements of elementary, secondary, and vocational schools as well as junior or community colleges.

In the existing context of the ghetto, the Princeton plan and the campus park plans would have a disruptive if not altogether negative effect. Neither plan sets a policy of upgrading the community, of reinforcing the existing commercial and circulation patterns, or of providing a setting in

which cultural and community groups could develop. Although one of these plans might be adopted later, it would not be advisable until communities were stable enough and had developed sufficient identity and adequate representation so that the means of coalescing and transforming them into new communities would be present.

The Community and the School -- Possible Relations

There is little tradition of community-oriented schools which play complex roles in organizing the family, developing available human resources, and acting as key elements in the physical plan of the community. Yet the origins of the neighborhood school are lost in time. In Perry's proposals for a garden city and neighborhood community system,⁴ developed in the last century, the school was organized as the transitional point from parks and residences to public circulation and commercial activities. Much time could be spent tracing the economic, political, and social forces which have directed the elementary school into its present mold. Aside from visions of democratic education, adequate play space, and one story walk-throughs, economic and technical considerations have played a dominant role.

In a crowded city the acquisition of three-plus acres,⁵ most of which will be fenced off and used only a few hours per day, often is an investment in nonproductivity and obsolescence. Can school playgrounds be coordinated with city parks and recreational facilities open to all? Besides being almost too obvious and naive, this suggestion probably would be considered uneconomical as well, especially by city fathers interested in taxable business properties. Yet a more intensive land use in relation to population density and activities would mean continuous use of the land and the ability to concentrate those facilities of maximum service and benefit to the community, making them easily accessible. A single central coordination agency would not be necessary; the task of pairing available spaces with demand

could be handled by groups of agencies working in collaboration.⁶

There remains the question of control and administration of communal facilities, which must be financially solvent if they are to provide adequate service. A condominium system, gathering the local organizations together, and community groups (such as SNAP, OIC, and political clubs) working with city authorities, could have control of the facilities. City administration would share with the condominium decisions of policy, normal administration, and allocation of resources. This plan is not definite nor meant for consideration as such, but is intended only as a possible model of the direct involvement and participation which can function between community and city and their use of facilities. At worst it is a dream of benevolent socialism. Paul Goodman,⁷ speaking to New York, says:

The ideal for New York or any other vast city is to become a large collection of integrated neighborhoods sharing a metropolitan center and metropolitan amenities.... A basically family-residential neighborhood... might have nearly autonomous control of its local school, with much of the school tax administered by the local parent-teacher association. The central board of education could dictate minimum standards and see to it that the underprivileged neighborhoods got a fair share of the total revenue; but it need not stand in the way, as it does at present, of variation and experimentation. ... Our idea, too, is that local exercise of political initiative on local problems like schooling, housing, and planning would educate the electorate and make real democracy possible. A neighborhood should be planned to increase mutual acquaintance of the neighbors and to increase their responsibility for school, market, playground, zoning.... Such a complex could well serve as the primary electoral unit.

The neighborhood concept is questionable both as a social entity (which it frequently isn't) and as a planning tool. In particular, the automobile has made proximity of residence to shopping and work

less necessary. It has also favored homogeneous groupings according to income rather than ethnic or cultural origins. We can well leave suburbia alone and concentrate on possible developments within a racially and culturally heterogeneous urban community.⁸ The architect is specifically called upon to supply alternatives to the image of suburbia, to view the city as a process within which large areas need not overlap roles, and to clarify activity linkages and possible continuities. Thus the concept of "neighborhood" is not seen as a desirable end in itself but as a means of fostering a process of growth and adaptation to the city.⁹ We are dealing with poor whites and Negroes; most have come to the city recently, others have been unable to take advantage of opportunities and are suffering from discrimination as well as their incapacity to see themselves in an active contributory role.¹⁰ There are at least four ways in which the physical structure of the community can be used to promote the urbanization of its members:

1. There should be choice in housing types and the development of new life styles. This is a crucial step in fostering personal security and understanding of how different life styles can coexist. A determining force is family structure and the degree and number of kin ties. At present two of the major obstacles are the welfare and public housing policies which unintentionally encourage the isolation of the very poor and the perpetuation of the fatherless family.

2. Local business and industry must be encouraged. The city can

promote the establishment of industry and of retraining programs. Private industry can sponsor on-the-job training. Programs of job placement and opportunities for advanced education for those qualified are necessary. Eventually local ownership and administration of industry and capital can develop.

3. The major role of educational facilities, working closely with retraining programs, is to provide awareness of opportunities and the means of using them to best advantage. Such opportunities include the use of basic learning skills, the benefits of education as producer of human capital, and management methods.

4. The physical environment needs to be developed as the medium of social and economic exchange. Patterns of meeting places and residence are influenced by culturally-based concepts of identity and self.¹¹ The structure of the environment should be congruous with the major connector and activity zones of the city.

The community school can help answer the above needs, although its primary concern is the education of area residents. It gathers together the resources of public and private institutions to include clinics, libraries, day-care facilities for children of working mothers, mental health programs, recreational and vocational programs, etc. The recent study conducted by members of the Harvard-Boston School Planning Project for the public facilities department¹² provides a model for determining the requirements of the community school. Using this model, we can see that a reassessment of the notions of classroom and general space is

necessary. At the risk of being nondeterminate, we can say that in its minimal form the school is only a sufficiently large and adequately lit and serviced room located near or in housing, with access from transit stops. Whatever happens in, around, and outside this room is part of the child's experience. It is the task of both teacher and parent to demonstrate to the child how continuous and progressive his experiences are between home and the school. Unfortunately the most complex school, with the latest provisions for team teaching, group work, counseling and therapy, graded work, and structured play, with an impressive array of gymnasiums, pools, cafeteria, electronics, and management experts, is also the school furthest removed from the reality of most children, from everyday experience and proximity to their home environments. Community functions and direct contact with the environment become abstracted in the super-schools.¹³

A recent series of articles in the New Republic¹⁴ has emphasized the need for nongraded experiences in schools designed not to present the child with a fixed curriculum or a boring array of the same spaces and scheduled events. Rather, the desire is to present him the combination of free experiences and tasks and the choice of groups within which to work. Thus children not only learn how necessary is communication among themselves, but also how to participate in and use group efforts to master a subject or control the way their environment will work. Soon the more advanced children are helping the slower ones. The teacher makes available to them a list of activities and means of working, and

she supplies information to students who request it. In planning these schools, flexibility has come to mean something other than movable partitions and desks. Instead, the space is articulated so as to provide for activity areas, with a library alcove and tables for different activities. There are no individual desks and no assigned places. Classrooms open out to the playground. Hallways are used for group activities and exhibitions. Classes in the lower years are mixed. This lessens the discipline problem, with the older children helping the younger as well as giving them an accessible model of behavior. Formal classroom teaching has been eliminated because it imposes a single pattern of learning on a whole group of children, and forces the school to group them by ability.

The description just given has definite architectural implications. What follows is a list of facilities for activities in the classroom or adjacent to it in the playground or corridor. The list is not exhaustive, but it covers the main activities.

1. Reading table.
2. Math table.
3. Painting and work area.
4. Library alcove.
5. Dress-up area.
6. Building games area.
7. Personal storage cubicle. This may become small study nooks.
8. Wall exhibition of work and writing.
9. Small kitchen, sink, storage, and preparation; children can use facilities to clean up.
10. Desks for teacher and a few students working on individual projects.

