playground planning 101

PLAYWORLD SYSTEMS®
The world needs play.®

You have taken that all important first step and have decided to bring play to your community. Play is a vital part to strong, healthy neighborhoods and families. By building your playground, you are creating a central play space for your community for years to come.

Planning your playground is an important job and you will have many questions along the way. This guide will help answer many of your questions as well as provide you with educational resources.

WORKING WITH YOUR COMMUNITY

Building a playground is a job for your entire community. Play brings people together, so start by gathering local residents, organizations and professionals to help tackle the different facets of building a playground. It's then helpful to form committees for every phase of the project. Committee skills can be divided to help with organization, fundraising, design, child development and education, ground maintenance, general construction and public relations. Diverse expertise will help your project along much faster than trying to do it all yourself.

SEEKING PROFESSIONAL HELP

Besides the resources listed in the back of this guide, professional resources are readily available. Playground consultants can be found across the United States and internationally. These consultants are, more often than not, associated with playground equipment manufacturers, which means they have knowledge of the available products, are familiar with the guidelines, and do this everyday so they have an expertise in the area of playgrounds.

Consultants will typically provide playground design services free of charge and have CPSI (Certified Playground Safety Inspectors) on staff. Playground equipment manufacturers sometimes network their consultants. This allows the consultants to reach out for suggestions and ideas. There are also playground consultants who do not work for an equipment manufacturer but are independent contractors. They will typically provide playground design services and usually carry CPSI on their staff too.

STAYING ON SCHEDULE

An important aspect in building a playground is setting up a strict timeline and outlining not only when you aim to have the project finished, but also the smaller steps in between. Start off with your grand opening and work backwards; incorporating smaller timelines will help you to not become overwhelmed. This will also help to keep the project moving on time. You may also want to build some flex time into the schedule to makeup time you may possibly lose on some projects. Here we have listed some major deadlines to consider when establishing your timeline.

- Grand opening/dedication
- Build day
- Equipment delivery
- Site preparation
- Order day
- Equipment color confirmation
- Design day
- Confirmation of funds
- Fundraising events
- Organizational meetings

YOUR BUDGET

Budgeting is perhaps one of the most difficult and overwhelming steps to planning a playground. When creating your budget, you may come across an amount that you feel is unreachable. There are a couple of options available to reduce the cost. Look for volunteers and eager parents to help with site preparation. You can save on installation by organizing a community build. Generally, installation costs range from 25% to 45% of the total equipment cost. If your volunteers do not have playground installation experience, ask your playground consultant if they offer playground installation supervisory services. Ask local companies to donate materials and services for drainage and installation. In return, offer to list the company as a donor or contributor on signage at the build. It's a great opportunity for free advertising.

There are also alternative purchasing programs such as phasing and leasing. Phased projects are fast becoming one of the most popular options for purchasing play equipment. Buying a playground in phases allows you to design an integrated play space and purchase the equipment you want over time without sacrificing quality, safety or play value. For instance, many smaller organizations may not have $30,000 available to purchase a play system at one time. They may find it easier to raise or allocate $10,000 on three different occasions. When you do a phased project, you must also take into consideration that each phase is compliant with the safety guidelines as well as the ADA (Americans with Disabilities Act). Your playground consultant will be able to help you.

Playground Expenses

Site Preparation – *Includes items like permits, installing sidewalks, lighting, grading and drainage.*

Play Equipment – *The list or purchase price of the playground equipment.*

Equipment Shipping and Storage – *The shipping cost of getting the equipment from the manufacturer to your site. If the site is not prepared, you may need to store the equipment until installation day. If storage is not on-site, you may need to allow for another shipping cost.*

Surfacing – *The list or purchase price of the surfacing material.*

Surfacing Shipping – *The price for shipping the surfacing from the manufacturer to your site.*

Installation – *The price of installing the playground equipment (will typically include consumable construction materials like concrete, gravel and sand).*

DESIGNING YOUR PLAYGROUND

To begin, you need to select a space that suits the needs of your playground. Playgrounds need ample space not only for equipment, but also for site amenities such as parking and restrooms. You must be sure that your design accounts for proper spacing around playground equipment. Playground equipment has use zones, which is the amount of space around the actual play equipment that will legally need to be left open.

