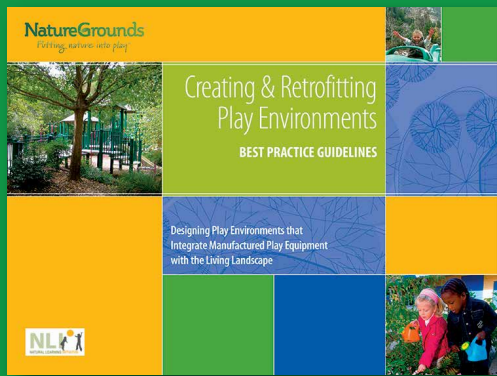


# EXECUTIVE SUMMARY



**NatureGrounds®**  
*Putting nature into play™*

## Designing Play Environments that Integrate Manufactured Play Equipment with the Living Landscape

### Explore the guide to learn:

- Best practice design principles for parks and schools
- Supportive research and benefits of nature
- Planting principles and phased naturalization strategies
- Tips on how to manage, maintain, fund, and support your project

### Additional Resources include:

Searchable plant database to choose child-friendly plants based on play value and hardiness zones

State-of-the-art computer aided design services and field representative support

Professional development training module

The NatureGrounds National Demonstration Site program, national recognition and press exposure for sites that follow best practice guidelines and establish naturalized playgrounds in their community



The purpose of **NatureGrounds** is to create a dramatic shift in the standard playground development process by deliberately designing nature back into the everyday spaces of childhood, not only to benefit children's play, but also to engage communities in working together to deliver high-quality play experiences across generations. Research has proven that designing play environments that integrate the living landscape with manufactured equipment results in increased play value, higher levels of physical activity, social interaction, and improved environmental sustainability.

PlayCore has partnered with the Natural Learning Initiative, College of Design, NC State University, to help professional and community champions bring "nature to people" in an effort to reconnect children to nature to support healthy human development. NatureGrounds play and learning environments positively impact play value, child development, health and wellness, and environmental sustainability.

Research & Programming in partnership with:



# A Unique Playground Initiative to “Bring Nature to People”

Research reveals a strong relationship between daily exposure to nature and healthy human development. Now more than ever, it is critical to encourage outdoor play and find way to reconnect children to nature.

Natural spaces are often too remotely located for visiting on a regular basis, so it is imperative that nature be deliberately designed back into the everyday spaces of childhood such as school and neighborhood parks. Designers, planners, and other professionals must discover new ways to deliver high-quality outdoor environments for children compelling enough to motivate them to acquire active lifestyle habits outdoors.

*NatureGrounds* advocates for communities to create innovative play environments that integrate manufactured play equipment and the living landscape. Naturalization strategies offer a new, alternative paradigm for playgrounds that respond directly to the need for children to be outdoors and engaged with nature. Landscape architects, designers, and park planners are crucial partners and sources of technical knowledge and expertise in these efforts.

Naturalized playgrounds become sought out destinations that provide visual interest, shade, and comfort resulting in sustained repeat visits, a relaxed and playful social atmosphere, and growth of community social capital. Additionally, these well-designed playgrounds offer rich outdoor education and programming opportunities for both schools and parks.

## Benefits include:



### Play Value

Play value recognizes that different types of play environments stimulate different forms and amounts of play. Plants increase the diversity of play and related learning opportunities through discovery, offer sensory stimulation, and increase aesthetic appeal.



### Child Development

Integrating manufactured play equipment with natural components directly addresses health promotion by extending the range of options for children's social, physical, and cognitive behaviors while supporting active lifestyles in children. Through exploration and discovery, increased opportunities to stimulate learning, creativity, and imagination occur in more naturalized play environments.



### Health Benefits

Engaging with nature has been linked to reduced attention deficit disorder symptoms and stress, while motivating children to be more physically active, focused, and civil to one another.



### Environmental Sustainability

Playground naturalization can provide an important community-based demonstration of environmental stewardship and sustainable site design practices — improving wildlife habitat conditions for local flora and fauna and natural irrigation through well-designed stormwater drainage systems.