School organization has been predominantly of two types, each supposedly reflecting such concepts as team teaching and isolated self-teaching classrooms. The linear organization deploys classrooms, communal

facilities, and administration along a circulation spine. The life of the school really occurs along the corridors rather than in the rooms. The cluster type of school employs groupings of classrooms (two to five) determined by age group, ability, often color, and clustered around a central complex of administration, cafeteria, gymnasium, auditorium, etc. In both schemes a degree of autonomy is assumed for classrooms. Formation of groups and subgroups around common interests is limited by classroom size and not school size. Simply stated, one of the main problems of a community school is that of allowing the maximum overlap between classes and groups, of providing a system of organization which can permit groups and activities beyond those imposed by curriculum requirements. Indeed, if architecture is of consequence, it is precisely in transcending the parochialism found in today's schools, by means of a richness and variety of association of place, time, and people.

General Site Description

The proposed school site falls between Washington Street and Shawmut Avenue, on Arnold Street. It is bounded to the east by a small laundry industry, a locally organized Baptist church, and a corner building containing retail shops on the ground floor and residences above. These front on Lenox Street. To the west, in an area already blighted and partially razed, with a few remaining residences fronting on Ball Street, is the proposed path of the Inner Belt. The Boston Redevelopment Authority has designated this site as an elementary school site in the South End Renewal Area R-56; it has a central location to existing housing and adjoins several housing schemes proposed in the renewal area.

I have already dealt with some of the reasons for and patterns implied by an urban, community-oriented school. The richness and scope of a school are given life and amplified in the child's experience when they are part of his normal daily associations. The new structures of this site would need to incorporate the school into a composite system of activities and housing, thereby reinforcing patterns of daily association through the school's role as a community organizer.

Developing a latent, or potential, community into an active and independent agent is a unique task. For the Negro community this goal further includes the creation of a positive identity and the recognition that it can play a significant role in the life of the city. I do not have or advocate a total solution to this problem. However, an active, involved commu-

nity is basic to the notions of a community school, a comprehensive renewal of this sector of the city along with many others, and a shift in attitude of private interests towards more communitarian goals. I also assume that the city will act to restore or replace those fabrics which it is compelled to destroy or relocate through its public works program.

At present the areas immediately north and east of Dudley Station are a curious combination of blighted areas and lots recently razed because of the Inner Belt program. The effect, however, is the same in both--desolation, uncertainty, fear that tomorrow may bring more bulldozers. To the east of Dudley Station the fabric of the city changes from nineteenth century row house developments to turn-of-the-century frame buildings on detached lots and tree-lined streets. The one constant of the area has been the Washington Street Elevated (since 1901) and before that, but following the same line, the electric trolley cars. Washington Street has developed as a commercial and transit spine leading downtown. Dudley Station was and still is the first major center away from the downtown area along this spine. Even today Dudley Station is a major transit exchange for commuters and shoppers from the suburbs. Around this exchange have developed local retail and service facilities, extending along Washington Street to the Massachusetts Avenue intersection. South of Washington Street and east of Dudley Station are found industrial establishments, wholesale outlets, warehouses, and packing companies. A considerable part of the labor force for this industry does not come from the adjacent Negro communities of Roxbury and North Dorchester.

To the east of these industrial facilities and spreading west from Northampton Street is a very mixed population, mostly Puerto Rican, with some Germans and Negroes. Most of these people are officially classified as poor,¹⁴ some are on relief, and most are in the lower income brackets.

Four main patterns of interaction and association are found in this area. Major shopping and business are conducted in a number of facilities along Washington Street, which with Dudley Station forms the transit connections. Local corner-store shopping and specialized services, such as hairdressers, fortune-tellers, pool parlors, barber shops, etc., tend to group at main cross-streets, particularly along Shawmut Avenue and Harrison Avenue. These local groupings form the basis for identifying one's district, group gathering points, and centers where local gossip and information is available. Religious and social service organizations often have moved into empty storefronts and set up small libraries, guidance counseling, and welfare agencies.

The local church community forms the third association pattern. Typically, religious and ethnic groups form around particular churches, then the church develops a community-oriented organization which sponsors parties, night classes, after-school groups, aid societies, and so on. Always near the church, the parish hall is open continually and is the social center for much of the very young population and the elderly. The Puerto Ricans prefer to live close to their church, but the Negro community does not closely associate housing and church, although the

highly important to them as a social and religious focus.

The unmarried young man, depending on his "set" or group, adds a fourth association pattern by extending his relationships outside the Dudley Station area. For this he most likely depends on his car. He is essentially a free agent, with no particular ties to the area other than family. His job, if he has a steady one, is probably outside the area.

The Problem of the Inner Belt

The relationship which the Inner Belt can bring among activities and structures in the South End is in large part defined by the attitude of the city towards benefit and cost of the Inner Belt and by the competition of private interests for accessibility to transportation and to large scale rental structures. Assuming that Washington Street is the area's most important link to downtown and that it acts as structure for the location of major public facilities and of intense commercial and service activity, then future development should be carried out in relation to and congruous with this artery. It is also part of a radial system of roads emanating from the downtown area¹⁵ and having communities clustered around them.

Study of the major patterns of activities hence must be with reference to Washington Street. By patterns of activities, I do not mean simply the forms and organization of uses but also the range of possible associations of those uses to each other, to secondary facilities involving less public contact, and to the possible routes which people will take to and through this area (depending on transit location, working places, and known meeting places). Automobile traffic favors linear development parallel to its flow, with supporting parking facilities, although accessibility from the Belt might encourage more cross-traffic and hence the development of a shopping center node. This node is also conditioned by possible community use and might favor the development, in conjunction with the Campus High School program, of community recreational and cultural facilities. For

the most part, my thesis will assume that such development is possible but will not plan this part directly. Specifically, the school can acknowledge its contact with such facilities at a future date, depending also on the expansion of school population expected with the increase in local housing.

The problem is largely one of developing a potential community. Parts of possible strong communities exist presently, as in the Lenox Street housing, the groupings around St. Philip's Church, and the population in the Greenwich Street sector. In the large scale renewal implicit in the construction on the Inner Belt, higher densities of housing are imperative. Higher density is necessary not only to take up the deficit in available land imposed by the highway and to provide for all the families it has displaced, but also to develop a sufficiently large population so as to make economical the introduction of expensive recreational and service facilities. This includes such facilities as pools, gyms, libraries, and churches, with open land and parks working directly with housing and schools. Housing adjacent to the Inner Belt will require adequate isolation from the noise and disturbances of traffic, and parks can be used effectively together with embankments.

But by far the largest problem of design is caused by the virtual isolation which the highway can produce between parts of a city. Only in rare cases can there be an effective continuity between both sides, and then the area must be planned at the megaform scale. Commercial and industrial activities are largely insensitive to the disturbance of the highways. They can be the cause of the attendant activities and circulation

developing across the highway. At present such solutions are deemed impractical or expensive, without a really adequate analysis of the situation in relation to ownership, construction, standardized elements, public policy, and air rights control. The complex of air rights and public ownership can be considered assets to the city, supplying extra taxes, greater control of future space demands because of the proximity of large companies to each other, and utilization of city investment in public facilities geared to serve both industry and residence, with a policy of encouraging industry to locate in the center city next to adequate labor forces.