Here are some other items to consider when choosing a play space:

General Area
You will want to consider building the playground in an area that is relatively flat and has adequate drainage. It's also a good idea to identify and mark existing utilities since many of these can be taken advantage or may cause problems during site preparation. It's also important to make sure that emergency and maintenance vehicles have access to the general area.

Parking
You should leave ample space for parking, and pathways must connect the parking lot to the play area (ADA requirement).

Lighting
Will your park be open after dark? If so, you will need ample lighting to provide a safe play area. You may also want to consider lighting even if you close the park before dark for any stragglers. It also helps to provide a clear view during off peak hours if you have local law enforcement or supervisors patrolling the parks for misuse.

Restrooms
You will need to decide if you are going to provide restrooms, which is a requirement in some cities and towns. You may also want to consider water fountains for those hot play days.

Fencing
Fencing is a good idea if you decide to build in an area with moderate to high traffic. Whether a child is chasing a rolling ball or running while playing tag, it's easy to get caught up in play. A fence helps to keep children safe.

Landscape
If you are considering an area that has existing features such as trees, shrubs or flowers, you must decide whether or not to design around the original landscape. When considering new landscaping and the overall design of your park, you must take into consideration providing shade with trees, grassy areas for play, picnic tables, benches, trash cans and receptacles.

To develop a well-planned play area, follow this simple size guideline: the site should be large enough to accommodate both active and quiet play areas with enough activities to keep everyone interested and involved.

PLAYGROUND DESIGN

Prior to the actual design, you need to ask yourself some important questions about who will be using the play equipment.

1. How many children will the playground serve at one time?
2. What is the age group range of the children that will use this equipment?
3. Are there any special needs that must be considered?
4. Who is expected to supervise the children?

You must realize that playgrounds go beyond play; they help children to grow and learn. According to developmental specialists, play systems should incorporate activities that safely challenge children and encourage the growth of a wide range of skills, including gross and fine motor, socialization and imaginative play skills. You must consider the different types of activities that you would like to incorporate into your play area. For example, overhead ladders and lateral climbers stimulate physical growth and coordination, while play panels can stimulate a child's cognitive ability, fine motor skills, social interaction or even audio perception.

It is also a good idea to create a "Design Day" when you can gather a group of children who will be using the playground when it's complete. The kids can help you sift through the types of activities that are needed on the playground and give them a sense of ownership on the project, which diminishes the chance that children will vandalize or misuse the equipment in the future.

Activities will often be dictated to you by the guidelines depending on the ages of the children that will be using the play equipment. It is strongly recommended that efforts are made to separate the preschool aged children, 2 to 5 year olds, from the school aged children, 5 to 12 years old, whenever possible.

PLAYGROUND BUILDING TIPS

Pointers for building a playground for 2 to 5 year olds:

- Both the CPSC (U.S. Consumer Product Safety Commission) and ASTM (American Society of Testing Materials) do not recommend activities such as horizontal ladders and sliding poles that require an abundant amount of upper body strength. At this age, typical 'in-step' climbers will assist with upper-body development that is more appropriate.
- Wide stationary balance activities are fantastic for preschoolers especially when placed in a formation that will allow a child to loop back around and walk the loop over and over and over again.
- Preschoolers love to climb. Climbers should be stationary and when kids make it to the top, there needs to be an easy way for them to get down.
- Seating under tall platforms make great quiet places or gathering spots.
- It is recommended by both the CPSC and ASTM to not use long spiral slides that rotate more than 360° or one full turn.
- Preschoolers love motion. Slides and swings are the most common ways to incorporate motion into playground equipment for this age group.
- Slide exits should not direct a child into a moving component or into the entrance of a climber.
- Swings should be located on the periphery of the play area. Preschoolers don't always understand when the swing moves away from them that the swing will be coming back.

Pointers for building a playground for 5 to 12 year olds:

- Moving play equipment, such as swings, should be located on the periphery of the area for safer traffic flow.
- Allow for some open space for running and games.
- Gathering places such as a freestanding climber is a great "hang-out" place that can be easily supervised.