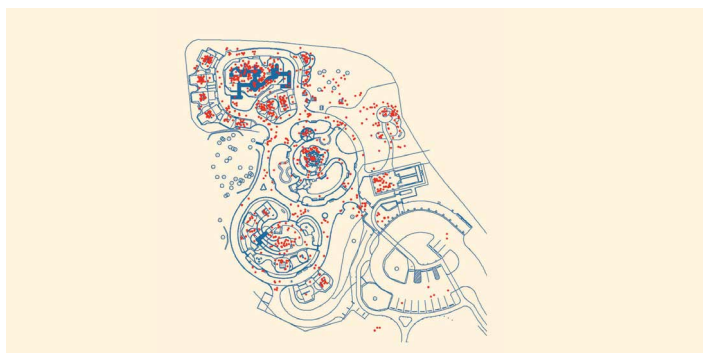


***Research reveals that naturalized playgrounds result in increased play value, higher levels of physical activity, social interaction, and improved environmental sustainability.***

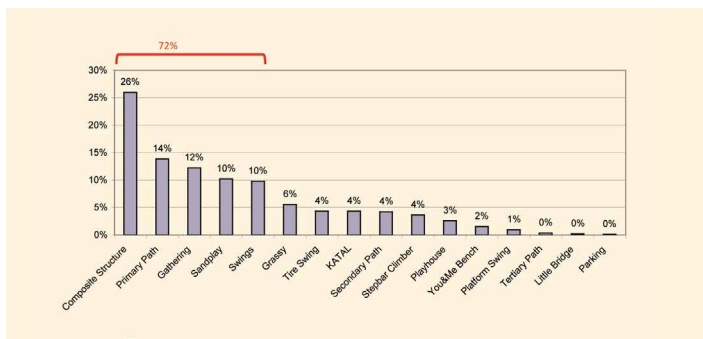
## Findings

**The Natural Learning Initiative (NLI) has conducted several studies that support the benefits of playground naturalization as cited in the *NatureGrounds* guidebook:**

- The Environmental Yard, Washington Elementary School, Berkeley, CA, where study results showed play activity equally divided between community-built play structures, a hard surfaced games area, and a richly diverse, custom-designed nature area. These findings suggest that children enjoy a mix of permanent, anchored play structures, open areas, and natural settings.
- Blanchie Carter Discovery Park, Southern Pines Primary School, NC, which demonstrated the attractiveness of a playground containing a mix of manufactured and natural elements.
- Kids Together Playground (KTP), Cary, NC, where research findings indicate that KTP attracts multigenerational, multicultural users seeking satisfying family recreation experiences. Universally-designed KTP also demonstrates the community value of high quality, compact, diverse, naturalized family playgrounds that not only support child development, but also provide crucial vehicles for inclusion because they can stimulate free flowing, positive interaction among park users of all abilities.
- Research at a variety of childcare centers throughout North Carolina produced findings which showed that higher levels of physical activity are supported by curvy pathways, anchored play structures, open areas, and compact layouts. A further study demonstrated that children were more active in playgrounds where equipment and nature were integrated or "mixed."
- Bay Area Discovery Museum, Sausalito, CA, where study results demonstrated the attractiveness of settings designed for socio-dramatic play.



KTP children's behavior mapping shows the relative attraction of the compact active play area (top left). The area includes swings, an inclusive play structure, and sand and water play, interconnected by a wide, curving, primary pathway. This area accounted for 45% of children's use of the playground.



An analysis of KTP children's behavior mapping shows distribution of use across different types of play settings, clearly showing that almost three-quarters (72%) of use occurred on composite play structures, pathways, social gathering areas, sand play, and swings.

## Best Practice Design Principles

To stimulate, motivate, and encourage children's play, and to increase the attraction of playgrounds for children and caregivers, the *NatureGrounds* strategy is driven by these factors that lead to a cost-effective, highly valued, well-used resource in the community.

### Locate naturalized playgrounds in relation to site features and functional surroundings

- Access
- Topography
- Surface Drainage and wetlands
- Mature tree and other significant vegetation
- Orientation in relation to the sun

### Identify user groups and design to universally support their needs

- Design for multigeneration use
- Design to bring families together
- Ensure design of inclusive environments
- Design to promote physical activity
- Design to promote sun protection
- Design for community special events
- Plan for outdoor education and curriculum programming

### Configure site layout to organize design components and network the play environment

- Use entrances, pathways, and boundaries to structure the layout
- Configure equipment for active play
- Integrate planting pockets

### Define play settings to maximize active, social, and sensory play opportunities along a developmental continuum

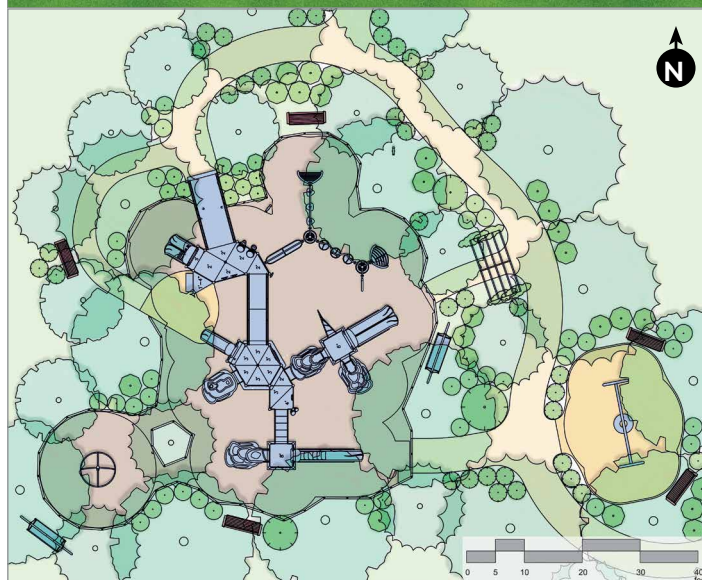
- Design active play settings
- Create socio-dramatic play settings
- Design sand play settings
- Include elements for hands-on water play
- Include water for cooling, washing off, and drinking

