

INNOVATIVE PLAYGROUNDS RESEARCH PROJECT REPORT



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1.0 INTRODUCTION

1.1 The Innovative Play Structures Research Project

This report has been prepared for the Province of Manitoba, Intergovernmental Affairs. The intent of this research is to:

- search out and identify outdoor play equipment trends and alternatives in other jurisdictions around the world;
and
- develop a set of guidelines for assessing children's outdoor play needs in local communities.

The incentive for this initiative grew out of an increasing demand from communities throughout the province for new and more outdoor play structures. It has become clear that many communities have outdated equipment which does not meet CSA Standards and is in poor condition due to age and years of wear. Packaged play structures, while providing safe and well-researched play opportunities, are very costly relative to the resources of many communities. At the same time, they are a quick, ready-made solution for those individuals and groups who lack the background to develop play solutions on their own. The pressures of fundraising and organizing the purchase of ready made equipment is a daunting enough challenge for most parent / school and community groups. There are many solutions to providing safe, creative and challenging play opportunities which this study identifies.



1.2 The Research Process

The following objectives formed the basis for determining direction for this investigation:

- To examine the current definition of play as it relates to social, psychological, and physical aspects involved in child development.
- To examine the current status of play spaces, both positive and negative.
- To define playground in a larger context by exploring topics such as types of play spaces, environmental issues, materials, connections, integration and play for varying age groups.
- To explore the intellectual, organizational, and architectural models available around the world as resources for Manitoba specific approaches.
- To synthesize these findings into guidelines for the process of creating innovative and meaningful playgrounds in Manitoba.

1.3 Research Methods

The process of information gathering for this project included the following:

Literature Review

Searching out all current publications in fields such as sociology, psychology, planning and environmental design for research findings and case studies relevant to this topic.

Internet Search

Searching for:

- current playground designers, manufacturers, auditors and their approach to play space design;
- current civic and community programs or groups dedicated to the development of better playgrounds; and
- current research initiatives, their process and their findings.

Local Search

Using local resources such as the Universal Design Institute, the Faculty of Landscape Architecture, University of Manitoba, and the Health Sciences Centre to research accessibility, safety and materials.



1.4 Research Analysis

Analysis and synthesis of the data gathered included the following:

- Examination and categorization of raw data into a comprehensive appendix resource provided as a companion document to this report.
- Assessment of information gathered based on the goals and objectives of the project.
- Identification of comparative models or examples, design trends, assessment tools, available play alternatives.
- Organization of findings based on direct comparison to current Manitoba trends and conditions.
- Preparation of guidelines and recommendations for achieving innovative and meaningful playgrounds in Manitoba.

1.5 Research Organization

This report is divided into the following sections:

- The Current Status of Play & Playgrounds
- Innovative Playgrounds: Definitions & Findings
- Innovative Playgrounds: Recommendations & Conclusions

2.0 THE CURRENT STATUS OF PLAY & PLAYGROUNDS

2.1 Defining Play in the Environment

Play is something we all understand instinctively as a crucial part of our childhood years and even our adult life. But, although we understand play on a personal level, the definition of play on a more quantifiable level in relationship to designing play environments should be explored.

Lady Allen of Hurtwood wrote in her 1974 book, *Planning for Play*:

When we think of play opportunities for all ages we should never forget that play is not a passive occupation. For children and young people it is an extension of their desire to make their own discoveries in their own time and at their own pace (p. 2).

Since this time many social scientists have developed models for types of play and the changing role of play as children develop into adults.



The Role of Play Activities

The definition of play, listed below, is a synthesis of current research on children's play.

Hodgkins (Childhoods Domain, 1986, p. 13) identifies four developmental stages which help children understand the world around them:

Enactive Development: The actual use of an object

- Iconic Development: The investigation of a model or drawing (a representation)
- Symbolic Development: The modification of real objects into language and abstraction
- Interpersonal Development: The communication of all these ideas with others

Children must move through these stages of perception as they grow. These stages are all nourished by the environments children experience, from home to school, and especially, the place of free thinking and association – the playground.

Children grow and change through these developmental stages by interaction with the world and each other. Researchers have identified four types of play that provide children with the experiences they need to grow and develop:

1. Cognitive Play or Creative Play

- Type of play activity where ideas are tested and the environment is manipulated.
- This type of play is a key factor in the development of imagination and logical thinking.
- Activities can include: digging, molding, shaping, constructing, demolishing, discovering, changing.



2. Active Play or Physical Play

- Type of play where physical skills are honed and developed.
- This type of play is crucial to the growth of a child's body and mobility.
- Activities can include: balancing, coordination, endurance, strength, depth, speed, accuracy, stillness, patience.

3. **Group Play or Social Play**

- Type of play where the dynamics of human interaction and relationships is developed.
- This type of play is a key factor in the development of interpersonal skills and identity.
- Activities can include: group play, talking, laughing, pretending, acting, learning from others, leading, following.

4. **Individual Play or Quiet Play**

- Type of play where the sense of self-reliance and identity are pondered and realized.
- This type of play is crucial to developing private and personal views and to developing identity.
- Activities can include: daydreaming, sitting, thinking, observing, imagining.

It has been recognized that children need to engage in all four types of play in order to grow as people and enjoy the time of childhood.

As James Garbarino, of the Erikson Institute for Advanced Study in Child Development, states:

Child's play is distinguished from adult games in that it is not the basis for any work or production. It is geared to fantasy as a vehicle for processing experience, testing hypothesis about self, and the world and just plain having 'fun' (The Ecological Context of Play, p. 17).



The Role of the Environment in Relation to Play Activities

Robin C. Moore stated in his book *Childhoods Domain*:

...development and environment are reciprocal, the individual is not only influenced by but also influences the environment and has an inner need to do so (p. 8).

It is not enough to define play in a vacuum. Play and the changing modes of play as children grow are directly related to environments that range from the domestic home to the wider region.

Boch and Pilgrim have developed an ecological model of the four environmental systems that impact the play environment:

Microsystems: Places where children inhabit and the activities related to immediate family and friends. These environments and their qualities are especially important for young children.

Mesosystems: This environmental system involves community associations. Here the linkage between the microsystem and neighbourhood play spaces is the key. These are the environments where most playgrounds are physically built, such as school, community centres, plazas, parks.

Exosystems: Social structures and governmental structures in which children cannot or are not often allowed to participate. These are policies, demographics and cultural variations that determine the types of mesosystems that are created at the neighbourhood level.



Macrosystems: This environmental system relates to world views and the assumptions about children, childhood and the role of the environment in a child's life. These views change slowly and must be initiated at the other three environmental system levels.

The role of adults in the capacity of teacher, parent, caregiver, designer, planner or policy maker is to join with children in creating, judging, enriching and understanding play in the development of human competence at all ages.

2.2 Are We Losing Our Ability to Play?

In 1981, according to University of Michigan researchers, the average (American) school-age child had 40% of the day for free time – meaning hours left over after sleeping, eating, studying and engaging in organized activities. By 1997, the figure was down to 25%. (Time Magazine, April 30, 2001, Canadian Edition).

These statistics indicate that children's lives are more structured and scheduled than ever before. There are fewer and fewer opportunities to just 'goof off' and have fun in an unstructured, non-organized way. Places no longer exist where children can spend time on their own (without the watchful presence of adults) to make discoveries and experience what is now referred to as 'old-fashioned' play time. Doing things like making pretend play houses out of cardboard, exploring the vacant lots or the bush near by, hanging out with friends in the park or playing hide-and-seek are memories which most adults speak of with nostalgia but which many children today never get the opportunity to experience.



There is a concern that children today are losing the ability to play. There is less time, less space and much more paranoia about safety, dirt and the unknown.

Over-designed, expensive play structures have evolved in this new climate. John McKendrich, in his article *Playgrounds in the Built Environment* (Built Environment, Vol. 25, No. 1) states: “First, the assumption that playgrounds meet the play needs of children should be questioned and the hidden contract of ‘play-in-playgrounds-but-not-elsewhere’ must be acknowledged, then critiqued”. He goes on to state:

Playgrounds do not meet the needs of all young people; nor indeed do they meet all the needs of some young people. Second, it must be recognized that the non-participatory model of provision, through which adults produce standardized playscapes in similar settings for children, is of wider significance in children’s lives. If adequate playgrounds can be designed without the assistance of children, play being the domain for which children have traditionally exerted most control over their lives, then there seems little scope or need to involve children as participants in design processes in the broader built environment.



Parents are starting to recognize that there is an unhealthy aspect to an over structured childhood. The over structuring of what free time children have should not be relegated to adult designed programmed play structures.

2.3 Synopsis of CSA Standards

In 1986, the Canadian Standards Association developed CSA Standard CAN/CSA-2614, *A Guideline on Children's Playspaces and Equipment*. This document was approved in 1990 as a National Standard of Canada by the Standards Council of Canada. The latest edition was released in 1998.

The purpose of the Standard is “to promote and encourage the provision and use of playspaces that are well-designed, well-maintained, innovative and challenging”. The Standard recognizes “requirements for playspaces and equipment intended for use by children aged 18 months to 12 years”.

The Standard is organized to define the requirements for materials, installation, structural integrity, surfacing, inspection and maintenance, performance requirements, requirements for access / egress, play space layout, equipment and identification and information for play equipment. It deals with recommendations for supervised play opportunities, the maintenance and inspection process, and it identifies potential defects and flaws play providers should be aware of, as well as, areas for consideration for maintenance and repairs. The Standard serves as an excellent guideline for meeting safety standards for children's play equipment and play spaces. It should, however, be recognized as a tool and guideline for the purposes for which it was designed.

Universal Design

Universal design means inclusiveness for all community members consistent with aesthetically good design. It seeks to plan and develop an inclusive environment providing maximum choices. It is important to assure that all members of the community have access to our playgrounds and to play equipment as well as to quality play experiences within these environments.

The Universal Design Institute at the University of Manitoba is an excellent resource for acquiring information and assistance in designing universally accessible playgrounds and play equipment. *Play for All Guidelines* (MIG Communications, 1987, 1992) is a publication which provides planning, design and management guidelines for outdoor play settings for all children. This publication is organized and written to take the reader through the planning and design process based on universal design principles, beginning with child development objectives, through site analysis, to the establishment of site design criteria and the development of management criteria. It examines all aspects of the play settings from entrances to pathways, signage, fencing, manufactured play equipment, multipurpose game settings, surfacing, topography, vegetation, animal settings, water, play props, stage settings and gathering places. As well it considers play programming and risk management strategies. It is a useful document to consult as an inherent component of the planning process.

Manitoba has been a leader in the incorporation of universal design practices in all aspects of environmental development.



2.4 Play in Manitoba

While play and play opportunities have universal characteristics, children's play in different parts of the world is influenced by geography, climate, and cultural and societal conditions. Children in Manitoba experience greatly varying conditions within the province itself, and these special conditions must be recognized in any play space planning process.

Manitoba covers a large geographic area with varying types of geography and climate issues. Children play on the Prairies, the Precambrian Shield, the Boreal Forest and the Northern Tundra – all within Manitoba. Climactic conditions range from extremes of cold to extremes of heat, from dry, drought periods to wet, rainy periods. Our summers are short and hot and our winters are long and cold.

Manitobans are presented with both challenges and opportunities to develop play spaces and equipment which acknowledge and capitalize on our unique environment.