Determinants of a Mixed-Use Matrix

It has almost become a cliché to make any statement about urban housing, especially low-cost housing, and jobs for the residents of city slums. Yet for an area of blight and wholesale emptiness there must be some means of redemption and regeneration which considers simultaneously the need for new housing and for employment security. To assume that a large part of the local population can be trained while employed in the construction of their new homes is to push the question to extremes of simplicity, since neither the city government, nor the housing authorities, nor the labor unions can see any immediate benefit to themselves from such a scheme. This attitude is, however, a continuation of the existing cycle, which can only be broken by removing the barrier between ends and means. Is the housing meant for the poor and the lower classes? If so, why should they not work for it? Conversely, if they have steady work, they will not be so poor and will not need low-cost housing. The house is the end product, the attainable goal, and working is the means of achieving this end. But after the house, what? Not unlike a chain reaction, the job training obtained while constructing houses can lead to more training, a stable job, even a better job for some. Certainly it would insure that those who lived in the self-built houses would provide the necessary upkeep. At present such considerations are rather more complex than I have stated, requiring thorough studies and clear statements of objectives. My purpose in formulating this

possibility is to go beyond merely stating that housing is necessary and to show how this need can be used as a definite and specific input to the program. Two main considerations deal with the change and flexibility of spatial requirements over indefinite time and the immediate question of who can best benefit by proximity to school and communal facilities. In crude terms, this means that a) there will always be different housing types available through the internal reorganization of spaces, and b) that retail and office facilities are part of the same physical structure, ^{as housing} with adequate provision for separate access and service, thereby permitting the interface between housing and rental commercial space to shift according to need.

By organizing the medical and nursery facilities as part of both school and housing, one favors occupancy by young married couples, working families, and the elderly. Through provision of community halls, parish organizations, libraries, guidance centers, and commercial facilities, the elderly can contribute to the community by sharing their experience, giving young mothers free time by taking care of their children, undertaking to run many of the social service organizations of the area, etc.

Such policies imply not only inclusion of varieties of housing types, administrative programs geared to the needs of different groups, and proximity of commercial and professional facilities to the housing. The active attitude of such a program favors a system or process of interactions rather than merely the implementation of specific administrative or economic goals.

Interaction implies choice. An understanding of the existing patterns of associations is the basis for providing a process of interaction and choice. An environment made up of many different activities, types and ages of residents, and varying intensities of commercial and social facilities (for instance, Washington Street bars versus Mrs. Dixon's Corner Lunch on Shawmut Avenue) will by its nature offer a choice of patterns to follow, places to meet different types of people, and ways to identify these choices in a coherent way.

Unlike the Puerto Rican, the Negro does not typically have great family stability, nor do generations of the same family cluster together. It is important to understand that this pattern applies to conditions today, conditions which have been generated over a long time and have left their mark on an intuitive, subconscious level.¹⁶ An attempt to restrict the housing to cluster or court developments would not be understood or properly used. Nor would a reinterpretation of the row house use the available land (parks, etc.) in the most effective manner.

Great emphasis is presently placed on determining the needs and aspirations of those who do not share the full benefits of the American dream. Yet what could prove more disastrous than translating these goals into unchangeable, immutable physical form, with little chance for the user (householder) to directly contribute to its realization, with limited opportunity to explore the possibilities offered by his new environment, or a choice in the way he can formulate new goals.

For the architect this represents an impasse; he cannot design for

conditions now without his work being unsatisfactory by the time of completion, nor propose an alternate set of values (his own) for the determination of the environment without losing contact with the reality for which he is working. At best he is an expert technician who can provide the necessary information relative to specific problems (windows, structure, doors, roof) and abstain from making value judgments. On the other hand, his ability as a technician hopefully will enable him to participate in a process wherein the value judgments are collective, and his contribution to shaping these values equals that of the other participants. Concurrently he can work toward transforming those values into statements of possibilities and models of ongoing processes.

As an aid in structuring information and goals, I am relying on a physical interpretation of urban fabric--the Candilis-Woods proposal for the Free University of Berlin.¹⁷ This represents both a statement of possibilities and a point of departure. Much of their plan depends upon the subsequent interpretation of activities and forms by any architect (or for that matter, any one of the users) and the control of the system not through overall formal patterns, but through the intrinsic relations between uses, spaces of different function, their service requirements, and pedestrian circulation.

At no time can the general pattern of activities be fixed, nor the patterns of association entirely circumscribed within a particular social and physical fabric. The design of an elementary school within such a fabric presents two scales of problems, both depending on the intrinsic

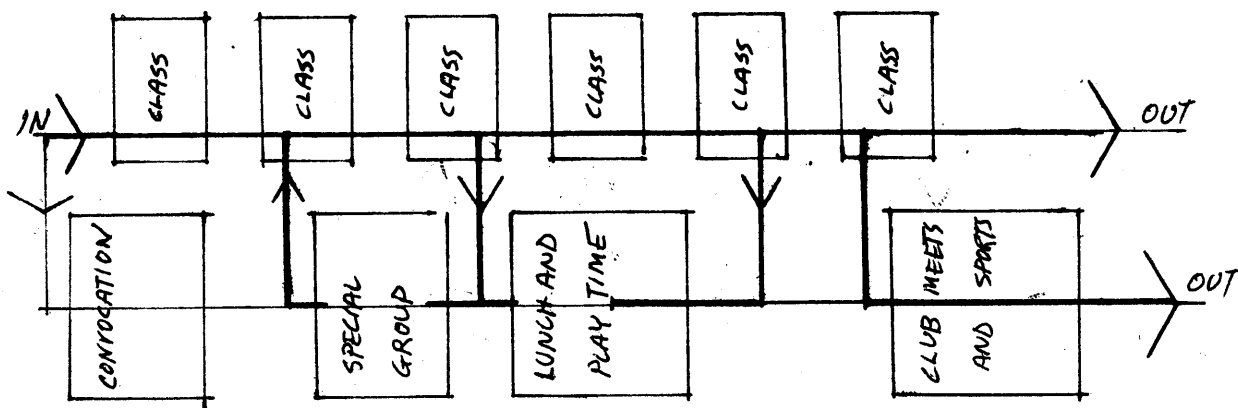
association of activities and spaces but differing in extent:

- 1). The dimensions required for the communal facilities are larger than those usually employed for classrooms, stores, housing, and offices. This is also true of the open space, playground, and outdoor sport facilities. The larger facilities also require acoustical separation from the bulk of the housing.
- 2). Planning for the school must go beyond inclusion of existing commercial and residential fabrics. It must develop more intensive use of the area, with implications for the plan of the entire renewal area, including the proposed Inner Belt and the Campus High School. Either the entire area is actively planned, or in the school plan is implicit a solution to these problems.

Since both of the above problems deal with complex relationships among types of activities and space allocations, it is important to clarify which activities must be closely linked and which are free of any direct and close connection with the others.

Classrooms and communal school facilities are connected according to the patterns of school program activities, in one of the following variations.

SCHOOL DAY - POSSIBLE PATHS
Size of Arrow and Width of Line Indicate Major Patterns



In the form described, the daily patterns are closed and under close supervision. The student follows a discrete program and has little or no contact with his community during the day except for fieldtrips, after-school hours, or through special events such as exhibits, performances, visiting groups, etc.

Commercial establishments depend upon both a local clientele (proximity to housing) and persons brought to the area by transportation facilities. The local corner enterprise is distinguished by its different clientele from the agglomerate around the subway stations, the bus stops, etc. At least three scales of facilities are involved. The first is the large "regional" community shopping area, of service to everyone, located along a route of maximum traffic. The second scale comprises smaller, more specialized concerns which depend upon impulse buying or periodic shopping ventures, such as clothing stores and appliance centers. The third category includes specialty shops and local suppliers. A fourth category would include professional services, though the latter tend more and more to be displaced from traditional commercial centers and community locations in favor of professional centers, often located in terms of available land rather than nearness to public transportation.