### Evaluate appropriate ground surfaces for naturalization, safety, accessibility, and play value

- Naturalized ground surfaces
- Safety surfaces

## Planting Pockets

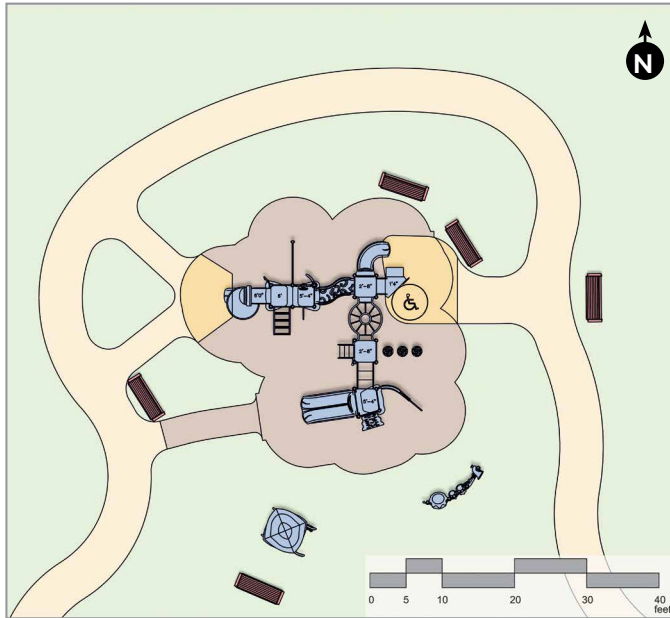
Integrating planting pockets into playgrounds is an effective approach to achieving naturalization while providing plants as part of the play experience. Planting pockets integrate plants as closely as possible with manufactured play equipment, while still designing safer play environments that enrich the overall experience of users. These layouts show how the planting pocket criteria and plant location rules can be applied to create a richly naturalized playground.



The playground layouts above illustrate application of the planting pocket criteria in a moderately-sized playground. Broad planting pockets are defined by the location of the adjacent pathway connecting the playground to the rest of the park.

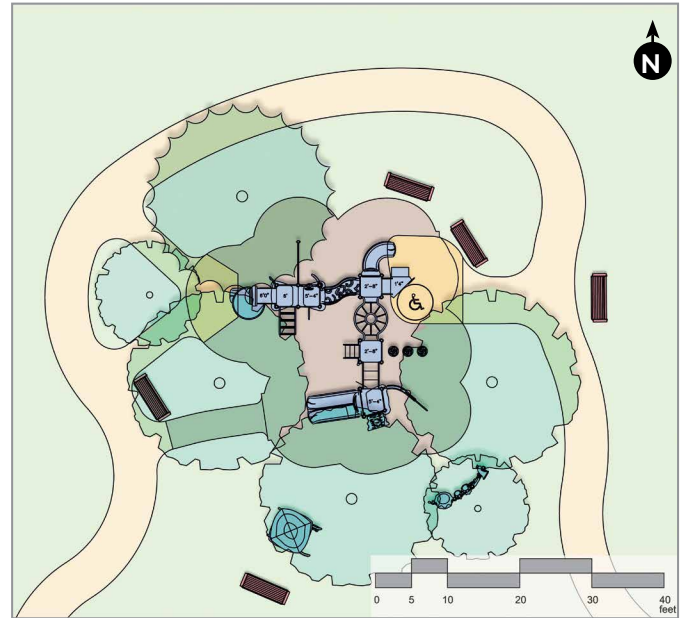
## Phased Naturalization

This set of layouts shows the phased naturalization of a moderately-sized playground with unified post and platform equipment and overhead components located adjacent to a park or school ground primary pathway system.