It is important to acknowledge the fact that Manitoba is a four season province and especially, that winter conditions exist for 6 months of the year in our most southerly areas and longer, further north. Manitoba children should have access to playgrounds and play equipment which are developed to accommodate and take advantage of these conditions.

Play equipment and play spaces should be adaptable to all weather use. Materials should be able to withstand weather changes and be comfortable and safe under all conditions. For example, the use of steel, for example, would present problems



of being too hot to touch in the summer sun and dangerous to curious, wet, little tongues in winter. At the same time, climbing structures in summer may be adaptable as frameworks for snow houses in winter.

Geographically, we can look for opportunities to capitalize on existing conditions. A lookout tower on the Prairies affords a child miles of view, a hill or rock wall in the Shield can be adapted for climbing.

Cultural and societal conditions can also present opportunities – adapting traditional games and images and incorporating them into a play space will make it more dynamic and more familiar to children. Communities of mixed cultures can take advantage of education and awareness opportunities in developing their play spaces.

An example of using cultural icons and images is evident in a playground being developed for an inner-city Winnipeg school and community centre with a large Aboriginal population. Traditional games and icons are incorporated into the design of the playground. The use of the cardinal colours and traditional layout according to the four directions are inherent in the design.

Manitobans are fortunate in our diversity of experiences – climatically, geographically and culturally. These factors should be employed to provide more dynamic and interesting play opportunities for our children.



3.0 INNOVATIVE PLAYGROUNDS: DEFINITIONS & FINDINGS

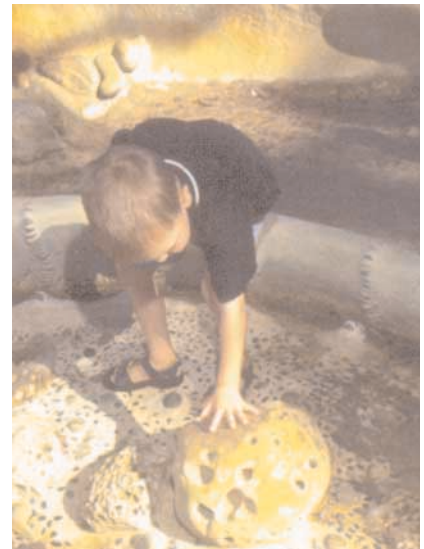
It has become increasingly popular, over the last 10 to 15 years, for schools, daycares and community groups to develop new playgrounds around pre-manufactured play structures. These play structures are well designed and well built but are extremely expensive and provide a limited set of play values and experiences. The recognition of the fact that most groups requiring play facilities have limited dollars and often little expertise in planning and design, has led to this investigation of alternatives to the stand-alone super play structure.

This section explores the innovative playground and the possibilities for alternative play solutions.

3.1 Defining the Innovative Playground

Prior to discussing the range of innovative playground developments being built and designed around the world, it is important to establish the genesis from which all of these projects were considered and evaluated.

This study defines **innovative playground** as a space designed for multiple age groups or one particular age group. It is a playground that has developed environments and products that are a departure from the typical application of generic standards, layouts, environments, materials and implementation practices. An innovative playground does not need to be unique in every one of these aspects. It must, however, exemplify a unique trend or component in playground design.



To qualify as innovative, the playground planning and design process must:

- extend beyond play equipment;
- be driven by clearly defined government or community initiatives;
- be accepted and integrated into the community;
- respect local culture and values;
- utilize the indigenous environment rather than suppressing it; and
- provide for choice in play.

3.2 Innovative Government, Community & Citizen Collaborations for Better Playgrounds

Although *what* innovative playgrounds are composed of is the main focus of this inquiry, it is equally important to understand *how* these playgrounds become a reality.

This section of the report highlights the importance of policy and process in playground creation. It focuses on agencies, governments, and community groups that are setting an example by acknowledging and ensuring quality children's play spaces are a part of a healthy human settlement.

The groups and organizations discussed here are examples of how the process of informing and developing play design spans from a global to a community-specific level.

Global Organizations

Global associations are important in developing meaningful play environments because they can act as a central organizing force for:

- the recognition and standardization of children's rights to play around the world; and
- the distribution and debate of playground theories and developments around the world.

One of the longest lasting and most influential advocate groups for children's play is the International Association for the Child's Right to Play IPA World (www.ipausa.org). This organization was founded in Denmark in 1961 and now has over 30 member nations including Canada.



IPA's mandate focuses on many issues including:

- play as health promotion;
- play as education;
- play as social development; and
- play as leisure.

IPA Canada is fully involved in promoting and supporting Canadian Playground Initiatives. The current membership includes a diverse group of child care specialists and design, education and civic professionals. IPA Canada supports research and development for:

- children's environments;
- play leadership;
- toys and play materials;
- safety and play; and
- children with special needs.



One of IPA's most successful and influential features is its quarterly journal called *Play Rights*. *Play Rights* is an open forum for timely international discourse on the state and development of children's play environments. Local organizations in Manitoba could be directed to this national group in order to access current ideas and information about projects for playgrounds around the world.

National & Regional Government Initiatives

Countries and regions that take the necessary steps in understanding their approach to developing and supporting children's play environments reap the benefits of well designed, long lasting, manageable and enriching places for their children. Both the National Children's Bureau and the Belfast City Initiative, discussed here, exemplify some of the steps and support structures Manitoba's Provincial and Municipal governments could consider implementing.

The National Children's Bureau (NCB) in the United Kingdom is a government agency set up to deal with a wide range of childhood rights issues such as health care, education and play. The sub-organization of NCB associated with developing and maintaining children's play environments is the Children's Play Council (CPC). Set up in 1998, CPC is an alliance of national, regional and local organizations. CPC's *Charter for Children's Play* (1992) is the most important contribution. The Charter clearly defines the rights and needs of children, outlining goals that any regional or local organization can adopt as a starting point for play place development or redevelopment.

In addition, the CPC provides a forum for the exchange of new ideas and examples in their free bimonthly journal, *Playtoday*. Making this literature available to everyone adds to the distribution of information required for change.

Most importantly, the CPC has an ongoing research and policy development program for play and play provisions in England. Some of the other studies and resources undertaken to better support the creation of quality play environments are:

- surveying practitioners and uses for their ideas and observations;
- directly auditing children's use of current playgrounds for a better understanding of their needs and desires; and
- converting these findings into policy and process guidelines for implementation in playground development.



Awareness and promotion of current play ideas at a local government level is a key aspect of developing meaningful and appropriate playgrounds in our cities.

For example, the City of Winnipeg has comprehensive safety and maintenance guidelines for its playgrounds and parks. However, an overall vision and policy for play and the support materials that allow communities and government to come together in the collaborative process of building them do not exist. Currently, these issues are dealt with on a project by project basis and are dependent upon the expertise and attitudes of the administrators in charge of individual projects.

One current example of a civic government that has taken up the issue of children's play is the Belfast City Council:

Belfast City Council is committed to working towards enabling the right of every child to play by working with local communities, public agencies and voluntary organizations to enable the play needs of children and young people to be met within prescribed boundaries and legislative requirements.

The Belfast City Council has taken a 'Best Value' approach. This means that play policy is developed inter- and intra-departmentally through cooperation and communication between Civic programming, maintenance, development and planning departments.

In order to understand the City of Belfast's goals, a Parks and Amenities Policy has been developed. It states that the city aims to:

- increase accessibility for all play provision;
- design playgrounds that reflect the character and needs of each community;
- ensure safe and manageable play facilities;
- participate in regular review cycles of playgrounds for identifying areas in need of change; and

- continue the commitment to playgrounds after construction through programming events and environmental education opportunities.

With regard to playgrounds, the City of Belfast recognizes the need to provide a wide range of play environments of varying sizes and scope in order to accommodate the needs of its youth population.

A document describing possible playground types, such as adventure, toddler, environmental, etc., playgrounds complete with definitions and program components, has been developed as a resource for beginning to conceptualize the type of playgrounds that could be implemented in different areas of the city.

Playground development guidelines and playground bylaws have been distributed for use by community groups collaborating on specific playground projects. Belfast City has also addressed the growing need to involve community organizations and grassroots groups in the process. They provide a 'Grant Aid Programme' that guides and supports local groups in developing innovative projects and seasonal play schemes to meet the needs of local children.



The process of involving the users is accomplished through:

- interagency cooperation and partnership - forums, public review, children's review;
- inclusive services - grant aid and support material;
- quality standards - play bylaws and design guidelines;
- best value for play - a rigorous process of annual monitoring by internal and external sources; and
- strategy development.

The idea of developing play place typologies, play bylaws, design guidelines and support material for playground development is a realistic and necessary goal for all government agencies seeking to build better playgrounds.

Non-Profit Organizations & Grassroots Community Groups in Canada

A community should not underestimate the power of its beliefs and goals. Many communities in Manitoba and around the world have succumbed to the view that government agencies are responsible for their play environments and therefore, they only speak up (as individuals or groups) at the end of the process when the play spaces implemented in their neighbourhoods do not meet their needs or dreams.



Community groups and private non-profit foundations organized around voicing the needs of “the little people” have proven that their participation in the conceptual design and building process of a playground can transform it into a more useful and vibrant community place for children and adults alike. What these organizations bring to the table is a current and immediate view of the people for whom playgrounds are designed in the first place.

Locally initiated and grassroots driven groups around the world can grow into major organizations and resources such as:

- Nottingdale Urban Studies Centre - London, England
- Experience Workshops - Saita, Sweden
- PLAE Playing and Learning In Adaptable Environments - Berkeley, California
- Group Ludic Paris - Paris Artists For Play Initiative
- NUSO, The Dutch Union of Playground Associations
- Stockholm Leisure Groups: programs in playgrounds
- Let the Children Play: lobby group for allowing children more free play

Two noteworthy examples of effective community mobilization are TorontoPlaygrounds.com, a fundraising and awareness group, and the Evergreen Foundation, a nation-wide non-profit organization evolved from a Vancouver Community Initiative.

TorontoPlaygrounds.com is an independent group of parents working with the Toronto District School Board to raise funds and resident participation in the replacement or refurbishment of 172 playgrounds in the Greater Toronto area. They understand that funding is a key issue and have organized an aggressive campaign to supplement the funds available from government sources.

In addition this group has developed an identity and a presence that does not allow Toronto's playgrounds to be ignored. Group members are knowledgeable about the types of play environments they would like to promote and have moved beyond the stereotypical ideal of playground, as play equipment *only*, to playground as an entire environment complete with learning, physical activity and natural elements.

The Evergreen Foundation is a registered national charity, founded in 1991, based on a mandate to create healthy cities through innovative community naturalization projects. Although not exclusively connected to children's play environments, this community driven organization is changing the face of children's playgrounds. The Evergreen Foundation is on a mission to change cultural attitudes toward standardized, prefabricated, 'cookie cutter' playgrounds through its "Toyota Evergreen Learning Grounds Program". Schools and community centres throughout the country can earn funds by proposing, planning and implementing innovative playgrounds that not only balance children's needs but also nature's.