The automobile is largely responsible for this shift as well as the diminishing patronage of the corner stores and local suppliers. The strong organization of Washington Street ^{will} keep it from succumbing to competition from some shopping center. It is more than a shopping street. It is the focus for business transactions, community information,

strolling, and other activities, and is a part of the local night life.

The scales of facilities imply a hierarchical organization, although they can be organized so as to reinforce each other's presence. For this, one must develop a process for easily changing the boundaries between these categories of use to accomodate shifts in the demand for space. The problem may be further complicated by inclusion of housing into the system, although traditionally housing has been considered as a separate topic.

Before going on to a discussion of housing, we need perspective on the problems to be encountered. Along Washington Street there are two basic structures--the row house, which rises to four or five stories, and the typical one-story medium span commercial structure such as may house a supermarket. The latter structure is employed whenever the scale of operation calls for a large store, 1000square feet or more. Otherwise, offices and small retail stores are housed in the first two or three stories of the row houses. Above these there are residences, unfortunately few in number and very near the elevated trains. This pattern of buildings is almost always found in local community centers. Often an office building is included, built with load-bearing exterior walls and interior columns and framing. The ground floor is subdivided into small rental offices and retail shops. Housing is rarely included.

The chief drawback of such a combination of buildings is a lack of even distribution of activities and an inability to easily accomodate large and small retail stores, offices, housing, community facilities, and

civic organizations. The latter especially must seek a building or a site away from the center and its higher land prices. Because of this, the effectiveness of these organizations is lessened; they are not immediately accessible to the greatest number of people in the community. Owing to the differentiation of building types, there is little change ~~on~~ the re-use of space except by another similar establishment. Such a change would demand that the structure be substantially modified or replaced to accomodate a different category of use. This situation makes for an inefficient process, a great expenditure of money, a loss of time, and disruption of the general patterns of movement and association each time a substantial change is made.

Two housing types exist in the area, distinguished by their structural characteristics and their relation to the land and circulation. The row house, built parallel to the street with a back alley and yard for service, has proved to be the most economical to build but imposes the greatest constraints on internal flexibility and arrangement of spaces. In the South End and Roxbury row houses have been converted to single room or single story apartments under the promise of providing lower cost rentals for the single, the poor, the old, and transients. Because of their structure, there is no possibility of horizontal change and expansion. This has proved highly limiting in supplying the space needs of commercial and office concerns which want more than one room or one story.

The second type of housing, built by the Boston Public Housing Authority, is characterized by court arrangements of three-story walkups

which are sited indifferently with respect to major streets and park spaces but are planned to offer a choice of one- to four-bedroom units. The shortcomings of these developments have been that they were considered as isolated entities, with little regard to integrating their forms with existing buildings or to providing minimal commercial and service facilities. On the positive side, these units are layed out so that the courts are always under direct supervision of parents, are set back from streets, and act as communal meeting places for the elderly, the women, and children coming home from school. This is a great improvement over the street corner and the back alley.

A critical issue in planning housing is the range and extent of communal spaces, their use and control, and their relation to traffic and to commercial activity. They act as the basic type of gathering place and certainly represent its most common and everyday form. Without falling into romantic references to medieval courtyards, piazzas, and the common patios of Greek island towns, one can seek the equivalent of such courts in the present patterns of association. For children the provision of play spaces, some of them equipped, offers a valid alternative to the streets and marks the place where peer groups and associations beyond the experience of the home are found. These associations among children soon extend to the playground, the school, and other areas of the city. The courts of one neighborhood become the "reception" areas for children visiting outside of their own particular area. This function is seconded only by the local stores and gathering places along the streets, which appeal to the older

children and the adolescents. For the mothers and elderly, the courts represent the transition element from their dwellings to the public domain. The inclusion of commercial facilities extending from the edge of one such court to the street would clarify this transition and perhaps bring more people in contact simultaneously with children, greenery, shops, and neighbors. I am not advocating a garden city development nor an updating of the public housing schemes, but rather a vocabulary of types of spaces and associations which can act as determinants in providing a richer and more varied housing environment. To this end, one must work with the existing patterns and propose alternatives.

Up to this point, the discussion has focused on how the existing environment can be used as a basis for design proposals. It has included the patterns of commercial activities, housing, local commercial services, and religious groupings. A larger possible range of activities has not been considered. The purpose of the discussion was to show how the present environment is used, how it can be intensified, and how it can form the basis for continuity between existing forms and future developments.

Class Groupings and School Size

Since curricular differentiation is the basis for the non-graded system, groupings of students will depend on four basic considerations, most of which are applicable to the upper primary (grades 3 to 5) and intermediate levels (grades 6 to 8):¹⁸

1. Ability groupings whereby class groups are subdivided according to general criteria of learning capacity.
2. Achievement groupings, with flexible groups established on the basis of pupil attainment in one or more skills or curricular areas.
3. Informal groupings on the basis of student interests.
4. Groupings according to the degree of independence, self-motivation, study skills, or other work habits developed in individual pupils.

There are several specific architectural parameters available to meet the above groupings, centering around specific service or technical systems, general information sources, and spaces which though devoid of special equipment, function to isolate groups because of possible noise and nuisance which could disturb the rest of the school. An arrangement of informal "grouping spaces" which can house between six and twelve students, have access to storage and materials, and be open to the exterior, is assumed to be flexible enough to permit recombination into large group spaces when needed, with little effort. This can be done by an openable partitions and a change of chair orientation. The groups will

vary in size. The lower primary levels will have smaller groups of 12 to 24 students, while the upper primary and intermediate school can range from medium to large size groups of 12 to 48 students, depending in the particular activity of the day and the subject under consideration.

It is foreseen that the total population of the school will increase considerably over a short time, so that a principal requirement of this initial stage is to organize the program as a system which can grow and extend in two ways. The first is by local growth of certain specific spaces in response either to the need for another similar type of space or the local reorganization of the system to meet new educational policies. The second type of growth involves extension or contraction of the system as a whole, as with an entire grouping of class spaces and service facilities. I shall term the first type of growth "intensive" and the second "extensive!" In general, both the intensive and extensive growth will have implications for the mixed-use matrix.

Implicit in the above demands is the notion of a basic planning unit which contains the necessary space and services for a learning group. Coordinate with it is a set of rules showing how the units are to be combined and used to generate both the spatial pattern of the school and the location of special facilities and services for the entire school population. At the same time, the planning unit will respond to the specific context by its dimensions, orientation, scale, form, and ability to be recombined and employed at a later time as housing or retail space. In asking the unit to accomplish so much, I have both circumscribed the problem and extended it,

namely by not permitting the school form to become an isolated event, by obtaining a check on it through the similarity in scale and function which it must have as house, office, store, or schoolroom. Nevertheless, it might also be possible to consider the school in isolation, completing its design, and then checking the compatibility of dimension, form, and organization with possible housing and commercial configurations.

A projected elementary school for 550 (kindergarten - 5th grade) would mean a total of 820 students if the intermediate school (6th - 8th) were included. The older students are potentially a stabilizing force in school groups, aiding the establishment of patterns of association within community activities of the school-community matrix (especially for the teenagers). Excluding the kindergarten population, which can be dealt with as part of the day-care center, we are left with about 750 students whom we can then divide into subgroups to obtain a first estimate of the unit size and its over all space requirements.

Table 1. Section population; one section is 48 students.

