planning a better school landscape

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All photographs except those on pages 4, 6 (middle), 15 (bottom), and 16 show the work of Dean & Novak, Landscape Architects.
PLANNING A BETTER SCHOOL LANDSCAPE

By W. R. Nelson, Jr., and J. A. Porter

Selection of a suitable site and its subsequent development are very important steps in the construction of a new school. This publication points out elements in site planning and landscape development that must be considered if the school complex is to be functional and esthetically pleasing. Complete designs are not included because of their complexity and because each development must be handled individually by a landscape architect. Our concern is with the development of the outdoor area that surrounds a school building.

Your community probably has one or more schools surrounded by an expanse of asphalt that is supposed to serve as a playground and recreation area. Schools are also often located near busy streets or noisy industrial areas. These things can be avoided if they are considered in the planning of a new school. Keep in mind that a school exists for pupils. The learning process is aided by pleasant surroundings and it is a mistake to ignore landscaping and only concentrate on classrooms and the physical plant.

There are several steps that will be included in planning for your new school and its grounds. Each of these steps should be carefully considered with the assistance of a competent landscape architect. The three main steps are:

- Determining what facilities your school will require.
- Selecting a site to fit your needs.
- Designing the site for most advantageous use.

Each of these steps is discussed below. Remember that it is your obligation to the pupils, teachers, and taxpayers to obtain the best available site for a new school and then to plan to build the best school complex possible.

**Determining Your Needs**

A school’s curriculum includes many activities outside the building. Because of this, proper site design is essential to achieve efficient use of land and to have a good relationship between areas inside and outside the building.

The types of facilities that will have to be located on your school grounds depend on the school’s grade level, the size of the enrollment,
These photographs show two typical school-ground developments. The school in the top picture occupies almost all of the site and the remaining area is all paved. The school in the bottom photo has a large site but all of the open space is paved instead of being landscaped. With this much land available, playgrounds and areas for nature study with trees and shrubs should have been included in the design.
the curriculum, and the extent to which the school's facilities will be used by the general public during non-school hours. The school board, school administrators, teachers, the landscape architect, architect, and other special consultants should cooperate in studying population trends, the community's characteristics, and curriculum needs in order to decide exactly what facilities will have to be included. Such collaboration is essential because no single individual or board can solve all school-planning problems and because how well the school will eventually serve the community will to a large extent depend on how well it is planned.

All schools should have play fields, areas for passive recreation, and equipment for physical education. Since you cannot hope to provide facilities for all possible physical education activities, the types of play fields and courts that will be included in the school grounds should depend on the school's grade level and on the intended physical education curriculum. For example, a high-school complex will probably include a football field while a school with kindergarten and the lower grades will need tot lots, swings, teeter-totters, and similar equipment.

It is a good idea to provide outdoor classroom space and nature-study areas. Such facilities can make classes in botany, biology, conservation, and agriculture more meaningful and also give pupils a chance to study nature independently. You may wish to plan to construct some kind of a small outdoor facility where pupils can present plays or band concerts. Such an area may also be used for assemblies and graduation exercises.

Carefully planned, well-designed roadways leading to the school entrance, to parking lots, and to service areas are a necessity to insure safe traffic circulation on the school site. Ample parking lots for faculty and visitors should be provided and student parking facilities will be needed for high schools. Special areas, separated from moving traffic, where school busses and private cars can safely and easily leave and pick up pupils must also be included in your planning.

Since many children will ride bicycles to school, provisions should be made for the riders' safety. On a large school development it is possible to build special bicycle paths to separate bicycle traffic from automobile traffic and pedestrians. Sometimes bicycle paths can be constructed along streets that lead to the school. Sturdy but well-designed bicycle racks to take care of all the pupils' bicycles should be provided in a safe, convenient place near the school building.

School grounds that include trees and shrub plantings generally enhance the appearance of the area. These can be used in conjunction with the outdoor classrooms and nature-study areas discussed above.
The area near the entrance to the school must be carefully designed to provide safe pedestrian access as well as space for bus and car loading. The two top illustrations show such designs. The bottom photograph shows a carefully landscaped parking area located on one side of the school building. The parking lot is enclosed by plantings to screen the area.
A well-designed school landscape helps to create in pupils an appreciation for beauty and improves their attitude toward learning. It also gives the community a school development to be proud of.

Selecting a Site

Selection of the school site is one of the most important steps in planning for a new school because the site will serve as the school center of the area for years to come. In selecting a site, you should take into account the possibility of future expansion. With the number of school-age children increasing yearly, it is likely that you will want to add to your physical plant in the future.

The site should be located as near to the center of the area the school is to serve as possible. The size of this area will vary according to the school’s grade level. An elementary school will serve a smaller area than a high school because elementary-school children cannot be expected to travel as far to school as high-school students do. The school should also be conveniently located for use by the general public in attending such events as ball games, band concerts, dramatic productions, and perhaps evening classes for adults.