In order to support communities committed to making these kinds of changes, Evergreen provides a “Tool Shed”. The Tool Shed is a collection of resources, answers and questionnaires designed to help with the conceptualization and design of play spaces by communities for communities. Of special note are tools developed specifically for involving children: items such as cognitive maps, wish lists, and ‘my favourite place to play’. It is important to note that The Evergreen Foundation is available to help empower local volunteer groups across Canada with ideas and tools to make their children’s play environments rich in multiple play, learning, relaxing and socializing activities. As with all great funding and idea partnerships, however, the key is committed corporate or civic sponsorship supported by an involved and dedicated group of volunteers. Without strong sponsorship the school grounds project described above would not be possible.

A Final Key to Successful Collaboration

While the combined energies of strong communities, with governmental and corporate or private sponsor support, can build wonderful playgrounds that meet the specific needs of the children in that community, it is important to plan for ongoing maintenance and programming to keep the facility vital and in good repair. Planning for programming and maintenance from the outset of a project helps to ensure that those very important pieces are not left out once the capital dollars are spent.



3.3 Innovative Playground Case Studies from Around the World

Innovative playground development is an important issue throughout the world. Governments, community groups and designers are faced with many diverse considerations, such as age group, target activities, cultural environment, natural environment, climate and safety, to consider. As a result, few playgrounds meet the perfect ideal of being able to include every child play issue into their design, nor would the resulting clutter and lack of clarity this approach could produce be desirable. Every project is unique and should be approached from the ‘genius loci’ point of view. This means that each playground must be designed for its particular location and for the people who will be using it.

All the examples that follow in this section are unique and varied in their approaches to designing playgrounds for children of all ages. However, the one underlying idea that connects each of them is the creative approach taken to expand the possibilities of play environments for all people. The findings in this section are organized, based on the approach to design and development in the creation of the play environment.

This section has been organized as an examination of the varying considerations necessary in playground development.

- A. Environmental Integration
- B. Educational Process
- C. Cultural Heritage
- D. Therapeutic Value
- E. Age & Activity
- F. Imagination & Creativity
- G. Multipurpose Use & Integrated Design

A. Environmental Integration as a Basis for Playground Development

Ideology

Children's concern for the natural world is shaped through opportunities for direct contact with the environment. Urban children, especially, need to experience play in a landscape designed to meet those needs, and where they can explore and experience natural materials and cycles each day of their lives.

Natural elements such as plants, water and wildlife have special attributes not provided by synthetic environments. Natural environments enable children to experience diversity, sensory variety and ever changing interaction, almost always best felt through unstructured play.

The Natural Learning Initiative - Carolina State

The Natural Learning Initiative (NLI) is a research and development organization from Carolina State University. NLI's mission is to help communities create places for the connection of people and the natural environment.



Blanchie Carter Discovery Park, at Southern Pines Primary School is an example of how a previously desert-like expanse of gravel and play equipment (1996) was transformed into ecological habitats, a heritage village and a place for natural processes to take place. Designers from NLI created the playground as a community park focused on environmental issues. The park is not 'beautified' but restored to its natural ecological state. Activities include controlled fires for forest revitalization, native revegetation, accessible bird watching stations, and a wetland.

This project has been recognized as part of the National Wildlife Federation Schoolyard Program. In addition, the entire park is designed to be accessible to children and adults of all ages and abilities.

The Edible Schoolyard - Berkeley, California

The Edible Schoolyard is a non-profit organization working with schools in Berkeley, California, to develop edible school grounds. Agriculture and gardening are some of the best means through which children learn to value not only food, but the process and environmental qualities required to produce it.

The design of the edible playground garden at Martin Luther King Junior School was a five year process that involved children, chefs, teachers, parents, gardeners and landscape architects. The design and use of the garden was ultimately determined on site by students in collaboration with their gardening teacher. The garden is continually evolving as crops are rotated and beds are enlarged.

It is important to understand that this playground requires intensive design participation and long term commitment by the community but the rewards are that having faith in young people can pay off. Students experience social, quiet and cognitive play in this environment. They grow the produce, count it, pay for it or sell it, and even prepare meals in a school kitchen with it. Most importantly, the garden is a natural and cultural environment that provides a context in which human relationships can develop.



The Gateway School Landscape - St. Louis, Missouri

The Gateway School Landscape Master Plan, designed by EDWA in St. Louis, is a project that exemplifies both educational and environmental innovation. The project was designed in conjunction with a well defined program developed by the Harris Stowe Teachers College and the students of Gateway School. The environmental components of note include: the Sun Pole, Windmill Weather Station, Salisbury Crag and Cascade, Castlewood Bluff, Gottigen Woods, Pond Overlook, Animal Trail and Gateway Prairie. Each of these elements reinforces an aspect of the environmental system such as solar cycles, seasonal changes, local topography and rock formation, water flow, wildlife habitat and regional ecological zones.

Gateway Prairie combines native Missouri prairie grasses with wildflowers to replicate prairie habitat common to St. Louis prior to settlement. This area of the courtyard is alive with the sounds of birds and insects. The grasses are allowed to bleed into the woodland habitat creating an ecotone. Children play hide and seek in the grass, lie looking up at the sky in the grass, collect flowers and seeds, make crowns and wreaths and follow the changing moods of this habitat through all the seasons.



The Garden of The Senses - Faelledspasken, Holland

The Garden of the Senses in Faelledspasken, Holland is not only a mere playground but a garden designed for discovery. The garden aims to show nature in concert and contrast. The garden of the senses concept derives from the Dutch notion of ‘snoezeln’, meaning active and passive use of one’s senses.

In the Garden of the Senses, all the environmental attributes such as light quality, vegetation, water, texture, smell, etc. are amplified here as individual sensory experiences. The contrasts are the jolt required for introspection, imagination and play. Differences between light and shadow, rough and smooth, sour and sweet, soft and prickly create a stimulating play space for the entire family.

Canadian Examples

Canadians in British Columbia, especially, seem to be catching on to this innovative approach to playground development. In the past year, several projects worth noting have been developed or initiated in this province.

One example is this year's Canadian Society of Landscape Architects National Award Winner, Burnaby Mountain North East Secondary School. The project was developed and implemented with the participation of the Burnaby School Division and the Burnaby Mountain Parents Council.

The playground is a sensitive and diverse environment composed of pockets of traditional activity based play areas within a larger park context. Natural play features include the salvage of old growth redwood forest, the creation of rock outcroppings, trails and vistas, and a stream which flows from higher elevations to a wetland habitat, complete with boardwalks, bridges and diverse aquatic wildlife.

Children play here at recess, after school and on the weekends, alternating between the traditional play spaces and the natural environments depending on their mood, number, or the weather conditions. The best part, according to parents, is that the playground has an overall sense of place that draws the entire community to use it and thus take ownership of it.

Winter Play & Playground Design

Manitoba children spend over 80% of their school year in a cold, snow bound environment. Not surprisingly, the most noteworthy examples of and research on winter play are to be found in Winnipeg.

Winter and Play is a research document analyzing children's winter play activities in Winnipeg. Researched and written by Professor Charles Thomsen of the University of Manitoba as a Canadian Mortgage and Housing Corporation research project during the 1980s International Year of the Child, the document focuses on how winter can become a celebrated part of playground activity. Some of this project's findings are described below.



Children do not care that it is cold. They embrace the magic of the changing qualities of winter as it passes from first snow to spring slush with none of the disgruntlement of adults. Winter has its own landscape and landform qualities experienced through light, texture, colour, taste, smell and sound.



Considerations for winter play should include the use of wind, snow, ice and sun as play elements. Wind can be used as a tool to create snow drifts, quiet places, sound barriers or carriers. It is an element to be moderated but not dispelled from winter play. Snow, with its many faces and textures, should be exploited for its malleable qualities to make sculptures, snowmen, slides, forts, mazes and caves. Snow manipulation allows children a sense of control. Well located snow piling will allow children this opportunity. The sun is an ever present source of delight during Manitoba winters. Using the sun with other components, designers can create microclimates and transform heat retaining materials such as wood, concrete and

metal. Ice can also be used in many ways from activities such as skating on a flooded summer wading pool to temporary sculptures that stretch the imagination, such as ice formations that form winter wonderlands. Ice can be cut, formed and lit to create magical winter structures.

As Mr. Thomsen concludes:

The winter play environment provides all 'the loose parts' characteristic of the adventure playground. With small and thoughtful design considerations such as buffers, landforms and niches designers can easily and cheaply transform the winter playground (Winter and Play, p. 4-1).

Manitoba Playgrounds

Manitoba is rich in ecological and topographical environments. It would be a valuable exercise to begin thinking of portions of children's playgrounds as potential naturalized areas where children are exposed to and can play with all that our environment has to offer.

B. The Educational Process as a Basis for Playground Development

Ideology

It has been well established by social scientists that children use play times and play environments to solidify the abstract lessons they are learning in school and in their personal lives. A playground designed solely for physical activity only partially fulfills a child's play needs as he/she develops.

Learning Through Landscapes - England

A most innovative example of expanding informal educational resources and environments into the playground is found in England. Since 1990, Learning Through Landscapes (LTL), a non-profit organization devoted to enriching learning opportunities for children, has helped over 24,000 schools across the United Kingdom to bring lasting improvements to the environmental quality and educational use of their grounds.

LTL provides many services for citizens and designers. For example, do it yourself community groups can purchase guidance video tapes and manuals for constructing their own environmental learning grounds for a very small charge. The organization is also involved in ongoing research and dissemination of new information. Some LTL resources for designers include: curriculum development handbooks and E-Scape magazine, a quarterly publication that contains ideas, issues, diaries, case studies and resources. Learning through Landscapes can be found at <http://www.ltl.org.uk>. LTL has developed a sufficient profile to be able to lobby United Kingdom governments to seriously assess all playgrounds and to consider creating a financial plan for achieving renovations.



The Landscape Design and Community Unit (LDCU) at Leeds Polytechnic is considered to have expertise in designing playgrounds for education after completing over 23 projects in this field. The educational process at LTL is not only about children. For example, the Local Management of Schools (LMS) is a program designed to teach community groups about the maintenance involvement required after learning grounds have been developed.

Greensboro Day School - Greensborough, North Carolina

One example of learning through landscapes occurs at Greensboro Day School in North Carolina, U.S.A. Most schools in North Carolina are required to retain water runoff on site. The typical solution is an engineered retention pond or ditch surrounded by chain link fence or a fast draining impervious surface punctured by a catch basin. Students and teachers at Greensboro Day School decided to take a different approach. In April, 2001, students and teachers at the school participated in a half day workshop. Each grade level went for a walk, discussed and brainstormed. Each group then presented design proposals.



Greensboro Day School is a great example of the community turning an expensive eyesore into a positive learning and play environment for children. The project is now under construction and contains many student suggestions for play and learning environments. These include the Rubber Boot Bay, the Stepping Stone Bridge, the Boardwalk Observation Point, the Beaver Dam, and minnows, frogs and fish.

Youth Farms - Germany

In Germany, the educational structure is different than in North America. Children attend school from 7:00 a.m. to 12 noon. As a result, they have more free time to explore other play opportunities and learning experiences, thus receiving a less formal kind of education. Many German provinces have designed and implemented Youth Farms and Activity Playgrounds. These are supervised playgrounds which contain diverse areas for children, aged 6 to 14. The playgrounds are open year round for several days a week.