Playground consultants can help you answer these questions:

1. *Should activities remain close to the ground or can they take the children up high in the sky?*
2. *Should the activities promote a lot of physical movement?*
3. *Should you provide activities that promote social interaction?*
4. *Should you provide activities or spaces that allow for independent play and discovery?*
5. *Do you want equipment that will challenge the cognitive aspect of the child's play?*
6. *Do you want equipment that will provide opportunity for social interaction?*

SAFETY & ACCESSIBILITY

The ASTM and CPSC are legal guidelines and standards that have been established to help playgrounds meet safety and accessibility standards. However, playgrounds in the United States have multiple sets of safety guidelines (see our resources on page 13). You should ask your manufacturer for a letter of compliancy for all your playground equipment, to verify compliancy with the various guidelines.

Safety

Over 200,000 children visit the emergency room each year due to a playground related accident. You can help to prevent this with playground education. When planning your play area, you want to be sure that it is a safe environment and that you take the necessary precautions to prevent injuries. You must also make sure that children know the rules for safe play and those rules should be strictly enforced by parents, teachers or whoever is supervising the children.

Safety with Surfacing

Statistics show that proper surfacing plays a key role in overall playground safety. For instance, over 75% of reported injuries are a result of a fall from playground equipment onto improper or poorly maintained playground surfacing. This means that at least 150,000 of the 200,000 injuries could have been prevented had the playground surfacing been properly maintained and adhered to the guidelines set out by ASTM and CPSC. Grass, dirt, concrete and asphalt are examples of unsuitable types of playground surfacing materials.

There are two distinct categories of approved playground safety surfacing: unitary and loose-fill. Samples of unitary are Pour-In-Place®, rubber and rubber tiles. Unitary surfacing requires the least amount of maintenance after installation and can be easily repaired if damaged. It can be installed for varied fall heights and has the highest upfront cost, but lower lifetime cost. Loose-fill surfacing is not bound together by an agent and that will displace the energy of a fall. Loose-fill surfacing includes engineered wood fiber and rubber mulch. However, most loose-fill surfacing does not comply with providing an accessible route, but it rates better at preventing injuries from falls. Loose-fill also requires constant maintenance to ensure that material is at proper depth height under high traffic areas.

To save money on surfacing costs, consider limiting matting to the accessible areas of the playground and using loose fill materials elsewhere. A combination of loose fill materials complemented by rubber matting in critical access areas will meet the ASTM and CPSC standards, and comply with the ADA.

Safety reminder – ask your surfacing sales consultant to provide a letter of compliance to ASTM 1292 and or ASTM F1951 for the surfacing you purchase.

PROPERLY DESIGNATED PLAY AREAS

Another way to increase the safety of your play area is to be sure that each area is designated and designed for the proper age group. They should be posted with signs stating that the play area has been designed for children between 2 to 5 years old or 5 to 12 years old. As discussed earlier in this guide, preschool aged children (2 to 5 year olds) and school aged children (5 to 12 year olds) have different abilities as well as different needs when it comes to toys and playing. Preschool aged children are not fully developed and may not have the cognitive awareness to know what they are capable of doing. For instance, they do not have the same coordination and balance that an 8 year old will have, as they are still developing in this area.

Supervision

Supervision is also a great way to increase safety. In some environments you can control supervision, such as daycares, community centers and schools. Create, maintain and enforce a supervisor's schedule, and make sure the supervisor is educated on what to look for and monitor. However, you cannot control supervision in all play areas and this is where signage is helpful. It allows the caregivers to have a better understanding of what play areas are best suited to fit their child's needs and capabilities.

Maintenance Plans

A thorough and consistent maintenance plan is a pivotal feature of a safe playground. Inspecting all of your equipment regularly is strongly encouraged. Follow the manufacturer's maintenance recommendations and procedures. Manufacturers create these recommendations to ensure that their product(s) will provide a safe area for children to play. Document your maintenance plan and keep a log of inspections and equipment repairs. This will not only help to keep the maintenance up-to-date and organized, but could come in handy pending any warranty or accident issues.

All accidents should not only be documented, but thoroughly investigated. This can help identify high-risk areas of your playground that you may wish to make changes to and can assist in preventing additional accidents from the same source.

Establish a key contact for playground issues like loose bolts, missing parts or broken items. This will ensure that these problems will be taken care of immediately. You can also post the contact person's information at the playground, so that if an issue or suggestion should arise, that person will receive the information quickly.

