This chapter is one of several dealing with the major user-derived design determinants for the building and the site. As there are several distinct issues to be addressed and distinct stages in the design process, these chapters are divided into site design, organizing principles for the building as a whole, individual space criteria, and other design considerations affecting all activity areas.

Having selected a site for the child care facility, one of the first design steps is to explore the site as a whole and to identify the best locations for the building, the play yards, parking, service, walkways, etc. There are two major issues to be addressed: the siting of the various parts of the overall facility; and the development of the site through the manipulation of landscape materials. Many of the same design principles hold in both siting of outdoor play yards as the siting of the building, and are based on the developmental goals of the children and staff.

Aspects of site design and development which are not particular to the needs of children are not covered here (e.g., the laying of drainage tiles)--any standard reference on site design treats these fully. Included are:

801 Creating Favorable Microclimates
802 Pedestrian Access and Site Circulation
803 Front Yard and Front Porch
804 Obvious Entry
805 Parking and Service Access Away From Pedestrians and Play
806 Developmentally-Appropriate Play Yards
807 Site Design Details
PLANNING OF OUTDOOR SPACES AT A CHILD-CARE FACILITY SHOULD INCLUDE PROVISION FOR YEAR-ROUND USE OF SUCH AREAS.

In planning the relationship of building and outdoor space, climate must be considered. The creation of favorable microclimates will have a positive influence on the amount of use outdoor areas receive.

Microclimates are places which deviate from the general climate on a regular basis—they can vary by being colder or warmer. In winter we seek warmer microclimates: the south-side, protected terrace of a ski lodge. In summer we seek cooler microclimates: a shaded and cool picnic area on the north side of a hill. Microclimates can be a few hundred square feet in size, or they can be whole neighborhoods or even protected mountain valleys.

The two main factors which must be designed for are wind and sun. In a microclimate which is warmer than the surrounding areas, prevailing cold winds are blocked and the sun is captured in a sun pocket.

In a microclimate which is cooler than the surrounding areas, hot gusty winds are blocked and (if possible) cooling breezes are admitted and the area is shaded from the sun.

*Children may not always be conscious of the reason why they sometimes find it unpleasant outside and prefer to stay at home, but we know from investigations carried out that wind has a very great influence on this, especially if combined with low temperatures.* (Bengtsson, 1974, p. 37)

The Department of the Army (1975) has identified on-site features which will affect temperature, wind velocity, and precipitation. For instance, a rise in the land will alter wind patterns to create calm areas, while a dip will hold cool air or create frost pockets.
Since wind problems may be exaggerated rather than relieved by built forms, this is an especially tricky problem.

Sun-shade mixture must be considered from several standpoints. (The requirements for sunshine will change with latitude, season, and climatic zone.) In warm climates, shade is obviously necessary as protection from too-strong sunlight. Further, asphalt, concrete, and sand areas must have at least partial shade to be bearable in hot weather.

In colder climates a sun-shade mixture in summer with full sun in winter is desirable. Alexander, Ishikawa, and Silverstein (1977) cite evidence showing that people in general avoid using areas on the north sides of buildings. Shadows from existing buildings should be plotted at their worst (December 21 in the northern hemisphere) and play areas placed outside these shadows.

Other microclimate considerations include vegetation and open water. Vegetation can affect wind patterns on a site and will also affect sun-shade balance. Further, vegetation can provide significant cooling through evaporation.

In addition to these properties, plants are also useful because they help to purify the air. Polluted air which flows around plants is mixed with oxygen given off by the plants and is diluted. Another beneficial feature of grass and shrubs is their usefulness in reducing absorption of moisture. Because shrubs are less reflective than most paving materials, planted areas remain cooler than paved surfaces.

Design implications for buildings and outdoor areas are numerous. In warm climates, trees provide shade for buildings thus making them easier to cool. In cool climates, removing evergreen trees which shade the building throughout the year and replacing them with deciduous trees can provide summer shade while allowing the sun to warm the building in winter.
Trees also provide wind protection for the children in outdoor play areas. When combined with dense shrubs, walls and building overhangs, trees give protection from chilling winds and rains.

Outdoor play periods can be considerably extended through careful integration of natural elements which screen the sun and wind, cool ground surfaces, and purify and add moisture to the air, with building design features which further modify or enhance on-site weather conditions.