Section	Class distribution	Group size	Proximity and combination
1	1-2, 2-3	12	two groups maximum
2	3-4, 4-5	12 special subj.24	close contact with group; special subject groups with older children
3	5-6, 6-7	nominal 24-30 subgroup 6-12 special subj.48	time spent between individual or subgroup projects and large group instruction
4	7-8	same	same

A large planning unit, made of four sections of 48 students, with the required facilities, can function for 192 students plus staff. Each section has three or four teachers, and the large unit has an administrative staff of assistant principal, secretaries and clerks, athletic supervisors and janitors. The following table gives the range of population as a function of sections.

Table 2. Population distribution.

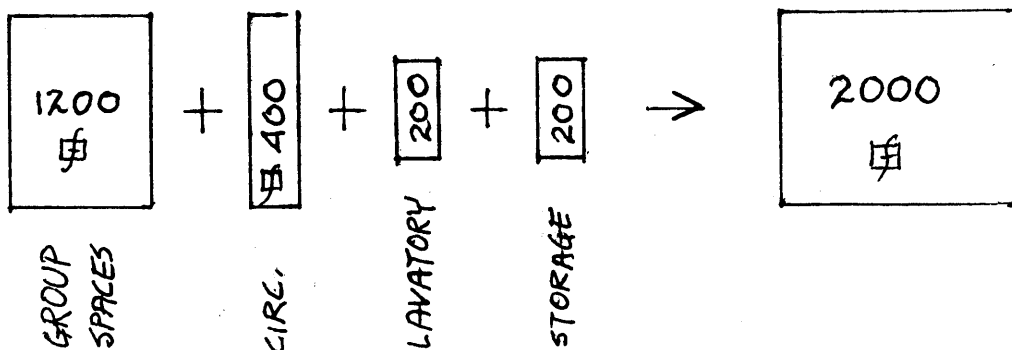
Description	Sections	Students	Students: Teachers	Total Teachers	Administration	General Staff
closely guided little groups; instruction to whole class	1	48	1:12	4	assistant principal per unit of 192 students; basic staff of 3 secretaries and clerks	1 nurse, 1 athletic director, 3 janitors, custodian, and part- time maintenance men
special subject instruction; free group and single activities	3	48	1:16	3		
	4	48	1:16	3		
Total unit		192	1:14	14	as listed above	6+ (as above)
Total of 4 large units		768	1:14	14	4 times the above plus principal	depends on com- munity use

Although the exact requirements of one section depend on the inclusion of all equipment and services necessary in the group units (unit-A's, with 24 students, half a section), a rough estimate of the section can be made from the following considerations:

1. State codes prescribe 25 sq. ft. per student of study-work space, exclusive of circulation, sanitary facilities, and communal areas.

2. Sanitary facilities for about 200 students include 12 toilets for girls, 8 toilets and 10 urinals for boys. This is about 30 sq. ft. per bathroom, including one toilet, one urinal, a washbasin and passage space.
3. The space devoted to circulation is estimated as 33% of the total study area. The exact figure depends upon the use of corridor space for exhibitions, lounges, part of class space, eating areas, etc.
4. No useful guidelines for general storage and coat areas exist, though an area approximately equal to that for sanitary facilities is a good starting point.
5. The combination of study groups and class spaces does not significantly alter the area requirements as compared to a normal classroom type school.
6. The state requires a minimum of 45 sq. ft. of play area (exterior) in city schools. This is inadequate for baseball/softball fields and equipped playgrounds.

Table 4. Estimate of area requirements, Unit-A and section.



Area of Unit-A is 1000 sq. ft. Total area (4 sections) is 8000 sq. ft.

The following lists of equipment are adapted from the Design Requirements and Limitations for the New Elementary School,¹⁹ published by the Physical Facilities Department of the City of Boston, and the report on the Eveline Lowe Primary School, London. These lists are guidelines for establishing the characteristics of the single group spaces in the lower and upper primary units:

Serving Groups of 12

sink - general "wet" area and cleanup

shelving - adjustable, within easy reach, with marked compartments for each child

tack space - within easy reach, about 3 sq. ft. of display space easily viewed from corridor or group area

reading corner - no special equipment other than low window seats, bookshelves, good lighting, away from circulation

chalk boards - for use in group teaching; near teacher's desk

teacher's desk - with books and storage adjacent; near quiet area to favor private discussions

child's table and chair - tables for groups of 2, 4, 6; adjustable chairs, easily stacked

Serving two Groups (a Unit-A)

kitchenette - area to experiment; part of lunch program; at child height

display - cases, tack boards, and shelves for children's work and educational exhibits; visible from exterior

walk-in storage - for chairs, desks, etc. and class equipment

coat and boot closet - easily accessible from outside, near bathrooms and isolated from quiet areas

arts and handwork corner - special messy area for large projects; near coat room and bathrooms; optional for unit of 24 students

special task tables - for work in sciences and math; part of single groups but isolated from active play areas

bunk beds - in quiet nap area which can also serve for quiet group discussions and storytelling area; optional for Unit-A but can have one area for lower primary

sofas - part of reading corner equipment and display areas; optional for most units; special study corners

play toys and furniture - part of lower primary equipment; interspersed with tables and reading corners

Factors Affecting Relations Among Unit-A Groups

Aside from lavatories, storage closets, kitchenettes and coat-rooms, all of which serve groups of 24, there is a specific differentiation in equipment between the lower primary and the upper primary and intermediate levels. The major differences center around the change in course structure, with the program geared to more concentrated study, special teaching sessions and areas for individual study and research. The normal requirement of furniture is reduced to desks for 2 or 4, a quiet reading corner, and areas for special equipment and instruction.

Seminar rooms for 24 to 30, arranged to be isolated from main circulation and noisy areas, will also be necessary.

One lecture room, which can accommodate 48 or more, should be provided with sound and projection equipment. This room must have dual egress, a special storage area, and should be used independently of other classes and group activities. It should be part of the upper primary and intermediate levels.

Verandas, porches, and covered play areas should be directly accessible from two or more group areas. Part of these should have provisions for being completely operable in summer. Outside areas are defined in the following three ways, according to equipment, ease of supervision, and the need for large sports areas:

- a. Areas where outside classes can be held, with partial cover from rain and sun.
- b. Areas with playground or gymnastic equipment. Easily supervised

by teacher inside.

c. Areas of free play and team sports. Direct access to infirmary suggested.

Maintenance and service facilities such as janitors' closets, furniture storage, and workrooms depend upon a maintenance schedule and accessibility from outside service routes.

Exhibition areas, display cases, lounges, and eating places will depend upon location of communal facilities and administration, and the inclusion of commercial and community services from the matrix of development.

We can assume that the patterns of association within the Unit-A's will depend entirely upon the specific studies and tasks assigned. The patterns possible between Unit-A's and through the communal areas are not so self-sufficient but will vary according to the degree of public contact, size of groups, and proximity to public facilities such as shops, library, theater, and restaurants. It remains the object of the first phase in design to determine which activities are congruous with school life and what patterns these generate.

Requirements of Communal Facilities

General Auditorium - seating for 400. Intended primarily as a movie theater for the area, it can serve the needs of community organizations and general convocations of the school. Provisions for simple stage productions. Access is from both the school and directly from the street. Dual egress and fireproof construction are required.

School Hall - small, multipurpose hall for convocations, games, community meetings. Folding seats for over 200 persons.

Library - intended mainly as a community library, but it must be accessible from the school. Small-scale furniture, children's reading corner, school librarian. Will function year-round and have ample storage space, about 2500 sq. ft. total, with 1000 sq. ft. devoted to the children's section.