ACCESSIBILITY

All public playgrounds must meet the minimal criteria of the ADA. Barriers such as curbs, steps, steep inclines and grassy or soft paths must be removed or augmented with transitions, gradual sloping walkways and firm paths or sidewalks. Accessible play equipment does not always mean ramped playstructures. Although ramped playstructures are the preferred method of providing accessibility, transfer stations and accessible routes are another way to provide accessibility. Any playstructure can be made accessible by using one of the two methods above or a combination of the two.

Providing an accessible route to both ground based play activities as well as elevated play activities is the key to making play areas accessible. Accessible routes are pathways specifically designed to provide access for individuals with disabilities, including those using wheelchairs or mobility devices.

Elevated accessible routes will provide users access to activities from the entry point to each of the accessible activities on that playstructure. On your structure, 50% of the elevated play activities must be accessible by an elevated accessible route. An accessible ground based route must be available at the ground level point of that activity. If the playstructure contains 20 or more elevated play activities, a ramped accessible route must be provided to 25% of the elevated play activities.

ASSOCIATIONS & TERMS

ASTM (American Standards Testing and Materials)
ASTM International is a voluntary standards development organization. They provide technical standards for materials, products, systems and services.

ADA (Americans with Disabilities Act)
The ADA is a comprehensive civil rights law that prohibits discrimination on the basis of disability. The ADA requires that newly constructed and altered state and local government facilities, place of public accommodation and commercial facilities be readily accessible to, and usable by, individuals with disabilities. Recreational facilities, including play areas, are among the facilities required to comply with the ADA.

CPSC (U.S. Consumer Product Safety Commission)
The U.S. Consumer Product Safety Commission is charged with protecting the public from unreasonable risks of serious injury or death from more than 15,000 types of consumer products under the agency's jurisdiction.

CPSI (Certified Playground Safety Inspector)
A CPSI is an individual who has prepared and taken professional training in the playground safety course organized by the National Playground Safety Institute (NPSI) and sponsored by the National Recreation and Parks Association (NRPA). You may want to contract with a CPSI in your area to inspect and audit the equipment in your playground after installation. Some states, municipalities or insurance companies will require the initial inspection prior to the playground opening.

IPEMA (International Playground Equipment Manufacturers Association)
IPEMA is not a guideline or a standard, it is a governing body. They oversee the third party certification process. Playground equipment and surfacing material can and should be authenticated by IPEMA as a certified product to the ASTM F-1487 and ASTM F-1292. However, being an IPEMA member does not necessarily mean that the product is compliant to those guidelines. You can check compliancy on the IPEMA website at www.ipema.org.

RESOURCES FOR GUIDELINES & STANDARDS

Americans with Disabilities Act Accessibility Guidelines (ADAAG) for buildings and facilities:

- *The ADAAG applies to all public playgrounds located in parks, school, churches and daycares (unless the daycare is a private residence)*
- *Information can be found on the U.S. Access Board website at www.access-board.gov*

Accessible play areas: A summary of accessibility guidelines for play areas

- *Also published by the U.S. Access Board*
- *This manual is available on www.access-board.gov*

Handbook for public playground safety (CPSC Pub #325)

- *Published by the U.S. Consumer Product Safety Commission (CPSC)*
- *The CPSC guidelines are written in a language that is meant to be used by the owner/operator of the equipment*
- *Free copies can be obtained at www.cpsc.gov*

Standard consumer safety performance specification for playground equipment for public use (ASTM F-1487)

- *Published by the American Standards Testing and Materials International (ASTM)*
- *The ASTM guidelines were written for both the owner/operator as well as the equipment manufacturer*
- *Copies can be obtained for a fee at www.astm.org*

Specification for impact attenuation of surfacing materials within the use zone playground Equipment (ASTM F-1292)

- *Published by the American Standards Testing and Materials International (ASTM)*
- *The ASTM guideline was written for the manufacturer of playground surfacing materials*
- *Copies can be obtained at www.astm.org*

Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment (ASTM F-1951)

- *Published by ASTM*
- *This publication has been written for the manufacturer of playground surfacing materials*
- *Copies can be obtained at www.astm.org*

S.A.F.E. (Supervision Age-appropriate Fall Surfacing Equipment Maintenance)

- *The national program for playground safety, www.playgroundsafety.org has created the S.A.F.E. program to assist owner operators plan and maintain a safe play area for children*

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