**CREATING FAVORABLE MICROCLIMATES**

CREATE FAVORABLE MICROCLIMATES WHEREVER A CHILDREN’S OUTDOOR USE AREA IS INTENDED.

PROTECT THE AREA FROM PREVAILING WINTER WINDS AND FROM THE EXTREME SUMMER SUN WHILE ALLOWING WINTER SUN TO PENETRATE. SITE THE BUILDING SUCH THAT OUTDOOR USE AREAS ARE IN THE MOST FAVORABLE MICROCLIMATIC LOCATIONS.

**RECOMMENDATIONS**

- Outdoor space should have positive form, i.e., spaces should be partially defined and partially enclosed. Create small, child-scaled outdoor spaces by using the building as a partial defining element and by using berms, trees, hedges, fences, arcades, trellised walks, major play structures, gardens, fenced animal areas, etc. as defining elements. In this way (as in ACTIVITY-SHAPED SPACES) they will look like a place for activity and can be designed to support different group sizes.

- In siting the building, identify positive microclimates: study wind directions, sun angles, and shade conditions year round.
To create a favorable microclimate, manipulate the natural and built environments in the following ways:

**Wind Protection**
- Buildings should be oriented with a closed side toward winter winds; open sides should face cooling summer breezes.
- Use earthforms, dense evergreens, and existing buildings as windbreaks on the side of the outdoor area facing prevailing negative winds (hot and gusty, or cold).
- In colder regions, windbreaks trap snow and prevent build-up on roadways and walkways of the site. Windbreaks or shelter belts are the most effective when placed perpendicular to prevailing winds.

**Sun-Shade Mixture**
- Site the building to capture sunny exposures in the spring and fall, and so that indoor spaces will open directly onto sunny outdoor spaces.
- Ensure that all outdoor spaces receive sunlight. If an outdoor-use space must be created on a northeast or northwest side of the site, this can be achieved by stepping the building down on that side of the site so that the amount of shade created by the building is minimized.
- Play areas and other spaces which rely on visual connection to the outdoors should be planned so that children do not have to look into the sun. Overhangs and other natural shading features will reduce the solar heat load.
- Site outdoor-use areas to have sun pockets and shady areas in both cold and hot climates.
- While areas of partial shade are desirable, they should not become dominant unless the climate is extremely hot and humid, in which case shade and natural ventilation should be important site design factors.
In temperate and cold climates, use deciduous trees (rather than evergreens) within the outdoor-use area and near the building; they will provide shade in summer and will not block sun in winter and early spring.

Vine coverings on walls and trellises act as temperature control devices by providing a shade cover which cools the immediate surface.

Providing trees, shrubs, grass, and open water will cause significant cooling through evaporation.

Other Considerations

Place surfacing materials so that heat collectors (asphalt, sand, concrete, etc.) will not be in direct mid-day sun in hot weather.

Provide good drainage in order to make the outdoor-use area more usable after rain and in the spring.

Place surfacing materials so that the surfaces which dry most quickly (paving) are closest to the entry to the outdoor area, and those which dry more slowly (dirt, grass, sand) farthest from entry.

See the American Institute of Architects Research Corporation (1976) for further suggestions.

RELATED ITEMS

DEVELOPMENTALLY-APPROPRIATE PLAY YARDS
FRONT YARDS AND FRONT PORCHES
PORCHES AND DECKS AS ACTIVITY SPACES
PARKING AND SERVICE ACCESS AWAY FROM PEDESTRIANS AND PLAY
ACTIVITY-SHAPED SPACES
INDOOR-OUTDOOR RELATION
ISSUE
PEDESTRIANS NEED SAFE, CONVENIENT SITE ACCESS POINTS AND CIRCULATION PATHS WHICH ARE SEPARATE FROM AUTO TRAFFIC. FOR THIS DESIRED GOAL OF SAFETY, A MAJOR DESIGN OBJECTIVE IS TO SEPARATE PEOPLE AND TRAFFIC.