The Youth Farms provide diverse places for all children. Special programs teach all children, including those with physical or mental disabilities, how to participate in society through gardening, riding, racing, and generally, playing with other children. The playground, with all its varied activities and educational design features, i.e., wood shop, metal shop, garden, marsh, human chess board, etc., aims to further the independence of children and young people. The playground is not simply a stand-alone play structure to be climbed, but a complete environment that provokes and encourages creative mental, physical and social connections. The Youth Farm teaches children continuity, changeability, independence, maturity, integration, ecology, and community through the process of play.

Following the reunification of Germany in 1990, it became very important to Germans to provide children with democratic playgrounds. This arose from listening to and implementing children's wishes. The funding and development process for these playgrounds falls to individual communities through federal law. At present, more than half of these farms are run by parents initiatives which are recognized and legal German

entities. These groups receive government aid (funding) and are responsible for the use of money and materials. To find out more about this German approach to learning and playing look up the European Federation of City Farms or go to <http://www.bdja.org/>.

The Gateway School - St. Louis, Missouri

A previously mentioned example that must be cited for further discussion when considering play and education is Gateway School in St. Louis. Besides providing for education through more natural settings, this playground has also sought new ways to combine mathematics and science into the play environment. “The plan was that the school be a playground for the mind” (Landscape Architecture, 2000, p. 71).

At Gateway School, children can use their entire schoolyard for both learning and playing. For example, the math and physical science play areas consist of flexible spaces designed to clarify abstract problems. Features include Solar System Walk, the Hydrolics Lab, the Physics Playground, the Distance Scale, the Math Playground and numerous outdoor classrooms, complete with comfortable seating and microclimates.

The cosmic display, for example, is a portion of the Math Playground where pavement surfacing has been used to cut sections through geometric forms. The whimsical combination of these forms makes them fun to play and imagine with even when not in Math class. The measuring stick, a bright yellow oversized measuring tape, allows children to gauge real distances. It can also be used for fun games such as leap frog and long jump. The limestone ellipse in the Physics Playground is an area of crushed stone and sand that allows for digging, and provides a place for building simple structures or machines.



Whether a child is in class or not, it is always ‘play time’ when you get to manipulate your own environment. Geography is taught at the meeting place above the Amphitheatre where the map of Missouri is sandblasted into a directional compass. The Amphitheatre itself is a place where school plays and creative productions are presented.

Gateway School has been awarded the American Association of Landscape Architects Merit Award. Although this project had a very large budget provided by some major corporate sponsors, many individual ideas can be borrowed and incorporated into more modest scale playground developments in places such as Manitoba.

Local Examples

In Manitoba, the move towards creating educational play components in the school ground is beginning to be considered. At David Livingstone School, in Winnipeg, the school and community decided that an outdoor classroom that could also serve as a teenage ‘hang out’ area, would be beneficial. The classroom is designed as an elliptical shaped space bounded by two concrete seat walls. The pavement serves as a scientific and cultural educational tool. A central sundial locates the cardinal directions, Aboriginal spirit totems associated with these directions such as the eagle, coyote, bear and bison are used as reminders of cultural stories. A pole in the centre of the classroom serves as a measuring device for the sun’s movement. A wind vein and other weather measuring equipment donated by Environment Canada will be used to quantify the changing seasons.

C. Cultural Heritage as a Basis for Playground Development

Ideology

Manitoba is a province rich in cultural identity and heritage yet almost all our playgrounds are dominated by imported, pre-manufactured play equipment. One of the most important aspects of childhood and growing up is the development of a strong personal and social identity. It has been well documented that many North American children growing up in 'cookie cutter' subdivision neighbourhoods, playing only with commercialized T.V. programs and video games, become bored, unstimulated and unrooted adults.

Introducing and emphasizing multi-culturalism and regional human history into children's play spaces allows them to integrate their roots into their Canadian environment through the relaxed atmosphere of play rather than the somewhat intimidating and formal education experienced in museums or at cultural 'events'.

Pymont Point Playground - Sydney, Australia

In Australia, heritage and identity are inherent to their national consciousness. Pymont Point Playground, located in Pymont, a suburb of Sydney, was developed based on a design concept focused on highlighting the maritime history of this area.



Development of this project began with student led consultations and workshops. Children from the area were involved in sketching and making models of their ultimate playground. This, combined with historic research on wharves, cranes, boardwalks and quarried cliffs in the area, formed the inspiration for the final design. Some of the most influential concept elements for the playground were wooden boat hulls, Pacific island longhouses and the fish skeletal system.

The playground, constructed in 1997, bases all linkages and activities on a “working waterfront” theme. As a result, the playground is a unique and site specific blend of one-of-a-kind sculptural play elements and strategically integrated pre-manufactured equipment such as slides, and swings. Some of the unique cultural features include the sculptural steel skeletons reflecting the bone structure of a whale, the use of canvas sails for shade, and the use of a wooden boardwalk on sand with ramps and gentle grades to provide universal access. Timber poles are placed in a grid around the playground. They form a maze of interconnecting climbing structures, reminiscent of boat docking stations. Pymont Playground has become a focal point of the entire community. It is a playground where both adults and children discover their maritime heritage in a whimsical and playful manner.

The Danish Example: Full Integration

A 1997 article in *Ladskab* (a Danish landscape architecture magazine) begins with:

For several decades landscape architects were afraid to abide by less than 100% union regulations, but now after years of standardization and safety rules above all, they feel free again (p. 199).

Nordic countries like The Netherlands and Sweden have embraced, for many years, an attitude toward play that focuses on the need for play spaces that are culturally sensitive and fully integrated into the community landscape.

The Langelinie Park Division Playground located in Langelinie, Denmark, is a playground developed from an abandoned industrial site. The design reflects the history of the area by using industrial materials and shapes. The playground includes lookout towers, silos, catwalks, stairs and many other

active play components that reflect the historic use of the site and integrate it with the community identity of the area.

Gammelvagt Playground, in the heart of Copenhagen, is the community's key cultural element. This small 700 square metre playground is in the core of a highly urbanized area. The playground makes full use of building walls for space definition and connection. All the playground components are customized to suit the scale and detail of the surrounding architecture and, here in the heart of it all, a family can sit around a small lake and look into this little oasis or out toward church steeples and government buildings.



The Alpha II Youth Centre - Berlin, Germany

The Alpha II Youth Centre in Berlin is an example of using archeology and arts and crafts in the development of the play environment. Christopher Bohm, an action artist from Berlin, conceived of an idea for an area of the park where children can experience the environments of primitive cultures. Children that visit the centre (still under development in 1997) can learn to make huts, build shelters and become self sufficient outdoors. Play environments include a loam playground where children shape and sculpt sundried mud, a geodesic dome where Buckminster Fuller's architectural ideas are explored, and a wood burning stove station where children learn how heating and cooling effects the spaces they inhabit. Overall, Alpha II is an experiment in using basic survival techniques in play while educating children about their culture.



Ibach Park Play Area - Tualatin, Oregon

One of the best examples of a playground designed around a cultural theme is the Ibach Park Play Area in Tualatin, Oregon. This example is especially relevant to this study due to the similar prairie histories of Manitoba and Oregon.

Commissioned by the Tualatin Parks and Recreation Department and completed in May, 1997, the Ibach Playground was designed with input from the community. This playground integrates children of varying abilities. The goal for the playground is not simply to provide for physical stimulation but also, to create an environment that encourages social and intellectual development.

The playground, designed by Moore Iacofano Goltsman (MIG), is organized around the theme of Tualatin history. The designers note that this project is still rather rare in North America, and that this continent lags well behind European countries in allocating resources toward the creation of ‘nontraditional playgrounds’.

The playground is set within the larger multipurpose recreational context of Ibach Park. It is designed for multiple and diverse child play activities. Although some of the play area components such as swings, sandboxes and spring toys can be found in virtually every American playground, here they are integrated into an overall design that includes many other types of custom designed features.

The play area is separated into three distinct spaces, each representing an era in Tualatin history. A stream, sometimes revealed as real water when it rains or as a blue ribbon of soft rubber paving, links the three areas and symbolizes the Tualatin River, the city’s most important geographic feature.

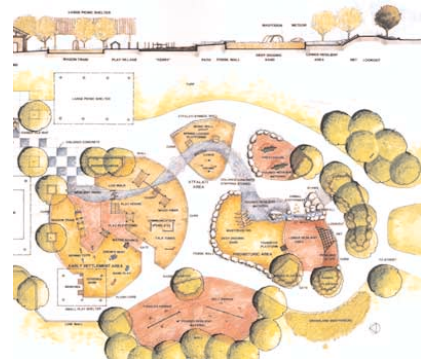
The stream originates in the first space, the Prehistory Playground, where a five foot ‘mountain’ referencing the geological history of the area, is located. An infrared activator allows children to initiate and follow the flow of water. The

water is guided along a raised area where children in wheelchairs can be included in the experience. This stream meanders past prehistoric animals embedded in the sand, created from recycled tires. Along the way, a large boulder represents the prehistoric meteor that forms the landscape on which Tualatin was built. The prehistory area also includes an archeological dig, dominated by a mastodon rib cage. The digging area uncovers other sculptural skeletal elements while the adjacent wall is embedded with local fossils and fragments.

The second play space, the Native American area of the playground, is inspired by the Atfalati Indians who once inhabited the region. Here children can experience many of the Atfalati traditions on specifically designed play equipment such as the Native Drum Circle, the Chime Wall and the Canoe Station.

The third play space is called the Early Settlement Playground and reflects the pattern of European settlement in the Tualatin area. A moveable child-powered platform coasts from one paved island area to another, reflecting the role of the ferry to settlers. This area includes play features such as the Farmhouse Climbing Structure, the Logging Balance Beam and the Barn Shade Structure.

This cultural playground is a great example of what can happen when children and parents come together with the elders in their community and look to community traditions for inspiration. As a result of the many workshops, visualization and storytelling sessions and community input, this playground has become a city-wide landmark and source of pride.



Manitoba Playgrounds & Cultural Heritage

Manitobans have been practicing the idea of using their cultural ideology in developing their built environments for many years. For example, although not an outdoor playground, the Manitoba Children's Museum contains many historic and culturally significant indoor play areas such as the locomotive and the postal station. The Oodena Celebration Circle, at The Forks in Winnipeg, is designed to reflect the archeological significance of the conjunction of the Red and Assiniboine Rivers, the history, traditions and rituals of Aboriginal people in this area, and the importance of astronomy to Manitoban culture. Although it is not a formal playground, Oodena, with its monolithic markers, sculpted bowl and armatures, captivates children who are always climbing and playing within this special place.

Given the tradition of multi-cultural acceptance and recognition in Manitoba, it would not be difficult for communities in this province to initiate the design and implementation of culturally driven playgrounds. The challenge for each community will be to integrate the relevant history and tradition of their specific area into a play environment that both educates and inspires children to be proud of their ethnic and Canadian heritage. This approach presents an opportunity for a community playground to be transformed into a place where children and adults can meet and learn about each other and their roots.

D. Therapeutic Value as a Basis for Playground Development

Ideology

Over the past decade there has been a movement in the United States and Canada, based upon the belief that people derive therapeutic benefits, such as relaxation, revitalization, stress relief and recovery, from interaction and activity in specially designed outdoor spaces. Although this idea is predominately applied to healthcare and rehabilitation institutions, the idea of therapeutic landscapes is worthy of consideration as a design objective for children's play environments.