The school site you select must be large enough to accommodate the various facilities you want to construct on it. There must be enough

The area around this school building has been carefully landscaped to provide a stimulating environment for students and teachers. Careful attention has been given to provide interesting combinations of foliage, color, and texture so that there is something interesting to see at all times.
The schematic diagram above shows the various use areas on the school grounds and their relationship to one another. Notice that areas that will be used by the public and that require outside access are grouped together. The study area is located away from traffic. A recreation area for smaller children is located close to the school while an area for running games is located away from the study area.

The site-use plan on the next page is a more fully developed version of the diagram above. (Notice that the design on page 9 is turned 90° from the drawing on this page.) Parking areas are on level ground and are located next to the auditorium and administration area. In this location they have good access, can be easily serviced, and serve as a buffer between traffic and the study area. The tot lot for smaller children is screened from the street by plantings. The area for running games is on level ground and far enough away from the classroom area so as not to disturb pupils. An area for nature study is provided by preserving the wooded area near the top of the drawing.

Plans such as those shown in these two drawings will be used by your landscape architect to provide all necessary features on your school site and to use the site as advantageously as possible.
room for the school building or buildings without using up space for recreation facilities, outdoor classroom space, and space for parking lots and landscape development. Some space should be reserved for future expansion.

Study the general character of the area around the proposed site. If there are industries nearby that produce distracting noises or odors, see if there are any ways to alleviate the problem. If there is a highway or a heavily travelled street near the proposed site, make extra provisions for childrens' safety when they walk across the street or ride bicycles on it. You should also consider the ease of access to the site and the availability of water, sewers, and electrical utilities. Zoning regulations and any proposed future construction on surrounding properties should be investigated to be certain that they will not be in conflict with the school and its activities.

Attempt to find a site that has pleasant views, wooded areas or at least some mature trees, rock outcroppings, and other interesting landscape features. If you are fortunate enough to obtain such an area, make every effort to preserve these landscape features and integrate them in your site plan. They can later be used for nature study by pupils and for outdoor classroom space and recreation areas. They will also enhance the appearance of your physical plant and help make the school area a real credit to the community.

Your landscape architect should make a site survey during the site-selection process. Such a survey, in the form of a site analysis plan, will locate and identify all important features present on the site in relation to each other and will provide a basis for deciding where to locate various buildings, roads, and other facilities of the school complex. Topography, views, prevailing winds, sun orientation, nearby distractions, access to utilities, and approaches to the site will all be considered in the site survey plan. The objective of site planning is to develop a proper relationship of all elements of the project to each other in order to attain efficiency, economy of development, and overall attractiveness on the site.

After graphically showing the relationships of the various elements on your school site to one another, the site plan is developed to show how you can avoid costly expenditures for clearing, grading, drainage, and subsequent maintenance by incorporating the natural features of the site in the school complex. Preservation of these features will also allow you to retain the original character of the site. In order to obtain the best possible site plan, your landscape architect should work closely with the architect.
Interior courts of school buildings should be designed esthetically and functionally. The top photograph shows a court with two different surfacing materials and some interesting boulders. The Sumac trees add additional interest. The court in the bottom picture has been roofed over with glass and is used as a biology demonstration laboratory.
The drawing on the facing page shows a well-designed grade school courtyard. The area is for younger children and is separated from play fields for older children. Letters on the drawing indicate where the photographs on this page were taken.

Photograph A shows a sculptured concrete turtle and some wooden blocks near a sunken sandbox and story-telling area constructed around a large tree.

Photograph B shows how the play area has been constructed to include a variety of equipment for climbing and jumping. An area such as this enables children to use their energies safely and creatively.

Handsome but simple benches and plantings have been placed around the courtyard as is shown in photograph C. The trees serve a dual purpose, shading the courtyard as well as softening the architecture and providing shade for classrooms.

At the opposite end of the courtyard from the play area an outdoor stage has been constructed. This stage, shown in photograph D, can be used for organized programs as well as spontaneous play. The steps at the front of the stage mask the height of the platform and also can be used for climbing and jumping.

Photograph E shows a structural fence that serves to screen the performers' entrance to the stage. The tree adds additional interest.
Landscape Development of the Site

The school complex should appear to be a unified development, not a haphazard collection of buildings, play fields, and parking lots. To achieve this, the landscape architect will use the site survey plan in locating the various facilities you have decided to incorporate in your school complex on the site. The relationship between the building and the space surrounding it should be developed using appropriate landscape elements such as plantings, ground surfacing materials depending on the intended use of the area, and fences, walls, steps, and permanent outdoor furniture.