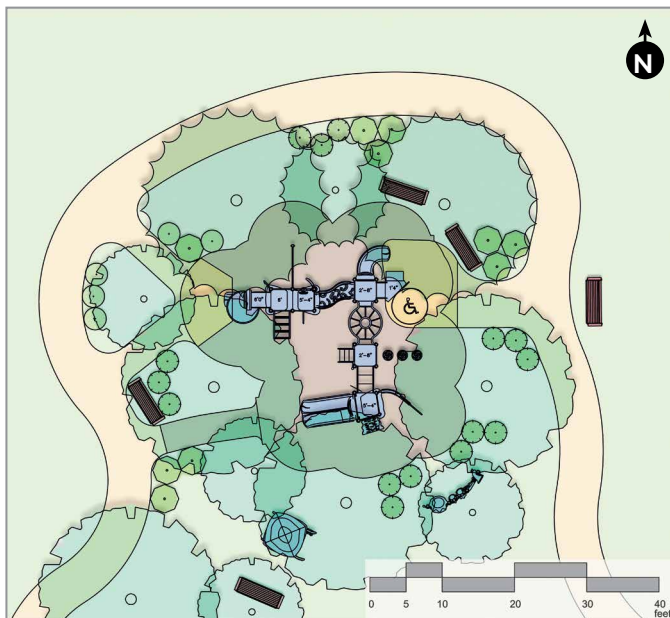
**Single Equipment Use Zone**

The subdivided equipment use zones define a central planting pocket and social setting with park benches. Each subset of equipment occupies its own use zone, which increases spatial complexity and exploratory possibilities. Park benches offer social gathering settings. An arbor adds shade and visual interest to the main pathway and a sense of entry.



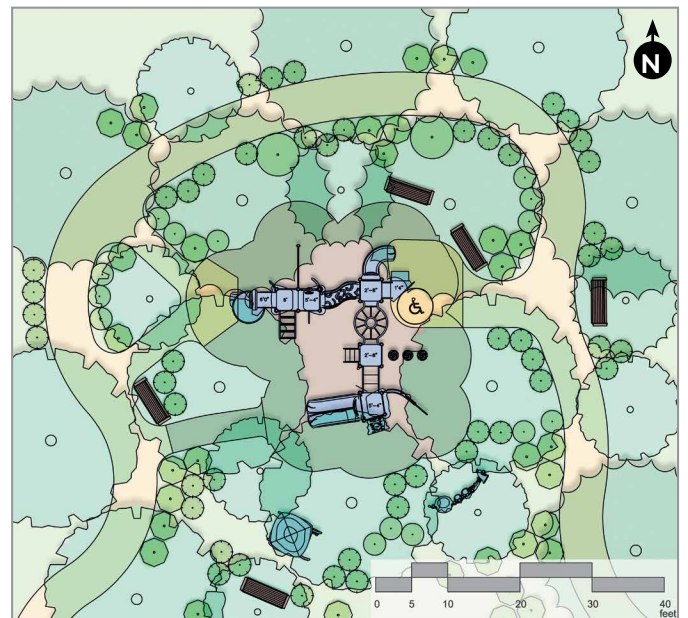
**Phase One**

Five large deciduous shade trees and one medium-sized tree surround the climbing net structure and shade the central social setting and composite climbing equipment. A large evergreen tree north of the composite climbing equipment adds shade to the two park benches and seasonal interest.



**Phase Two**

Additional deciduous and evergreen trees north of the composite climbing equipment provide additional shade and increase visual interest. Shrubs add ground level visual interest and complexity.



**Phase Three**

Substantial deciduous and evergreen shrub planting and large decorative grasses add ground level visual interest and complexity, creating places where children can explore and play hide-and-go-seek and chase games in and around the trees, central pocket planting, and pathway segments.

# NATIONAL DEMONSTRATION SITE NETWORK



## NATURE PLAY



High-quality outdoor play and recreation environments are essential to community health and wellness. Research indicates that when stakeholders are engaged in the planning process, evidence-based design best practices are implemented with the built environment, and supplemental programming is offered to further enhance user experiences, then positive outcomes occur.

Intentionally aligning to National Demonstration Site design criteria ensures that your community can maximize the value of your investment by implementing scholarly best practice research to activate play and recreation destinations. With evidence-based best practices to design and implement high-quality play and recreation environments, National Demonstration Sites receive recognition, demonstrate impact through data services, and site-specific reports to share and showcase the impact on community health and wellness benefits.

### NatureGrounds Best Practice Implementation:

- Locate playground in relation to existing site features and surroundings such as mature trees and topography.
- Design entrances, pathways, and boundaries to enhance naturalization and connectivity.
- Integrate planting pockets (trees, shrubs, grasses) into the play environment as part of the play experience.
- Select child-friendly plants to provide additional play value using the Plant Database at [playcore.com/plants](http://playcore.com/plants) to offer variety, seasonal change, wildlife enhancement, and/or play props.

JOIN THE NETWORK: [PLAYCORE.COM/ND](http://PLAYCORE.COM/ND)S

**PLAYCORE**  
Building communities through play & recreation™