A therapeutic landscape is an environment designed to heal people. Many studies, conducted by such organizations as the People Plant Council, have found a positive correlation between human health and exposure to garden environments. Studies have been conducted, which focus particularly on children's responses to therapeutic environments. *Landscape Preference and Stress Responses of Ethnically Diverse Adolescents* (The Healing Dimensions of People Plant Relations, p. 101), a study conducted at Washington State University, found that children prefer varying degrees of greenspace and hard space depending upon age, ability, ethnic background and residence. Another study entitled *Environmental Arts Education Students Design Their Own Outdoor Classroom* (The Healing Dimensions of People Plant Relations, p. 117), engages children in defining the components of their play and learning environment and provides a guide as to how other school and community groups can do the same.



In the book, *The Role of Horticulture in Human Well Being and Social Development*, Diane Relf and Catherine Eberbach speak of children's gardens as a meaningful and influential part of a child's play environment. As Catherine Eberbach notes:

I am often struck by how consistently gardens are discussed in terms of play activity (by children). For example, here is how a boy described a drawing of his ideal garden. "These are bushes where I can hide ...and this is a treehouse we built with stuff we found" Others described gardens as places where they would read, do homework, play, escape siblings or invite guests (p. 81).

Therapeutic places designed to allow children full participation and access to spaces balanced between nature and manmade elements are another approach to creative and innovative playground development.

Leichtag Family Healing Garden - San Diego, California

The Leichtag Family Healing Garden is a place for children and their families experiencing severe childhood illnesses. This playground, for sick children, is unique and noteworthy because it was developed entirely through donated funds and materials. This vibrant place, infused with light and colour, includes a potting garden, an animal shadows room, a sanctuary, a bridge and an activity area.

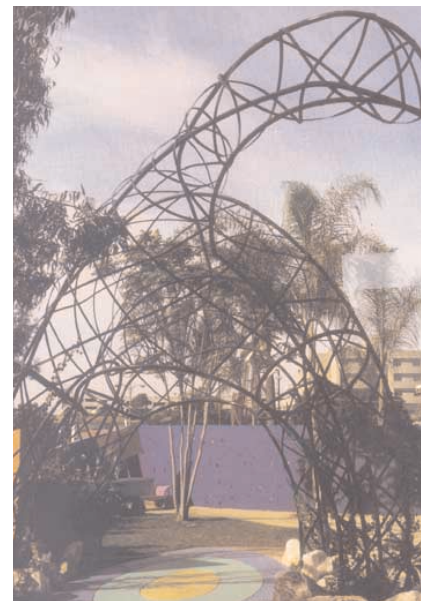
Everything in this garden was designed from a child's point of view and allows for passive participation. The combination of unique elements melds to form a magical environment. In the animal shadows room, metal walls were laser cut with animal shapes so that the sun casts moving shapes along the ground. In the activity area, a rainbow coloured 20 foot windmill moves mechanically driven birds in a circular motion. At the entrance



to the garden a giant 40 foot long, 20 foot high climbing frame covered with trumpet vine called, 'Sam the Dinosaur', greets visitors. One of the creatures featured in the garden is a seahorse fountain, rising from a sea blue concrete floor with gently shooting jets of water falling into a shallow pool. The hand crafted mosaic around the pool features glazed tiles in intense shade of blue, yellow and red. A celestial wall forms the boundary to the garden. Inset with 158 glass stars, it glows both day and night.

The storytelling area is a bowl shaped lawn where fantasy provides a welcome distraction for children and temporary solace for parents. The garden's surfacing is ever changing in material and colour. Crushed granite, sandy ochre and coloured concrete serve as tools for wayfinding and imagining.

Mobility and flexibility of use are crucial to this gentle playground. Mosaic seats, concrete star fish benches, movable wheelbarrow benches with umbrellas and 'rainbow' rocks were created for families to enjoy the medicinal plants and the wildlife attracted to this lush environment.



Due to its success, this garden playground has been expanded to include a more active area with a sand box, a boat overlook and spiral mazes. It has recently been adopted as a main play site by the severely handicapped services unit at the hospital and now also serves children with limited mobility and cognitive functions.

Whatcom Centre for Early Learning - Bellingham, Washington

Whatcom Centre for Early Learning (WCEL) is a centre for children from 0 to 5 years of age with special needs and for their families. Based on staff and parent research, the WCEL group was able to develop a sensory therapeutic garden for these toddlers and infants using local materials, talent and labour. With the help of Plant Earth Playscapes, a garden was conceived where every human sense could be explored and developed. Features of the playspace include a raised herb garden, a 'trike' track, a slide embedded in a grassy berm, decorative grasses, a playhouse, a mini-treehouse, a sand and water play area, a deck trellis, a 'wobbly walk', a textured path, a quiet area and a talk tube.



Boulders from the local river were embedded in a shallow, serpentine concrete channel to form a free flowing sand and water sculpture. Coloured marbles were embedded between the rocks to create a sense of discovery, colour and surprise. Driftwood, from a local bay, was installed as a climbing and balance structure.

The overall site is connected by a tricycle track and path with textural changes from crushed stone to asphalt to flagstones, identifying different parts of the play area. This playground now serves as a model for playground development in schools and daycare centres throughout Bellingham.

Therapeutic Gardens & Manitoba Playgrounds

Many Manitoba hospitals and health care centres have begun implementing therapeutic landscapes on their grounds. These organizations have learned that well designed landscape environments can help to decrease stress, improve recovery rates, and allow grieving families solace.

The idea of human health is also moving from a prescriptive treatment ideology, toward a preventative and proactive community and individual participation model. For example, the 'Healthy Communities Movement' has spread throughout the world as an idea and process that galvanizes communities, neighbourhoods and cities to take action in changing their attitudes and increasing their environmental, physical and social health.

Manitoba's school, recreation centre, neighbourhood and park playgrounds are essential places for contributing to children's overall health, yet they are often 'sick ' environments. Many children experience high levels of stress and violence on the playground. It is time to include the therapeutic landscape approach in the design of all playgrounds.

Implementing the idea of therapeutic playgrounds will require a shift in attitude from the play structure as the focus of the play environment to diverse play experiences that stimulate all human emotions as the cumulative components of healthy play environments for children. Diversity and therapeutic value should be based on the developmental needs of local children as they are identified by researchers, parents and, most importantly, children themselves. Designing a therapeutic playground does not mean that all popular play structure elements have to be removed or eliminated. It does include

using play structure pods, swings, slides, imaginative elements, synthetic and natural materials, and exploiting their ability to awaken all of the senses.

Through expanding children's activities from running, jumping, screaming and hitting to shaping, sitting, listening, gardening, and caressing, parents and designers introduce *choice* into the play environment. By recognizing and implementing play components that encourage children to use their sense of sight, touch, taste, smell and hearing, Manitoba communities can transform playgrounds into places where children experience excitement, release, relaxation, and reflection.



E. Age & Activity as a Basis for Playground Development

Ideology

The process of designing play spaces for children, based upon age range and activity capabilities, is a primary approach to playground design. In most cases, the diversity of activities for different age groups are met by selecting graduated play structure 'product lines' from mass produced prefabricated play structure suppliers. A close inspection of the play structure components in any of these product lines reveals that there are very few differences in the range of activity and challenge provided for the children. The only change seems to be a modification of the scale and height to which these standard components are attached.

The types of play afforded by most pre-fabricated play structures does not provide the types of play experiences children need as they grow. Because most communities see purchasing a play structure as an efficient and readily available one stop shop for creating a playground, other activity spaces, especially those for the infant and the teenager at each end of the childhood spectrum, are not often addressed. The idea of designing multiple types of spaces which include trails, hills, rinks, gardens, courts, amphitheatres and pools, in order to provide as many challenging and different types of play for a wide range of age groups, has been explored in Europe, Australia and to a more recent and limited degree in the United States.

Australian Adventure Playgrounds

In the 1960s and 1970s there was a worldwide surge of enthusiasm for the concept of adventure playgrounds. Adventure playgrounds are play places with challenging play equipment and environments which can be manipulated and adapted by children. The adventure playground requires more adult supervision yet less adult interference. In an adventure playground, children choose and shape their activities from day to day while adults lead and guide them. The adventure playground ideology has lost popularity during the last three decades due to the decreasing availability of volunteer-based adult involvement and an increasing standardization of playground safety regulations and standards.

In recent years, Australia has experienced a resurgence of adventure playgrounds. As Malcom Munro, an adventure playground architect, points out in his article, *Creating Challenge in Adventure Playgrounds*:

The design challenge is to provide exciting, but minimal hazard, play equipment and facilities that appeal to all age groups, but in particular the 8 to 16 year olds who are usually bored and unchallenged by mainstream structures ... a successful adventure playground is a source of considerable satisfaction. To see large numbers of people just generally having fun, and adults getting up from their barbeques and blankets to tackle the more challenging equipment, to their offspring's undying amusement, is truly a family building exercise in motion.

Throughout Australia, a number of adventure playgrounds installed without professional design advice, but with the best of intentions by community groups, have been removed due to safety and litigation concerns. The Australian adventure parks that have survived the test of time can therefore serve as



examples of how to do it right. All the successful adventure playgrounds are designed to be exciting while meeting strict Australian standards for adventure play. These structures are subject to regular certified safety inspections and an ongoing regimen of maintenance. Even with considerable level changes and ranges of motion, these playgrounds have been found to be much safer and socially enriching for adolescents and teenagers than playing on roads, carparks and drainage ditches that are often used by these age groups when no other alternatives are available.

Point Hut District Park Adventure Playground - Australia

The Point Hut District Adventure Playground, constructed in 1998, was developed through the input of local sports clubs and community groups, and was funded by the ACT Government. The playground is designed as a park for the entire family. The main activity zones in the park are supported by shelters, gazebos, seating areas, lighting and washrooms, all designed for full accessibility.

Some of the special activity zones to be found at Point Hut Park are the Leaning Tower, the Cable Bridge and the Tarzan Swing. Located in a suburban area often called ‘Nappy Valley’, the zany leaning tower provides a colourful focal point that draws both children and adults to the park. The challenging climbing structure rewards its climbers with a panoramic view of the area. From the lower tiers of the tower, adventurers can access a cable bridge, consisting of a 2 inch diameter rubber encased steel wire that challenges balance and dexterity. Children use two arm height stabilizing wires to race and negotiate their way to the tripod climbing structure on the other end.



The Tarzan Swing is located in its own wooded node. It consists of a takeoff platform, a 30 foot tripod and a rope on a freely pivoting suspension system. Children and adults can propel themselves from the platform, wrap their legs around the rope ‘Tarzan fashion’, and swing in all directions before gravity brings them to a standstill.

Landform complements and defines every activity zone at Hut Point Park. Flat topped hills and swales frame and intertwine each play node through dense vegetation and paths. The secluded areas are, therefore, privy to gentle and moderate microclimates for play. The planting scheme is dominated by native drought tolerant species of grasses and trees that require little maintenance in the way of mowing or watering.



Riverland District Tourist Park - Monash, Australia

The Monash District Adventure Playground is the site of Australia’s first adventure playground. It was initially designed by Grant Taffer, an engineer who built the legendary and whimsical kicking giraffes, flying foxes and 20 metre high slide that had to be demolished for safety reasons in the early 1980s. Today the park has been restored and exemplifies the spirit of adventure of its predecessor in a safe yet challenging manner. This adventure playground is especially interesting because it was designed for unsupervised adventure play due to dwindling funds for Play Leader programs in Australia.