The functions of various facilities in the school complex must be considered when they are located on the site. Thus, service areas where there may be distracting activity and noise should be separated from the classroom area. Outdoor play and recreation areas should also be located so that the noise does not interfere with study in classrooms. However, playgrounds for smaller children may be located close to the building so that the children can be easily supervised. It is a good idea to separate playgrounds and fields according to activity and the age level of the children who will use them. All recreation areas must be separated from pedestrian and automobile traffic. If a playground is adjacent to a street, some kind of barrier should be placed between the two.

Outdoor classrooms and study areas should also be located away from noisy playgrounds. These study areas may be placed close to the classroom area so that in good weather children may leave the building to study outdoors. Such areas should be equipped with benches and should be surfaced. Trees for shade and plantings for screening and privacy are also desirable.

Natural features on the site such as wooded areas and rock outcroppings should be preserved and made easily accessible. They are a great aid in education because they give children an opportunity for direct contact with nature and enable them to understand nature and natural phenomena better. Retention of trees and shrubs on the site and proper selection and placement of new plantings also provide a visual screen, give shade, reduce noise, separate different kinds of activities, provide a pleasing contrast with the architectural elements of the site, and generally give a feeling of pleasure and pride to pupils, teachers, and the entire community. Your landscape architect will advise you on how best to use the natural features of the site and what new plantings to consider. In doing this, he will concern himself not only with the esthetic quality of plants, but also with their environ-
Wide sidewalks, benches, and grassy areas such as those shown in the top illustration provide convenient movement patterns as well as places to study or relax. The bottom photograph shows steps designed with a good riser-tread relationship to insure safe and easy movement by users. Notice the simple design of the handrails.
menta l suitability, maintenance requirements, cost, availability, and durability.

Roads, walks, and parking areas on the school site should be carefully located so that they are convenient without being obtrusive. Sidewalks on the school grounds should be placed so that they provide the shortest practicable route from one point to another and they should

Safe, sturdy, and handsome bicycle racks such as those shown in the top picture should be placed on your school grounds. Bicycle lanes like those in the bottom photo separate bicycle traffic from pedestrians and automobiles.
be separated from automobile and bicycle traffic. Since children tend to walk in groups instead of in single file, the walks on a school site should be at least five or six feet wide.

Automobile drives on the school grounds should be held to a minimum and the drives that are necessary should be carefully designed so that they do not present a hazard to children playing in the area. Drives to service areas, parking lots, and loading areas should be designed to connect in the simplest and most direct manner consistent with safety and good design qualities. Approaches to the school should be kept away from major streets. If you plan to construct bicycle lanes on the school grounds, keep them separate from both automobile traffic and pedestrians. Where a bicycle lane must cross a sidewalk or roadway, install signs directing cyclists to yield right-of-way.

Size of parking lots required for your new school will vary according to the school’s enrollment, its grade level, and the extent to which the general public will use the facilities. Parking areas for faculty, staff, and visitors should be located near the main entrance of the school but not directly in front of the building since this would detract from the school and its setting. Student parking at a high school can be located in a more remote place on the site.

Parking lots should have appropriate plantings to screen them, to muffle noise, and to soften the visual impact of a large paved space.

The semi-circular bench near the entrance of this grade school is used by pupils to wait for the school bus and for general gathering and socializing.
A broad and spacious area around the entrance of the school in the top photograph has been paved to provide a place where pupils may gather. Large stones are used around tree trunks to allow air and water to reach tree roots and provide an attractive texture contrast. The bottom picture shows how a retaining wall may be used to provide level space for a patio that can be used for outdoor classrooms and for general gathering.
An area such as this becomes an extension of indoor classroom space because of the large windows in the building. Benches and plantings provide an attractive environment for study and relaxation.

Trees can be planted in islands in the parking lot to provide shade and to add further visual relief. If you plan to use school busses, special parking areas for them should be provided as well as special loading zones installed. It is preferable that all parking lots be paved and marked for self parking. Additional information on parking lots as well as on landscape planning in general may be found in Circular 931, "Planning for a Better Community Landscape," which may be obtained from your county extension office or by writing to the College of Agriculture, University of Illinois, Urbana, Illinois 61801.

Future maintenance problems must also be considered when you plan the development of your school's new site. The landscape architect should consult with school administrators and maintenance people to make sure that any possible maintenance problems are solved in the planning stages. He will also try to select landscape design materials that are durable and attractive but need a minimum of maintenance to retain these qualities. Remember, however, that there is no such thing as a maintenance-free development. In future years you will have to plan to spend funds for maintenance. Otherwise the site will become run down and unattractive.

This circular has provided an outline of the steps to be taken in developing a school site. If the job of landscape design is properly done, the school grounds will be a valuable extension of the school building for physical education, for nature study, and for all types of extracurricular activities. It is poor economy to build a school on a site that will not accommodate the school's outdoor educational programs. With proper planning and help from landscape architects and architects you will be able to develop and realize a plan to construct a school complex of which your community can be proud.