Eating Hall - doubles as community room. Adjacent to library. Special service facilities which can be closed off from the school area when not in use. Accessible from both street and school. Space for 200 initially. Must expand directly with school population through the construction of another section.

Music Room - choral and instrumental sections, with storage areas for instruments and equipment. Sound isolation required, but room must be centrally located. Choral room 400 sq. ft. plus five instrument practice rooms of 80 sq. ft. each.

Infirmary - either functions as a separate facility close to the playground or is part of the Clinic and Day-Care Center. Space for one nurse, a visiting and medication room, and lavatory (150-200 sq. ft.).

Gymnasium - intended mainly as a community facility working either as an MDC facility or through a youth organization such as the YMCA. As such, it must be directly accessible from the school in bad weather and possibly open to the playground and track. About 8000 sq. ft. is required, exclusive of lockers and showers. This facility can also be planned as part of the Madison Park Campus High School. It can serve the school at a later date as part of an expansion program.

Arts and Projects Space - equipped to serve the upper primary and intermediate levels and open to the community as part of a training program set up by industry. Children are first acquainted with simple tasks and tools. 1000 sq. ft. is for the children's program. At least 1500-2000 sq. ft. is needed for wood shop and machine shop. The latter requires lavatories, a locker area, and a shop instructor. The location of this facility is not critical. For the training program, the shop must be directly accessible from the street, easily serviced, and identified with one of the community organizations (OIC, etc.).

Administration and Community Organization

The school administration and representatives of local community organizations must work together in structuring the school programs and providing adult training and guidance. The problems of the joint administration concern the scheduling of activities, the use of communal facilities, and the management of the physical plant. An extension of this task might include setting up a special management concern to run the complex of stores, service facilities, and the attendant allocation of space which such a matrix of activities would require. These facilities must be easily accessible from main circulation (Washington Street or Shawmut Avenue) and central to the school facilities.

Requirements of Administration and Community Organizations.

Administration includes offices for the principal, his assistants, secretaries and their desks, a teachers' conference room, a staff lounge with storage and lavatory, and a depository for school documents. Much of this area must have access both from the school and from the exterior.

The community guidance center comprises a receptionist area, five private offices, a seminar or work room, and storage and lavatories. A small library and reading area might be included. Provisions for expanding the area will make it a part of the general office rental space. There are no particular requirements for connections with either school or community facilities, since the guidance center administers but does not necessarily carry out directly its programs.

A large part of the community program is centered on a free clinic, a day-care center run in conjunction with the Boston City Hospital or the Tufts Medical School, and a nursery-kindergarten functioning in parallel with the school. These activities require a location close to transit stops, major pedestrian routes, and outdoor play space.

The kindergarten - for approximately 100 children - requires about 1500 sq. ft. distributed according to active and quiet zones. The quiet zones contain small beds and chairs for children to rest. For this number of children, perhaps six to eight nurse-teachers are needed. It is best to divide the nursery population into subgroups of ten to fifteen children, each group with its own space, sleeping area, and lavatory facilities.

The initial stages of the program will provide space for 50 children.

The clinic and day-care center need approximately 1000 sq. ft for visiting and medical services. A waiting area is provided with seating for twenty. At present the program is limited by population. Provision is made for this facility to grow considerably.

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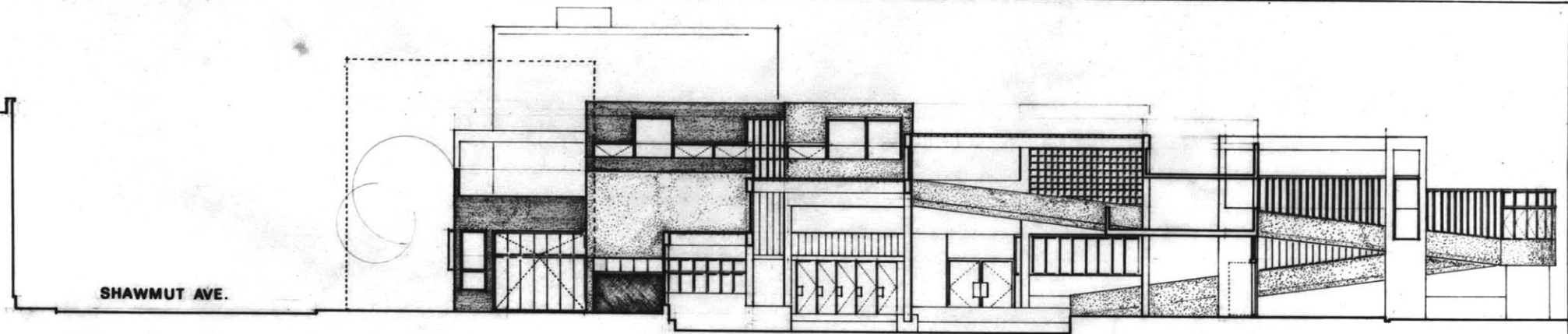
1. Habitable means not only the empathy between user and his space but also the quality of this space due to the user's manipulation and changes. Also the ability to respond to space is assumed. Leonardo Ricci speaks of "spazio/vivibile" - livable space.
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5. California schools report suggests that three acres is the minimum desirable, regardless of school size. This is strange, considering that not all children will be playing the same games at the same time.
6. Compare with administrative and allocation programs for Cumberland England, and Reston, Virginia.
7. Goodman, Paul. Utopian Essays and Practical Proposals, pp. 150-151.
8. Gans, H. J. The balanced community: homogeneity and heterogeneity in residential areas. JAIP 27: August, 1966.
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10. The Autobiography of Malcolm X, Crisis in Black and White, and Black Power all are pertinent.
11. Adapted from Design Requirements and Limitations for the New Elementary School. Public Facilities Department, City of Boston, 1968, Section 3.
12. See Edward T. Hall, The Silent Language.
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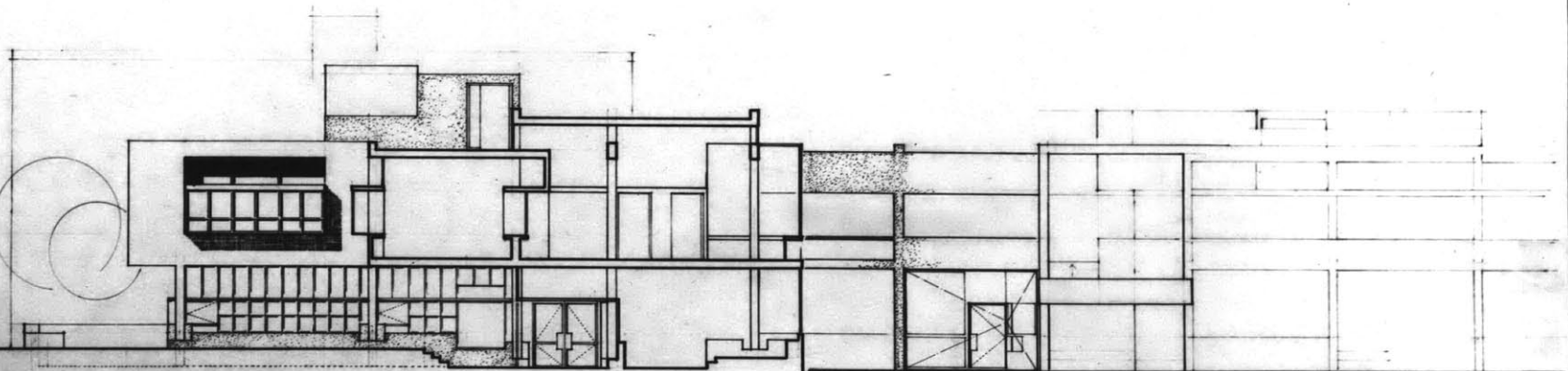
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SHAWMUT AVE.