The site, which is still in phased construction, includes twin leaning towers connected by a Burmese bridge and flanked by a flying fox, and a low maintenance maze constructed and painted in outback themes by local youth. It also contains a giant three person wide slide, two giant swings loaded on spring coil boosters, a waterslide terrace, a treehouse village and a central waterpark feature.

The waterpark feature is constructed with boulders and platforms, ladles and turning wheels. It is a recirculating system composed of a small stream linking two ponds. In the middle of this feature, between the two ponds, water is slowly elevated to a 'water table' where children in wheelchairs are able to touch and splash in the water. Small, adjustable dams and gates, along the stream, allow children to control the flow and pooling of water.

Next on the development list for this very popular playground for children of all ages is a skate park facility and a tyre rolling rink.

Maxie Wander Strasse Courtyard Playground - Berlin, Germany

In the dense urban core area of East Berlin, the Hellsdorf Housing Company is not only responsible for tenement buildings, but also for providing meaningful play environments for local children.

Although this large neighbourhood complex has provided some typical parks and open spaces, the most popular playground for older children in the area is the large concrete jungle skate and sports park created in the middle of the Maxie Wander Strasse. Here, the large rectangular urban space, surrounded by tall buildings, was predominantly treated with varying hard materials such as concrete, asphalt and brick cobblestones. The landform in the park's hardscape was molded into varying sizes of ramps, stairs, bowls, humps and knolls that flow into each other. These features create the ideal play environment for rollerblading, cycling, skateboarding and pavement games.



The success of the space is marked by the fact that local groups of teenagers have adopted it as their own and have given it a special nickname. In addition, local graffiti artists have used the full and half walls that define different areas of intense play to create murals. Many of the pick up games and friendly competitions, organized by the youth, facilitate those crucial adolescent rituals for social acceptance and romantic awakening. Children can sit and gossip or watch others from comfortable perches or dugouts cleverly accentuated and shaded by solitary trees. The large shade trees form canopies that moderate the noise of the play below as it filters up towards apartments. The central location of the park allows parents to monitor their teenagers without seeming to babysit them.

This playground, designed in an area where high teenage delinquency is the norm, has become the place where neighbourhood teenagers exercise their abundance of energy and restlessness in a safe and constructive manner.

Winsen & der Luhe Multi-Age Playground - Hamburg, Germany

At Winsen and der Luhe Playground in Hamburg, Germany, the multi-age playground was designed with various activity nodes connected by ribbons of vegetation, pathways and trees. This park provides active play alternatives to children from preschool to high school.

The success of the park can be attributed to the process undertaken during its development. The planning team approached schools, community centres and sports teams in the area to ask for input. What they got was a working group of over 40 youths who did everything from helping to design the site, to building portions of it. This active playground includes a skate park, a skateboard park, a play structure, a race track,

downhill moguls for bikes and rollerbladers, a sand sculpting area and integrated sitting and relaxing nodes. What is even more amazing, is that, since its opening in 1998, the park has retained a core group of youth who form an informal club that organizes events, workshops and introductions for both first time and veteran users.

Children of all ages can be found in the playground, even on rainy winter evenings, teaching each other new moves on the challenging courses and ramps. The undulating path is colourful and patterned as it winds through the woods. Shelters for sitting and socializing were designed with triangular roofs and suspended hammock-like net seating that keeps kids comfortable and dry in any weather.



This type of playground, composed of active sports and games activities, combined with more standard play structure design, has proven to be very successful in German communities. This approach is a more diverse and appropriate way to approach playground development for older youth.

**Designing for Little Tykes:
The Other End of The Spectrum**

After discussing adventure playgrounds and multi-activity parks for older children, it is obvious that these environments are of little use for babies and toddlers just developing their mobility and cognitive skills. However, early age and preschool playgrounds are equally important to the development process of a child. Some of the best examples of this type of playground design can be found in America.

The Infant Garden at The Early Childhood Lab - Davis, California

The Infant Garden at ECL is a specially designed play environment for children from 6 months to 2 years of age. The playground is designed to promote the development of sensory, motor and social skills in toddlers. Carol Roding, the Director of The Infant Garden, states that the playground has been implemented to disprove a commonly held belief that: "...infants can make do without any play environments because they can barely think, talk or climb anyway" (Romper Room, Landscape Architecture, 1984, p. 65).

An antidote to sterile tot lots, the Infant Garden is a 'pure' landscape of soft sculptural elements, soft colours and manageable baby steps play equipment. The setting, combined with portable toys, is well suited for children too young to romp safely on junior play structures, swings or slides. In this small courtyard, a central mound encompasses an 18 inch high irregularly shaped and smoothed sand box. Infants can reach the area by crawling or wobbling over suitable resilient synthetic and natural materials such as rubber and moss. A few steps away, toddlers can wander through four simple mazes formed by low hedges and bordered by non-toxic plants like periwinkle and lambs ears.



All the planting in the garden is designed to expose the infants to colour, texture and sound, while keeping dangers such as poisons, allergens, and insect stings away. A small area under some shady pines provides a quiet place for infants to sit, hide or rest; activities just as important to toddlers as they are to adults.

This playground allows very young children to learn independence and cooperation without tantrums or arguments over turf or toys. By combining balanced elements of risk and safety appropriate to this age group, this playground helps infants to figure things out for themselves at this early stage of their lives. This play environment places children in harmony with their own developmental processes.

The 4-H Children's Garden - Michigan State University

The 4-H Children's Garden, dedicated in 1993, has proven an unprecedented success attracting over 10,000 children and adults to play within its various environments. The success of the playground points to the fact that 3 to 6 year olds, the driving force behind the design, are yearning for alternative playgrounds different from the standard play structure plopped into the middle of a wasteland. The children told organizer Jane Taylor that what they needed was freedom to touch and interact with water, soil, vegetation and each other with no "Do Not Touch" signs.

The playground is a celebration of nature and human interaction. A visitor enters the playground through a Sunburst Plaza flanked by giant, climbable topiary bears. Other special places within the playground include Peter Rabbit's Garden, where scented herbs marked with "Please Touch" signs grow beside a fence post with a little blue jacket. In another area, a 4 foot tall Alice in Wonderland hedge maze leads to a brick walled secret garden. The Dinosaur Garden contains climbing structures and ancient flora, such as ginkgo and ferns. The garden is peppered with unique play equipment and sitting areas. This playground services young children's needs to be both active and passive, inquisitive and safe, challenged and rewarded.

White Hutchison Leisure Learning Group

The White Hutchison Leisure Learning Group (WHLLG), a design and implementation firm from Kansas City, has become a leader in children's play areas and adventure playgrounds for all ages. They have created numerous age and activity specific playgrounds for all ages such as the Centre for Children's Services (Illinois), Children's Developmental Institute (Chicago), Early Childhood Centre (Kansas), and Bamboola (California), throughout the United States. Examples and photos of WHLLG's numerous projects in this area can be viewed at www.whitehutchinson.com.

Age & Activity Related to Manitoba Playgrounds

Although we have numerous playgrounds in parks, schools, community and daycare centres in Manitoba, the diversity of play activities in each location is gravely lacking. If one compares a typical daycare playground with a high school playground in Winnipeg for example, the only differences in the play environment are the amount of space given to the playground and the scale of standard play equipment.

By educating and providing guidelines for the different play and activity needs of a spectrum of childhood age groups, we can begin the process of developing more appropriate, exciting and well used playgrounds.

F. Imagination & Creativity As a Basis for Playground Development

Ideology

Imagination and creativity are an essential component of childhood because they are the constructs through which children grown and develop, testing their ideas and hypothesis about themselves, their environment and their relationships. Children need places to play where their imagination and creativity can take root and transform ordinary objects and situations into extraordinary adventures. Imagination and creativity are crucial to individual and social development. Children require both public and private pretend situations to prepare for the real world that surrounds them.

In order to allow the imaginative processes to take place in playgrounds, parents, communities and designers must provide the basics. These basics are a sense of safety, an environment of tolerance, an attitude of exploration, the ability to control and change, and a toolbox of diverse starting points. Playgrounds that create this type of situation go a long way toward allowing children to experience a healthy, happy childhood.



Artful Park - Sydney Centennial Park, Sydney, Australia

In Sydney's Central Park, during several summers since 1995, local artists have been sponsored by companies to create one of a kind art installations that engage children in exploring space, ideas and meanings. Some of the unique and imaginative sculptures and spaces developed included "Yolk Folk", "Intersections", "Baffle and Gaze" and "Camera Obscura".

Each of these installations is a fresh approach to engaging in understanding social, ecological and political issues. While children can attain different levels of use and understanding from each installation, the most important aspect of these pieces is that they invite individual interpretations. The art is often combined with special environmental performing arts such as plays, mimes, creative movement or meditation.

Observation and action are critical to this exhibition. Kathryn Sherer's "Baffle and Gaze" for example, was made of steel, turf and red vinyl. The design encourages framed views and observations of the surrounding park. "Rubber Duck", a giant duck in the centre of the park's pond, interacts with its smaller counterparts in a whimsical comical expression of pop culture.

Artful Park was coordinated on a shoestring budget provided by local park trusts and the Sydney College for the Arts. Local artists and children came together to build each piece with love and imagination. Artful Park is a fine example of what can happen when adults remember their imaginations and share their ideas with children, who can take them to a whole new level.



Montessori School & Yarralumla Preschool - Canberra, Australia

The Australian Capital Territory (ACT), Department of Education and Training, set out to develop a 'no limits' play environment for children at Yarralumla Primary School. The children's groups using this space include preschoolers, normal functioning elementary students, and special needs hearing impaired students.

The first step in planning this playground was the development of a well defined brief whose main objective was to provide for imaginative play spaces, and for interactive play designed to encourage the flexibility and creativity of the children. The next step to ensuring that imagination was a primary element of the design was collaborating with the children in developing their 'ideal' playground.

The result is an integrated playground design that connects multiple buildings and allows a free flow between interior and exterior environments. Each playground component is designed into a place with unique themes, meaning and possibilities for children's active and pretend play patterns. The playground includes a gunleaf sand pit, a seashore teaching space, a rainforest spray and dry creek bed area, a birch forest with a secret nook, a vegetable garden, a digging patch, a commons lawn and a people path. The entire design is not static. It flows in an informal manner, allowing children from different buildings on this child-sized campus, to interact freely with each other and to imagine themselves gods or fairies, as they wish to pretend.

The Discovery Garden, Walt Disney World - Epcot Centre, Buena Vista

The Kid's Garden, created for the Epcot International Flower and Garden Festival, featured five integrated areas that focused on using colour, music, play structure elements and plant material to open up self-directed play opportunities for children of all ages (including some adults). With up to 700 visitors per hour, the garden was a highlight of this 6 week event and reinforced the importance of allowing children's imaginations to lead play activity.