JUSTIFICATION
It is a common occurrence that wherever they are permitted, automobiles tend to dominate the landscape. Parking areas and access roads which accommodate on-site traffic can easily become a major focal point if not carefully considered during the design process. Due to the low speeds and relatively small number of cars using them, driveways do not have to be designed for highway standards. With maximum auto speeds of 15-20 mph, curves can have shorter radii and the course of the drive can easily be varied to preserve such natural elements as trees and earth forms.

Pedestrian site access points must be made convenient for parents and children. The walkways must also be kept separate from auto drives. Similarly, the walkway system and the building should be made easily visible to the approaching child. Although shade along such walks is desirable to reduce surface temperatures, dense shrubs which line paths may obscure vision and thus be frightening to small children.

Paving of walks is usually necessary in order to prevent soil erosion and eliminate muddy conditions. In cases where erosion is not a problem, other surface materials such as pine bark or wood chips can be used to create lovely natural paths.

PATTERN
PEDESTRIAN ACCESS AND SITE CIRCULATION

PROVIDE SAFE POINTS OF ACCESS FOR CHILDREN AND ADULTS WHICH ARE SEPARATE FROM AUTO CIRCULATION. DESIGN DRIVES AND WALKS WHICH PRESERVE AND UTILIZE AS MUCH OF THE NATURAL LANDSCAPE AS POSSIBLE.
RECOMMENDATIONS

- Allow pedestrian paths to be dominant on the site by using more desirable and more visible parts of the site for pedestrians than for vehicles, and by blocking parking from view.

- Consider having pedestrian walkways entering adjacent to play yards.

- The building and walkways which approach it should be highly visible. Walks need sun protection but should not be overgrown with shrubs. Where night use is expected, low level lighting will be necessary.

- Paving of the walks prevents erosion and muddy conditions. As paved walks are often popular places for games, they need to accommodate both playing children and adults and children passersby. Where drainage and erosion are not problems, natural surfaces such as wood chips may be substituted.

- A sheltered walkway should lead directly from the parking area to the building.
• See Military Construction Civil Works document EM-1110-1-103, "Design for the Physically Handicapped," Chapter 4, for site design criteria with regard to drop-off points, parking, walks, ramps, and entry stairs.

RELATED ITEMS

SERVICE ACCESS AND PARKING AWAY FROM PEDESTRIANS AND PLAY
FRONT YARD AND FRONT PORCH
OBVIOUS ENTRY
PORTE COCHERE
DEVELOPMENTALLY-APPROPRIATE PLAY YARDS
THE APPROACH TO THE BUILDING FROM PUBLIC SPACE (SIDEWALK OR STREET) CAN HELP TO REASSURE BOTH CHILD AND PARENT THAT THE FACILITY WILL BE "HOME-LIKE" AND CAN HELP REDUCE ANXIETY WHICH BOTH CHILDREN AND PARENTS MAY FEEL ABOUT SEPARATION.

Pollowy (1977) cites research which indicates that young children are more likely to be content parting from parents if they are in a familiar setting. The approach to the building should, then, attempt to remind children of the most familiar setting: home. In a very urban environment, the approach might be a front "stoop." On military bases, however, most children are more likely to have a front yard (even in multi-family housing).

The front yard of a child-care center should offer the following aspects of "home":

- be in relation to residential scale
- provide a sense of protection and enclosure
- include residential objects, textures, plantings
- provide views through the entry to the activities inside

The yard should lead directly into a front porch as the next degree of enclosure in the overall entry-transition sequence. This front porch is a covered space which provides weather protection. It is here that a parent and child may linger for a few minutes before entering the facility.

The next degree of enclosure in the entry-transition sequence is the building entry itself (see FRIENDLY FACE ENTRY SEQUENCE).
FRONT YARD AND FRONT PORCH

USE FAMILIAR HOME-LIKE ELEMENTS TO MAKE THE APPROACH TO THE BUILDING RESEMBLE A RESIDENTIAL FRONT YARD AND FRONT PORCH.

RECOMMENDATIONS

- The outdoor area leading to the entry should be partially enclosed by shrubbery, fence, wall, etc., and scaled like a small, enclosed yard or court. A minimum of approximately 15 ft. x 15 ft. is recommended.

- Use plants and landscaping materials which are residential rather than institutional in nature (e.g., a wooden fence rather than a chain-link fence).

- A view of indoor activity spaces will be helpful.