SECTION B-B

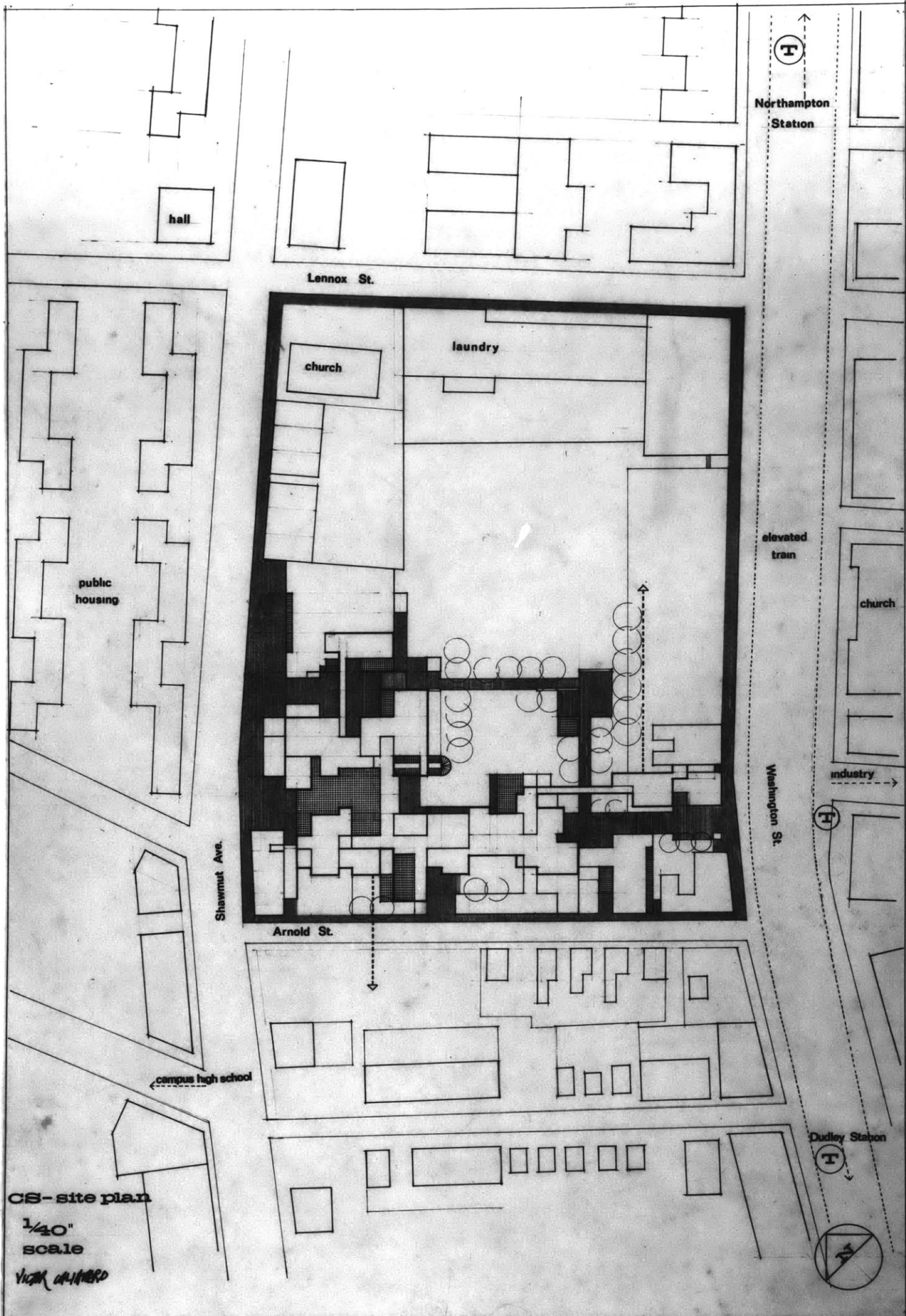


ARNOLD ST.

SECTION A-A

CS-sections

1/8" scale *THORNTON*



T

Northampton Station

hall

Lennox St.

church

laundry

public housing

elevated train

church

industry

Shawmut Ave.

Washington St.

T

Arnold St.