The garden was designed to be a multi-sensory experience that triggered children's memories and fantasies. The entrance to the site was marked by a rainbow arch composed of lush annual plants arranged in a moss frame. A path through all the areas of the garden, like the yellow brick road, but composed of the colours of the rainbow, spilled onto the ground plane running in all directions. A colour coded theme helped parents and children find their way around the playground. The garden itself included various activity zones interwoven between islands of lush plants and colours. Some of the varied play environments included activity zones, a musical garden, a cypress forest and a small maze. Pre-manufactured play equipment such as slides, tubes, monkey bars, nets and swings were transformed from mega-structures into individual nodes based on different themes. For example, the conventional bubble pod was located in a sea of cornflowers. Children could use the pod and slide down the bubble slide attached to it, pretending they were on a surfaced submarine in the middle of a sweet smelling ocean.



In another part of the garden, play equipment such as metal tubes, drum sticks, feathers and bows were converted by children into wonderful imaginary worlds of sound. Simply by choosing the order in which they hit or rubbed various materials, children created symphonies of bells, buzzes, horns and thumps. One child would call to another in a secret pre-arranged sequence of sounds and they would giggle at their private language.

The most interesting development in this imaginative playground was the use of conventional play equipment in an unconventional and provocative way. As Jean Chappet, a play environment designer with the non-profit organization

Boundless Play stated: “Play happens in the minds of children through the connections they make given basic elements”. The Disney Kid’s Garden was designed in a collaborative effort between landscape architects, play equipment designers, horticulturalists, behaviour specialists, children and parents. This cross disciplinary and cross generational approach is a model that has resulted in a very successful integration of unique and prefabricated products and ideas. The Kid’s Garden is an example that can be followed by others wishing to design imaginative playgrounds without abandoning the care, safety and expertise professional play structure companies bring to the table.



Valybyparken - Hans Tavsén, Netherlands

A good example of the practice of incorporating the imagination into the play environment is Valybyparken, Netherlands. Here children climb offset concrete walls incised and sandblasted with fossils and animals that serve as footholds. They can pretend they are climbing mountains and buildings on dangerous missions. In another part of the playground, mother and child hippopotamuses carved from local elm trees serve as benches and riding play elements for children who imagine them to be rising from a deep pool of water represented by dark granite granular fill. A Stonehenge of sorts allows children to climb, play statues and watch the sun transform the space around the monoliths with shadows. Children pretend the monolithic trunks are everything from totems, to forests, to the entrances to special rooms in their imaginary worlds.



In other parts of the Netherlands, designers have transformed spaces into articulated forms and earth sculptures. The soft, rounded shapes of dragons, dinosaurs and snakes are used,

especially for their soft undulating shapes that invite mystery and movement in every bend. Some built examples include Fafner, the earth snake playground in Faelledspasken, asphalt amoeba skating court, Rodegard's special worm made of plant stems and stones for a three dimensional quality, and Ulmusaurus in Husum Park Playground.

Denmark

In Denmark, primarily Copenhagen, the movement has been toward creating ribbons of greenbelts for play to connect children to schools, homes and parks. The motive throughout is for children to find their own spaces to play without the interference of fussy pedagogues and programmes. The biggest lesson of Danish playgrounds is the free, relaxed forms and schedules each playground develops as children are given the right and the choice to imagine and enact their own lively childhood dramas.

Ritter Park - Huntington, West Virginia

Ritter Park in Huntington, West Virginia is another playground designed to heighten the imagination. The playground was sited in a 100 foot by 200 foot hollow within a park which was once a pond bed. The area, bordered by gentle grassy slopes and massive oaks, maples and hemlocks, is a well defined natural shape with clear drainage patterns. As landscape architect, Peter Bohlies states:

There was a clear feeling of place ...with the potential for developing a play area that was a little more mysterious and less predictable than a typical playground ...a cross between a hedge and a folly (p. 87).

The design of Ritter Park Playground uses children's earliest memories and cognitive functions by employing stone play equipment embedded into landforms reminiscent of childhood games of building blocks and sand castles. The playground's Indiana limestone, wood blocks, blue-green coated steel triangles, columns and arches are life-sized play places come to life from the closet toy box. Slides are built into one side of the grassy slope and mounted by wide terraced steps where children can stop and lounge. The slide tops are peaked and change in elevation simulating images of castles and towers, without taking children too far off the ground. A ladder descends into a hollow space behind the grassy knoll where sunlight brings life to the 'eyes' of all sorts of animals that are intriguing and a little scary nested behind the trees.



Often times the triggers to the imagination are elements that are not banal, experiences that are a little frightening, mysterious or sensuous. Conventional elements are mixed with ambiguous and unfamiliar shapes that must be interpreted as they are approached and used.



Working with the Huntington Junior League, designers incorporated subtle play elements that include surprise and illusion. Carved inscriptions and petroglyphs are placed as little surprises in nooks and crannies of all the play structures. Another prime example of surprise and imagination in the playground is the 'mystery dig', a mound of earth created with the help of local contractors that is changed on a regular basis. Building shards, artefacts and skeleton models are arranged beneath the soft earth. Children form expedition teams to search out and discover the new elements. The Ritter Park Playground works because it balances danger and safety while providing 'safe' place for just sitting with parents or thinking.

Playground of the Mind - England

Bill Lucas, one of Britain's most prominent childhood advocates, begins his argument for the encouragement of imagination in day to day play, like this:

Picture this: a small group of children tangling together among living willow, which sprawls along a bank in a school in northeast England. They are just starting work on a willow sculpture destined to become a friendly dragon. Or ...teenagers under a grey London sky remarking on the shoal of colourful fish which have mysteriously swum onto the outside wall of their gymnasium.

Each of these is an example of an outdoor arts and entertainment initiative where a number of significant factors have come together to inspire children to dream impossible dreams. Children have worked with local artists to understand the empowering process of transforming an imagined object or space into reality. Examples of the amazing playground elements, created by this process, include the Caterpillar Trellis at Victoria Park School in Bristol, the London St. Orleans School Dragon, the Gear Sculpture Wall at St. Werburghs Primary School, and the Water Sculpture at a playground in Aipenham, Bristol.

These installations teach children other things as well. They make real and tactile the ideas of scale, conflict, time, change and impermanence.

Hellings Street Urban Park - London, England

At Hellings Street Urban Park standard and non-standard hard landscape materials are organized to act in unexpected ways that trigger questions and a need to explore. The entire site is designed to encourage children's understanding of process. Two relatively flat paved areas seem to collide in the centre of the playground where, just like tectonic plates, they are pushed into faults, folds and mounds. Different play activity zones peek out of this surface at various heights and locations suggesting the ideas of layering and stratification found both in the environment and in human life. The finishes and materials that detail this playground also peak interest and investigation. Hard concrete, soft woods to carve on and rubbery, colourful resilient surfacing of varying depths combined with vertical pickets, meshes and arbours to create changing patterns of colour and motion. The playground is a collage of play zones, jutting and melding into each other. From the formal jackpine bosque entrance, to the star climbing area and rock garden, to the rubber hills, and finally the basketball court, the child is encouraged to experiment with the idea of voyage and change.



The playground's vertical elements such as walls, masts, fences and screens are carefully placed to create a sense of mystery and revelation. Boundaries are obscured and defined, depending on the quality of the openings that frame access to different play nodes. Hellings Street Urban Park appears fairly modest from the outside, but the breaking down, shifting and removing of boundaries create a situation which is both relaxed and intense. This playground gives one a kaleidoscope feeling of having visited several worlds within a few hundred yards.

Imagination & Creativity in Relation to Manitoba Playgrounds

Manitoba is blessed with many talented artists and crafts people. The diverse cultural background of Manitobans can be a great source of ideas and knowledge that can be used to encourage children to use their imagination and creativity by creating playgrounds unique to our own communities.

In the 1960s and 1970s Winnipeg experimented with environmental art and playground development. Some examples of this legacy can still be found in settings such as the University of Manitoba's riverbank park or King's Park.

We can look into developing programs that connect established and young artists with parent groups and councils in order to develop unique and imaginative playgrounds. In addition, parents themselves should look back towards those mystical mysterious back lots and abandoned fields for inspiration for the types of places that will encourage their children to explore their own imaginations.

G. Multipurpose Use As a Basis for Playground Development

Ideology

The many diverse locations of the case studies presented in the previous sections indicate that the playground is not a place that serves a singular function or that can be found in a typical type of place.

As a result of the growing demand for multipurpose outdoor spaces that meet the broad range of community needs for leisure and activity, the idea of playground as a small and isolated play structure has expanded. Today, playground should be a word used when referring to holistic play environments integrated into parks, schoolyards, community centres, greenways and plazas designed to be used by people of all ages at all times of the day and year.

The examples to follow are projects that demonstrate fully integrated play and play values into the everyday life of the community places in which they are found.

Dye Works Park - Prahran, Australia

When Dye Works Park was undergoing construction nearby, local people were intrigued by the materials being brought onto the site – slabs of uncut blue stone, concrete, gravel, white quartz pebbles and rubber surfacing. It was supposed to be a park, but it was looking, initially, like an adventure playground. Once planting was added to the site, the result was a park – but with a difference. Dye Works is a contemporary urban plaza, designed for high use. Features such as a meandering stream, pond, bridges, archway walks and bowl-shaped theatre space, have ensured that the park is a popular playground for the entire community.

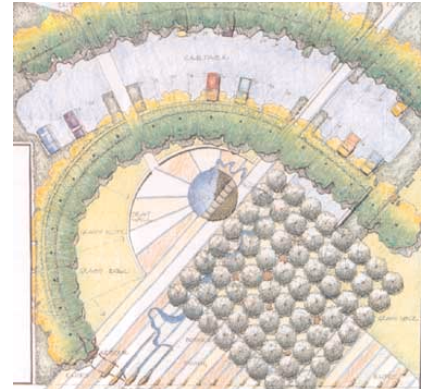


The Dye Works Park design is beautifully articulated in every detail. The paving changes texture, composition and character – from smooth to rough cut, natural to manmade – juxtaposing human and natural conditions. Children love to play invented games on the geometric patterns of the paved surfaces, while adults enjoy their complexity and beauty. The stream cuts a serpentine path through the park to the pond, and serves not only as a play feature, but as a means of allowing water to be conserved and recycled on site.

Children love the moving water that allows them to have paper boat races. The water in the park serves as a climate moderator through mist sprays that are heat activated on hot summer days. Birds are attracted to the water, and everyone can observe seagulls, currawongs and plovers fishing, bathing and relaxing at the pond. Bulrushes sway in the breeze making a musical rustling symphony with frogs and grasshoppers while providing great places for children to play ‘hide and seek’. Amongst seat walls in a grassy bowl and a bosque of fruit trees are play structures for climbing, sliding and balancing, and elements of environmental art for quiet contemplation and observation.

Beside the play elements for younger children, there is a popular basketball, tennis and rollerpark area that acts as a visual terminus to the grass bowl.

Dye Works Park has become a community focal point. It is heavily used because it is situated in a diverse neighbourhood of multi-use office, residential and commercial buildings. Future plans include cyclist and pedestrian greenway links and a new community arts complex.