- The covered entrance should be large enough to provide outdoor waiting space and protected enough to provide transition space for people using the building.
An outdoor covered space at the entry should include a minimal amount of seating at both adult and child scale. This could be under an overhang, on a porch, or on a deck, etc. Because parents are encouraged to go inside and interact with their children (see PARENT INVOLVEMENT), outdoor seating should be minimal, e.g., two benches or one table-and-bench combination (see Recommendations for Child Play Areas, 1979--INFORMAL PAVED AREAS).

RELATED ITEMS

OBVIOUS ENTRY
FRIENDLY FACE ENTRY SEQUENCE
PORTE COCHERE
ISSUE

FIRST IMPRESSIONS OF A CHILD-CARE FACILITY WILL BE FORMED BY PARENTS AND CHILDREN LONG BEFORE ENTERING THE BUILDING ITSELF. PART OF THESE IMPRESSIONS WILL INVOLVE THE DEGREE OF CLARITY OR CONFUSION INVOLVED IN FINDING THE ENTRY.

JUSTIFICATION

Sanoff (1971) describes the transition from outside community to facility activities as a critical factor in the child's acceptance of the new environment. This is especially critical in the military context where tradition and current demand indicate a very high percentage of casual, drop-in children as compared to regular, full-day users (e.g., Fort Lewis, Alameda NAS, etc.; see Travel Report, 1978).

If the path from community to facility is unclear and the entry is difficult to find, both child and parent will enter the facility with a residue of frustration and a possible feeling of "I'm not wanted here."

Further, and this is very important, children who are unaccustomed to identifying building types by subtle architectural cues may identify buildings by the activities they actually see happening (Appleyard, 1969). If children can see activities through windows while they are approaching the entry, this may relieve anxieties and apprehensions.

Methods of making the pathway obvious include a gateway, possibly even with a sign over it, landscaping and pavement cues, level changes, rhythmically spaced color, lights, or reflectors, etc. (see Harold E. Jones Child Study Center and Pacific Oaks College Children's School--Travel Report, 1978).

Making the entry itself obvious may simply be an extension of the pathway cues (e.g., carrying the same pavement indoors), or can be an emphasis point in the building form (e.g., entry at 45 degree angle to the line of approach--see Mission Annex, Travel Report, 1978). Any combination of cues may be used which will make the entry obvious to first-time users.
OBVIOUS ENTRY

THE PATH FROM COMMUNITY TO FACILITY AND THE ENTRY TO THE BUILDING ITSELF SHOULD BE MADE OBVIOUS THROUGH SIGNS, GATES, PATHS, LEVEL CHANGES, COLOR, LIGHTS, ENTRY AT 45 DEGREE ANGLES TO THE LINE OF APPROACH, OR ANY COMBINATION OF CUES TO ENSURE THAT THE ENTRY IS OBVIOUS TO FIRST-TIME USERS.

RECOMMENDATIONS

- Use landscaping, gates, paving, levels, color, lights, etc. to draw users from public streets and sidewalks onto an obvious pathway to the facility.

- Use extensions of the pathway, graphics, architectural forms, building transparencies, etc. to make the entry obvious.

- Emphasize the entry to some highly visible part of the entry sequence by a change in building form, e.g., extrusion, indentation, 45 degree angle to entry path, curving wall, etc.

- Ensure that the entry and the door are child-scaled and home-like, e.g., wooden doors with small panes of glass rather than heavy aluminum doors, etc.
• All entry sequences should be accessible to handicapped users. Ar-608-1 notes that "all new CSS facilities will be designed to allow use by physically handicapped children and access by physically handicapped children and adults" (no page). Specific recommendations for site and building access are made in Military Construction Civil Works document EM 1110-1-103, "Design for the Physically Handicapped," Chapters 4 and 5.

• Demonstrate what the facility is by using small, child-height windows between outdoor pathway-entry and indoor child-activity spaces. (Large expanses of glass may become mirrors to those outdoors and leave children indoors feeling exposed and distracted. Smaller windows will allow views without these problems.)