campus high school

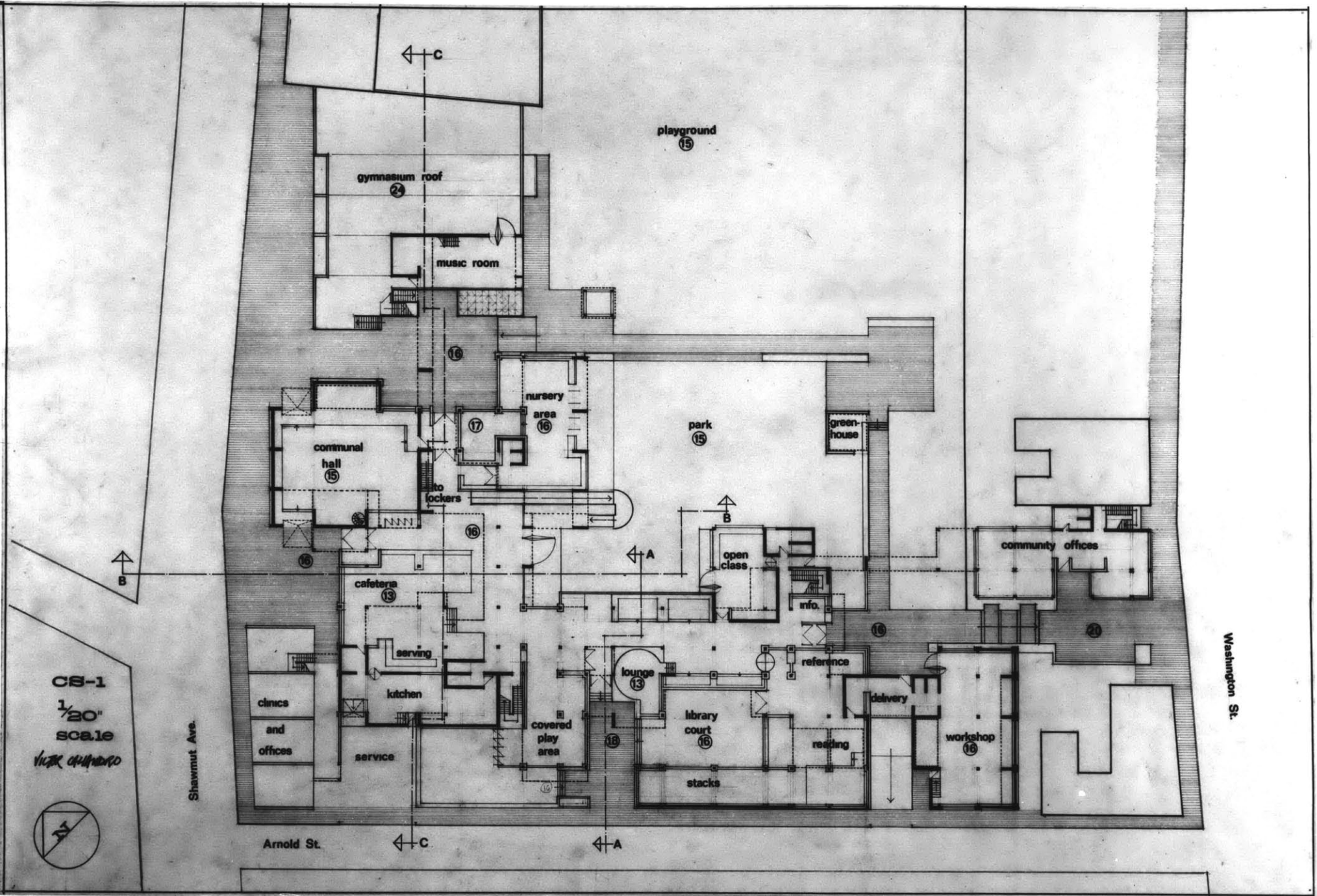
Dudley Station

T

CS - site plan

1/40" scale

VICTOR CALABRO



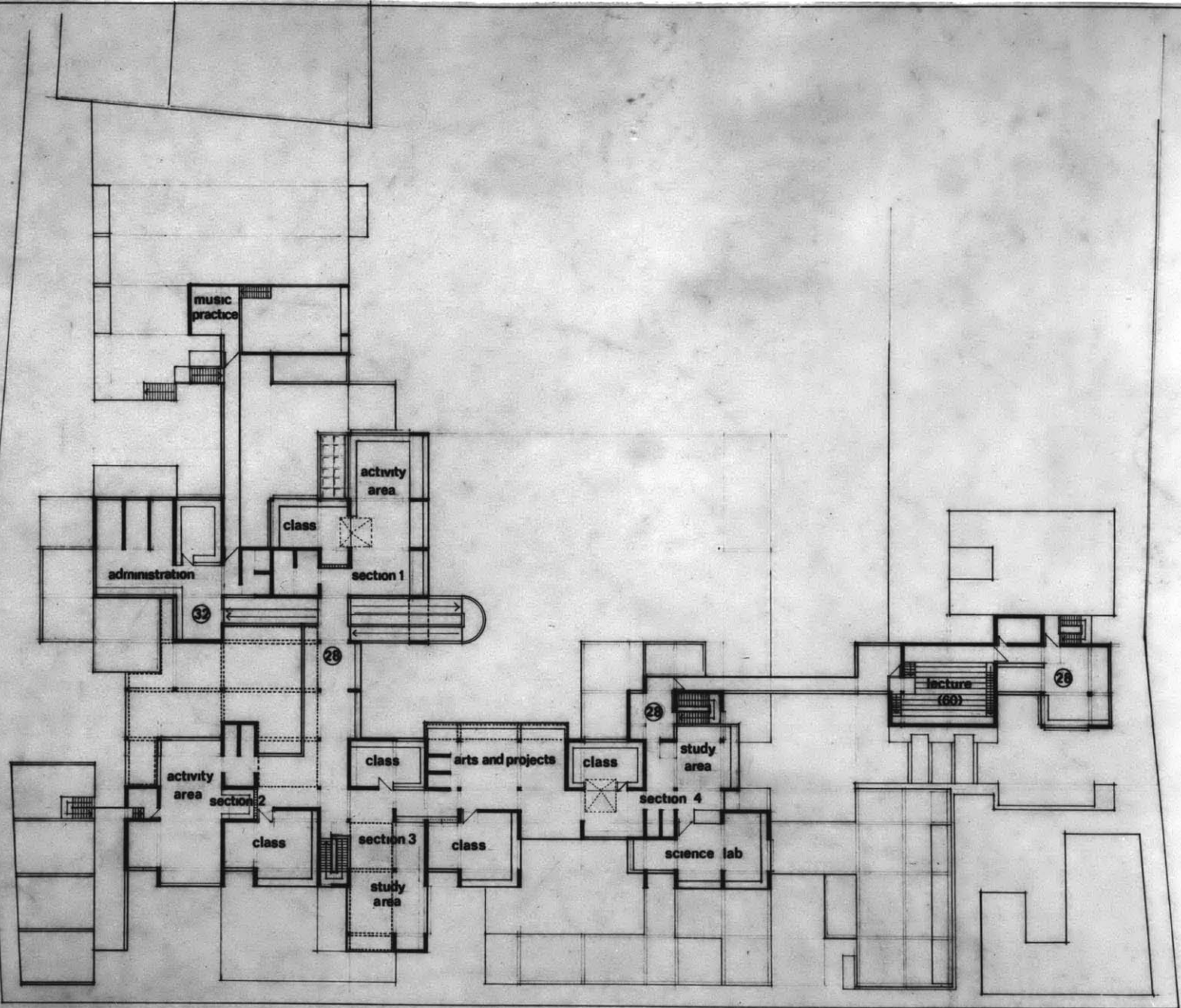
CS-1
 1/20"
 scale
 VICKI CHANDLER



Shawmut Ave.

Arnold St.

Washington St.

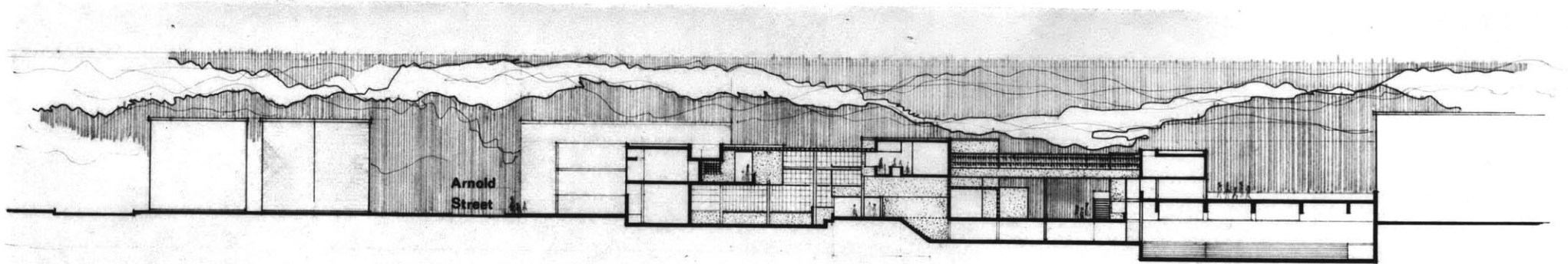


CS-2

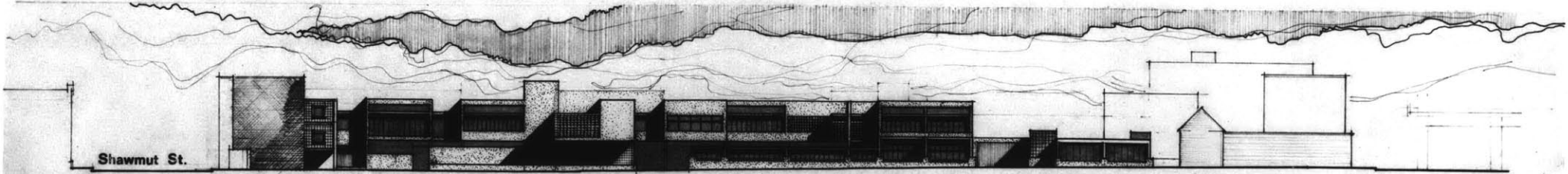
1/20"
scale

VICTOR CAMARERO





SECTION C-C



ARNOLD ST. ELEVATION

CS-section, elevation

1/20"

scale VICTOR CALABRO