RELATED ITEMS
BUILDING AS A FRIEND
ACCESS AND SITE CIRCULATION
PORTE COCHERE
FRIENDLY FACE ENTRY SEQUENCE
ISSUE

VARIOUS VEHICLES WILL COME ON SITE REGULARLY—MOST COMMONLY PARENTS’ CARS, STAFF CARS, AND SERVICE VEHICLES. PARENTS SHOULD BE ENCOURAGED TO STAY FOR A WHILE, SEE WHAT THEIR CHILDREN DO AT DAY CARE, AND BECOME INVOLVED WITH THE PROGRAM. BECAUSE STAFF WILL ALSO WANT PARKING SPACE AND SERVICE VEHICLES WILL MAKE REGULAR DELIVERIES, SEVERAL TYPES OF PARKING MUST BE PROVIDED. VARIOUS PROBLEMS CAN ARISE, E.G., SURFACE PARKING AREAS CAN TEND TO BE UNSIGHTLY, VEHICULAR ACCESS MAY PRESENT HAZARDS TO CHILDREN, AND CHILDREN MAY SEE PAVED PARKING AREAS AS PLAY SPACES AT INAPPROPRIATE TIMES.

JUSTIFICATION

The United States is a car country, and many people feel that individuality and independence demand private transportation. It is therefore likely that most children, parents, staff, and visitors who don’t walk to the child-care center will arrive by car. While WALKING IS INTIMATE TO THE SCHEMA, there will still be some parents who lack the time (or energy) or who may be prevented by health or weather from walking with their children.

Especially on military bases, distances between various amenities tend to be long, thereby making walking difficult in most situations. Equally important, when parents do come with their children, or come to pick up their children, they should be encouraged in every way to stop for a while, to look around at what their children are doing at their child-care center, to talk with the staff, to play with their children, and generally to become involved in the overall functioning of the center. This will be discouraged at the first instance if they bring a car and there is insufficient or inconvenient parking.

Therefore, adequate and convenient parking must be provided at the child-care facility site. This parking will include PORTE COCHERE for quick three-minute parent parking, longer-term parent/visitor parking, and all-day (and night) staff parking.
Car access to the site and proximity to the building entry from parking must be considered. A very clearly delineated driveway (OBVIOUS ENTRY) will be as important to drivers as a clear pathway is to pedestrians. A view from parking to the building entry will also be part of OBVIOUS ENTRY. This is most important for parents, children, and visitors; staff have other needs which will be discussed later.

Parents who will be staying for more than the 3-minute drop-off time will need to park longer. It is therefore important that the distance from longer-term parking to the building entry be kept as short as possible. Parents may be carrying a child, supplies, toys, etc. and the task will be made easier if distances are minimized. Obviously, after leaving the car, parents and children should not have to recross traffic areas.

Staff members will be familiar with the building and site circulation patterns. Thus, it may well make sense in many site situations to make staff parking and entry separate from general parking and entry. Staff members will probably prefer to park very close to the building since they might be carrying equipment, paperwork, and other materials to and from the facility. Also, it is reasonable that staff may wish to enter their own area (STAFF BACK STAGE) rather than through the main entry (but see CONTROLLED ACCESS). The SERVICE ACCESS may be used as staff access to parking.

In order to separate service vehicles from on-site auto traffic, a service vehicle apron is necessary. Trash will be collected, supplies delivered, and utilities serviced without interruption to other building functions.

In whatever manner that vehicular access and on-site parking is managed, it must be separated from pedestrian movement and outdoor child-use areas. To minimize the possible intrusiveness of surface parking, separation can be achieved through the use of natural barriers. Barriers which double-function, such as berms for play elements, thickets which
become nature areas while defining walkways, and raised garden beds are unique site design features which can separate parking and other outdoor areas.

Parking areas do not have to be rigidly laid out for maximum efficiency, but rather, can be interspersed with trees and shrubs which help to de-emphasize the presence of autos. These same elements can be used to contain autos in designated areas and shape the path of the approach drive. Trees and shrubs are also valuable as they provide shade which reduces the buildup of unpleasant heat in parked autos.

The paving of such areas used by autos is required to reduce dust and erosion. Installation of curbs may also be necessary to control storm drainage. Where drainage and erosion is not a problem and vehicular traffic is very light, wood chips or pine bark might be used in lieu of hard-surfac ed paving materials. Earth mounding with a plant cover, dense shrubs, or depressing the service drive are methods for screening this area from public view. These design features also give visual clues to children about the "off limits" quality of this area.

**PATTERN**

**PARKING AND SERVICE ACCESS AWAY FROM PEDESTRIANS AND PLAY**

LOCATE PARKING FOR PARENTS, STAFF, AND VISITORS NEAR THE BUILDING WITH A VIEW TO THE ENTRY. SEPARATE AND VISUALLY SCREEN VEHICULAR ACCESS, SERVICE AREAS, AND PARKING FROM PEDESTRIAN AND PLAY AREAS.

**RECOMMENDATIONS**

- Parking for parents, children, and visitors should be very near the building with a view from the parking area to the entry (OBVIOUS ENTRY).

- Assuming that one out of six parents may wish to stay longer than three or so minutes and interact with their children at the end of the day, parking should be provided for a 1:6 ratio of parents.
- Parking for staff should be near either the main entry or a special staff entry.

- A center for 60-75 children should have 9 to 12 staff members. Provide parking for staff in a 1:1 ratio. Depending on local regulations and the availability of on-street parking, portions of this can be on- and off-site parking, assuming compliance with the above recommendations for siting.

- Separate parking from pedestrian and play areas with barriers which may also be used as play items whenever possible.

- Implications for building design include locating the service core where direct service access from the outside is possible or using a service corridor to connect the core and the service entry. For building security, surveillance of the service area should be possible from administrative areas. Access should also be under administrative control.

- All service access and service areas should be separated from children's play areas and from on-site pedestrian circulation, and should be buffered to be out of sight.

- In addition to fences or depressions, plants, shrubs, trees, and mounds can be arranged to screen the service area from public use areas. Physical barriers must separate outdoor child areas from all service areas.

- Approach drives and parking areas should be designed to retain as many natural site elements as possible. Drives can follow most horizontal and vertical variations, and can easily pass around trees, shrubs, and earthforms. Shrubs, trees, and earthforms provide natural screening of car parking areas.

- Turn-arounds are convenient for dropping someone off and then proceeding to the parking area.
A back-up spur should be provided for dead-end and service drives which exceed 100 ft. in length.

Two-way approach drives should be 20'-0"; single lanes require 12'-0".

Lighting the approach and parking area is necessary if night use is expected.

Pave roadways to decrease dust and prevent erosion. Provide curbs to control drainage.

RELATED ITEMS

OBVIOUS ENTRY
DEVELOPMENTALLY-APPROPRIATE PLAY YARDS
PORTE COCHERE
FRONT YARD AND FRONT PORCH
ACCESS AND SITE CIRCULATION
WALKING IS INTIMATE TO THE SCHEMA
THIRTY-SIX OUT OF FIFTY STATES REQUIRE A DAILY PERIOD OF OUTDOOR PLAY. STATE LICENSING REGULATIONS ALSO TYPICALLY REQUIRE A MINIMUM OF 75 SQUARE FEET PER CHILD FOR OUTDOOR PLAY SPACE. OUTDOOR PLAY IS NOT ONLY IMPORTANT FOR THE CHILD'S HEALTH BUT IS ALSO AN INTEGRAL PART OF THE LEARNING EXPERIENCE.

The importance of play in the child's overall development has been discussed at length in the document, and the point has been made that unstructured activities combined with semi-structured activities provide for the full spectrum of early childhood development. The Child Welfare League of America (1969) makes a particularly clear statement about the purposes of outdoor play in particular:

Outdoor play is not only important for the child's health, but it is an integral part of his/her learning experiences. Outdoor play space should offer opportunities for adventure, challenge, and wonder in the natural environment. The child care center that cares for children during a major part of the day needs a playground of its own. It should be planned with flexibility and imagination so that growth and learning can take place within it, and it should be suitable for the particular climate and urban or rural location. (p. 83)

Play yards were an integral part of several child-care centers visited by the research team (see Travel Report, 1978). In particular, the play yards at the Pacific Oaks Children's School and at the Bing Nursery School in California were impressive and had many architectural lessons for future facilities. Exciting features of these two facilities—and of several others—were the following:

- excellent visual connection and free movement from indoors to outdoors
- multiplicity of things for children to do, from structured activities to unstructured activities
- well-landscaped settings built upon the natural features of the sites
- covered transitional space between the indoors and outdoors, which also provides some year-round outdoor play space
- distinctly different types and styles of play yards, each of which provided different developmental possibilities for the children, and though somewhat separated, freedom of movement from one to the other
- lots of outdoor storage
- good balance between ambiguous and specific play equipment
- porches as activity spaces
- sufficient drop-off and pick-up parking very near play areas
- medium-low vegetation and foliage which provided for acoustic and visual separation while allowing for awareness of neighboring activities
- sitting walls and other similar places near activity areas which provided unobtrusive watching places for children
- adequate provision for wheel-toy play separated from other quieter pursuits
- good zoning of quiet from noise, active from passive, large group from small group
- equipment with multiple uses, with parallel uses, with breakaway points, and which was judged superior developmentally to other types of equipment

As a contrast, many, many facilities visited, including most of the military facilities, had little or no adequate out-of-doors provision for developmental challenges in natural, aesthetic settings for children. On many bases, an appropriate amount of space was provided in terms of raw square footage, but was not designed or developed in ways conducive to the many needs of children and staff.
Therefore, in short, the design and development of those parts of the site which are devoted to outdoor play space are an important part of the success of any child-care facility. They must be considered to be as important as, and at the same time as, the design and development of interior spaces and the building itself.

The only difference between indoor and outdoor activity space is that one has a roof over it. Both, however, need architectural (and landscape architectural) definition, and both need to provide for the multiplicity of children's developmental needs. This goal can be achieved by providing activity-shaped spaces which are suited to the activities they are to house and facilitate.

Note: As we have devoted a whole document to the design of children's play environments (Recommendations for Child Play Areas, 1979), this pattern will list those parts of that document which pertain to the site design and development of play yards at child-care centers. The reader is referred to these for more information. In addition, as outdoor and indoor activity spaces meet many of the same developmental and functional requirements, several of the Patterns for the Design of Specific Activity Spaces are relevant here also, and are listed below.

In this latter case, the user will have to employ different design elements to achieve the goals stated, e.g., using landscape materials to define ACTIVITY-SHAPED SPACES, not building materials, and so on.

DEVELOPMENTALLY-APPROPRIATE PLAY YARDS

DEVELOP OUTDOOR PLAY YARDS OF 100 SQUARE FEET PER CHILD TO PROVIDE FOR THE DEVELOPMENTAL AND FUNCTIONAL NEEDS OF CHILDREN AND STAFF. PROVIDE A SERIES OF INTERCONNECTED, DEVELOPMENTALLY-APPROPRIATE ACTIVITY-SHAPED SPACES FOR DIFFERENT ACTIVITIES AND AGES.
RECOMMENDATIONS

See the following patterns in *Recommendations for Child Play Areas*, 1979:

SITE ORGANIZING PRINCIPLES

503 COMPREHENSIVE PLAYGROUNDS
504 FAVORABLE MICROCLIMATES
508 SEPARATED BUT LINKED ZONES
509 SEMI-ENCLOSED PLAY SPACES FOR INFANTS
510 LOOPED CIRCULATION
511 CONTINUITY AND BRANCHING
512 DEGREES OF SHELTER

PATTERNS FOR ACTIVITY SPACES

602 INFORMAL PAVED AREAS
605 HARD-SURFACE PLAYING AREAS
607 CREATIVE PLAY AREAS
608 ENVIRONMENTAL YARDS
609 CHILDREN'S GARDENS
610 FENCED ANIMAL AREAS
611 DESIGNATED PLAY STRUCTURES
612 PLAY SPACES FOR INFANTS
614 RESIDUAL AREAS

GENERAL DESIGN OF PLAY SPACES

701 AMBIGUOUS SETTINGS AND OBJECTS
702 LOOSE PARTS
703 PACED ALTERNATIVES
704 CHALLENGING ENVIRONMENTS
705 NESTS FOR QUIET PLAY
706 RANGE OF SOCIAL SCALE
707 "CHILDREN ONLY"
708 WATER PLAY AREAS
709 PROTECTED SAND AND DIRT PLAY AREAS
710 PLAY ABOVE THE GROUND
711 PLAY AREAS AS LANDMARKS
712 CLEAR ACCOMPLISHMENT POINTS
713 RETREAT AND BREAKAWAY POINTS
714 VARIETY OF 3-D SPACES
715 SMALL ARTS AND CRAFTS NOOKS
716 STAGES AND PROPS
717 SUPERVISED FIRE AND COOKING AREA
718 IMAGEABILITY AND ORIENTATION
719 ORDERLINESS AND CONSISTENCY
720 EMOTIONAL RELEASE POINTS
721 REPETITION AND MULTIPLE CODING
722 BARRIER-FREE ENVIRONMENT
RELATED ITEMS

RICH RESOURCE NODULES
SMALL GROUP SIZE
INDOOR-OUTDOOR RELATION
PARENT-COMMUNITY USE OF THE CENTER
APPROACH AND ENTRY SEQUENCE
ACTIVITY-SHAPED SPACES
MULTIPURPOSE-MOTOR ACTIVITY SPACE
RETREAT AND OBSERVATION POINTS
CHILD CAVES
A PLACE FOR BUILDING
BLOCK PLAY AREAS
AREAS FOR ARTS AND CRAFTS
OBJECTIVE AND NON-OBJECTIVE STAGES AND PROPS
NATURE STUDY AREAS
LIQUID OASIS
"INDOOR" SAND PLAY
TIME-OUT AND EMOTIONAL RELEASE AREAS
SHORT TROT TO THE POT
INFANTS AND TODDLERS CIRCLES OF ACTIVITY
A SPECIAL PLACE FOR AFTER-SCHOOL DROP-INS
PLACES TO OBSERVE CHILDREN
PARENT-STAFF CORNER
NEVER TOO MUCH CHILD ACCESSIBLE STORAGE
ISSUE

HAVING CONCEPTUALLY DESIGNED DEVELOPMENTALLY-APPROPRIATE PLAY YARDS AND OTHER FEATURES OF THE SITE, THE REALIZATION OF THESE IDEAS DEPENDS IN PART ON THE CORRECT DESIGN OF MANY SITE DETAILS.

JUSTIFICATION

There are a number of site design issues to be considered to insure the adequate design of outdoor play yards. Among them are the following:

- difficulty in moving bulky toys outdoors
- children's enjoyment of varied terrain
- visibility of children's activities to adults
- importance of general landscaping relative to the provision of "play equipment"
- provision of safety, security, and calm
- potentials for winter play
- proper drainage to permit an extended season of use

Note: As we have devoted another document to the design of children's play areas, including the detailed design and development of the site (Recommendations for Child Play Areas, 1979), this pattern will list those parts of that document which speak to the above issues. The reader is referred to these for more information, per the list given below.

PATTERN

SITE DESIGN DETAILS

DESIGN AND DEVELOP THE CHILD-CARE CENTER SITE IN ACCORDANCE WITH DEVELOPMENTALLY-ORIENTED SITE DESIGN CRITERIA.
RECOMMENDATIONS

• See the following patterns in Recommendations for Child Play Areas, 1979:

SITE DETAILS

801 OUTDOOR STORAGE
802 BERMS AS PLAY EQUIPMENT
803 LANDSCAPED BARRIERS
804 LANDSCAPING MATERIALS
805 PLANTING AND GROUND SHAPING
806 SNOW AND ICE PLAY
807 APPROPRIATE UTILITIES
808 POSITIVE DRAINAGE.

• For other standard site design details pertaining to other than the children's play yards, see any standard landscape architecture and site design textbook, like Kevin Lynch's Site Design; Albert Rutledge's Anatomy of a Park; J. H. Callender's Time Saver Standards; Joseph de Chiara's Time Saver Standards for Building Types (Recreation; Or J. de Chiara and L. F. Koppelman's Site Planning Standards.

• For military site design criteria, see AR420-72, Surfaced Areas; TM 5-803-3, Site Planning; TM 5-803-1 through 3, Planting Design.

RELATED ITEMS

DEVELOPMENTALLY-APPROPRIATE PLAY YARDS
PARKING AND SERVICE AREAS AWAY FROM PEDESTRIANS AND PLAY
PEDESTRIAN ACCESS AND CIRCULATION
CREATING FAVORABLE MICROCLIMATES