Two Parks in Malm, Helsinki

Malm is a growing suburb of Helsinki, that radiates from a central train station through pedestrian malls, traffic corridors and greenways. Malm was planned to include a parks and greenspace system throughout the community. Nedre-Malm Park and Filipus Park are fine examples of how parks and play spaces can be integrated into a community. Nedre-Malm Park connects the community library, recreation centre and school, which are surrounded by residences and small shops. The park is designed with a diverse range of garden and play spaces, ranging from an open air plaza to a shady grove with a sensory garden and a mosaic of tiles and seats around a central water feature area. Nedre-Malm Park, with its gardens, is linked to Filipus Park which contains a sequence of play nodes and spaces for the little people. Filipus Park contains a wading pool, a children's restaurant playhouse, an open paved area for sports games, asphalt molded land waves, a landmark tower, an outdoor grill, a grassy jungle gym, an outdoor workshop, a games square, outdoor sitting nodes, a winter ice park / summer roller park and a meadow.



Families use Nedre-Malm and Filipus Park at all times of day, throughout all seasons because the parks are so enjoyable to be in and use. Parents can come to these parks with their children knowing that, while they sit quietly in a grove, their children can swim, catch tadpoles, rollerblade, socialize and gain a sense of independence all within sight. These two connected play environments are successful due to the design objectives of Danish culture. Here, families play together as part of their regular routines. Perhaps the lesson to be learned here, is that multi-purpose play and leisure should be embraced by North Americans as an ongoing family adventure. As the saying goes, “families that play together, stay together”!

Planning for Multipurpose Use in Parks & Playgrounds in Manitoba

An integrated approach to planning is desirable for any community. Manitoba, with its large regional parks, is in a good position to develop parks and open spaces which provide activities, spaces and places for all family and community members.

3.4 Innovative Playground Materials & Components

The play environments, discussed in the previous section, are successful because of the attention to detail and materials in their design and implementation. Common to all these playgrounds are:

- a) Integration of manmade materials with natural features; and
- b) interconnected spaces.

The shape, scale, colour, texture, sound and smell of the materials and components in the design work together to communicate the wonder and character of a place to children and adults alike.

Materials

Materials are the base elements of a playground. They can range from sand, gravel, rock, grass, shrubs, trees, perennials and water, to plastic, canvas, steel, copper, glass and rubber to be used in the creation of paths, nodes, seating areas, play surfaces, shade structures and play elements. It is the layout, design, mixing and articulation of the materials that creates special places in the playground.

Basic Materials

All playgrounds should be approached with consideration of the four basic elements – earth, air, fire and water – an expression of design and concern.

Earth refers to materials used to shape and change the ground plane and topography of a playground. These materials can be mineral (stone, concrete) or vegetative (plants, groundcovers).

Mineral: Manitoba has an abundance of materials such as: limestone, granite, sandstone, Red River clay, etc. Mineral materials can be selected for practical use, aesthetic properties and cultural values. They should be used appropriately for the conditions of the site. For example, a slab of limestone can have many uses depending on the design intent. Limestone can be a stepping stone, a bench, a sculptural climbing element, an entrance marker or a pillar, depending on the intent. The ground (soil) can be manipulated to create a flat area, rolling hills, drainage channels or stream beds. These materials can be used with manmade materials such as concrete and asphalt to form the foundation for a playground.



Vegetative: Manitoba's Prairie, Boreal Forest, Aspen Parkland, Riparian Habitat and cultivated gardens are useful to bring children a sense of the cyclical patterns of the world. Plants, and the fauna they attract, are important components which contribute to education, quiet play and imagination in the playground. Planting can be used to help shape and soften the 'foundation' of a playground. For example, a simple caragana hedge can be planted to delineate the edge of a play area in the playground. As it grows, the hedge will form a living wall, providing nooks and crannies for little children to play house or hide while it reminds them of the season with bright yellow petalled flowers in the spring or crinkly twigs in the winter.



Air is felt, smelled and heard on the playground in the forms of wind, temperature and humidity. These features can greatly impact the quality of children's play. A playground in an open field, in the middle of winter, will be susceptible to high velocity winds and unpleasant snow deposition patterns. The creation of microclimates helps to ameliorate the negative affects of weather (air). Wind and weather can be used to create

spaces and sound in play space design. Chimes or wind sculptures can be placed strategically to make sound and show air flow. A quiet area for sitting and watching others play needs calm, soothing air. Playgrounds can be designed with air filters such as shade trees, canopies or shelter belts to mitigate weather conditions.

Fire is a more difficult element to deal with. Fire does represent heat and light. Fire pits can be used with adult supervision and extreme care. The sun is the greatest source of heat on a playground. Playgrounds should be designed to moderate the sun's impact and still benefit from its warmth and light. Concerns such as sunburn and heat stroke should be considered. Light can be celebrated by using shiny materials that refract and reflect it onto other surfaces or by cutting shapes out of or into other materials to cast shadows. Light can also be filtered through the leaves of trees for a dappled effect, or diffused into a colourful glow by panels of brightly coloured linen or plastic.



Water can be liquid or solid. A life sustaining element, water is fascinating to children. It can be seen, touched, tasted, smelled and felt. In its liquid form, water can be used to do magical things. It can run, gurgle, be still, spray, mist, see or be frozen. Water, with all of its characteristics, can become an important play element in the playground. Drainage issues can be treated in a creative and explanatory way. There are safety and health issues surrounding water, and although there is a notion that water on the playground can be dangerous, if used appropriately, it can be safe and transform a playground into a magical place. A dry stream bed, for example, can be visually beautiful and safe whether it is periodically full or empty of water. Water can be converted by natural or mechanical means, creating special activity nodes for children.

Snow and ice can be useful in the Manitoba playground situation. As discussed in the previous chapter, snow and ice need to be seen as positive parts of our winter playgrounds. The most amazing factor of snow in the playground is that it is one of the few materials children can sculpt and change themselves. The playground can be designed to trap snow in niches, blow snow clear under play structures or deposit snow on hills for tumbling on and sliding. Ice can be used as an important play element in the playground. Many Nordic countries have created ice falls by allowing water to run over a metal frame. As it freezes, into unique and ever changing shapes, it forms ice fences and ice sheets. Ice skating is an obvious and exciting use for ice. Melting spring water also reminds children about the changing of the seasons and the impact of the outdoor environment on their lives. In both its solid and liquid forms, water is a wonderful and useful element in play environments.

It would be very beneficial to future Manitoba playground development if every revitalization or new design began by stopping to consider how the base elements – earth, air, fire and water – can be used and enjoyed by children in their play environments.

Manmade Materials

There is a wide range of manmade or synthetic materials that can add a functional, colourful and unique dimension to children's play environments. Concrete, asphalt, metal, glass, plastic, vinyl, rubber, canvas, wood and fabric can be used, not only in the basic layout and connections of a playground, but also, in most of the exciting play components that make each playground special and unique. This section explores recently developed manmade products that can be used in playground construction.

Resilient Rubber Surfacing

Rubber surfacing is made from rubber with new or recycled tire materials. It provides a safe, resilient, impact absorbing playing surface for children. Due to its viscous application qualities, soft rubber surfacing can be applied in any shape conceivable, making it a great tool for introducing cultural and educational elements such as animals, words, numbers and other shapes onto the playground. Many playgrounds in the United States, Europe and Asia use rubber surfacing for wayfinding and play because it is available in almost any colour. Resilient rubber surfacing is a material that should be considered for use in Manitoba's playgrounds.



Fabrics

Banners and awnings, composed of heavy duty, plastic fibre, canvas and other fabrics, are UV resistant, and wind and water resistant. Many countries such as Holland, Denmark and Germany, use canvas canopies, sails and seats extensively in their parks and playgrounds. When designed properly, canvas can be used to advantage to enhance playground environments.



Klingstone Surface Sealant

This is a soft spray-on sealant for surfacing porous materials. This product has been used on pathways and soft play surfaces to seal materials such as crushed stone. Klingstone is a very effective product for use in playgrounds.

Coloured Asphalt

Coloured asphalt is an innovation to standard asphalt applications. It provides an opportunity to add colour and texture to paved areas, thereby expanding potential for surface games and graphic additions.

Play Components

The biggest challenge to designing innovative and meaningful new playgrounds in Manitoba is the false and deeply embedded perception that a playground equals a pre-fabricated play structure, and that the larger and more expensive that it is, the better it is. While the massive play structure is not the total solution to playground design, a great deal of research and expertise has been invested in the creation of mass produced play structure components. Large, well established, reputable companies provide safe and well designed play components such as slides, climbers, decks, bridges, swings, etc. which can be used very effectively as elements in playground design. Used singly, or clustered, within a holistic and diverse playground situation, they can contribute greatly to the quality of play provided.

Innovative Play Component Examples

The following play components were chosen as innovative examples because they provide creative and new opportunities for imaginative play.

Play for All - Australia

Play for All is an Australian play equipment company which designs and installs custom made, accessible play equipment for children with special needs for ages 6 months to 8 years. The majority of their play equipment is for outdoor and portable use. Each component is designed to be easily set up, monitored and used by children who have disabilities ranging from total immobility to blindness, deafness or cognitive impairments. The focus of Play for All's equipment is the sensory experience. Examples of products are: fabric-covered



metal frames and tipis with molded plastic seats, and movable panels which can be attached to suit the needs of specific groups, brightly coloured fabrics, string, elastics, and hangers arranged in a kaleidoscope maze. With this equipment, sensory experience is achieved in a soft non- invasive manner,

Components are active and interactive. Some need children to pull them or move them to make a noise or start a chain reaction. Others only need the wind to move them and stimulate them to emit scents (sewn into the fabric). Plush soft toys that can be handled, chewed and moved are also part of the play environment.

Ark Leisure Ltd. - Norfolk, England

Ark Leisure is a play component company that has moved beyond the mega-structure and become a very popular design-build proponent in the United Kingdom. Ark Leisure's philosophy is design for the entire playground.



Ark's unique components are one of a kind responses to each project. For example, Ark installs and interconnects gardens, safety surfaces, play systems, sculptures and play accessories. Although not exceptionally innovative in the production of play equipment, the outstanding aspect of Ark Leisure is its willingness to approach the installation of a playground from a holistic and 'each situation is unique' point of view.

Martin Environment Design - Branford, Connecticut, USA

Fred Martin has been chosen as an example for this project because, as a small craftsman who operated from his home barn, he has been able to create some very unique and regionally appropriate play components for children in Connecticut, U.S.A. Fred Martin is an example of how talented

crafts people can be in the development of playgrounds. Martin uses make believe and whimsy in all of his play components and wherever possible, nestles them into the land, as can be seen in his steep hill structure or ships ahoy structure.

These play components are unique in that that they are sculptural, imaginative and functional all at the same time. The setting and context are considered in the design. The most interesting aspects of their pieces is the expression of the inherent qualities of the materials of which they are made. For example, a giant spider climbing area promotes activity, balance and imagination in child's play. At Stanford Museum, Martin created a unique wood leaf bridge to cross a small ravine. The effect is magical. In an installation called beaver dam, children walk through and around a sculpture of driftwood branches set up as an archway entrance to the bog.



Sound Play - Parrott, Georgia, USA

Sound Play is a company which produces musical instruments transformed into outdoor play components. Musical instruments built into other structures, or standing alone, invite children to experience, understand and make sounds. This creative process results in a very fulfilling form of play. Children can use these components to discover music and sound. More specifically, they can learn about connections between vibration and resonance, length and pitch, width and intensity. as well as ratio and interval.

The sound play equipment includes beautifully crafted, large sized chimes, flutes, drums, rattles, xylophones and string instruments. All of the musical play components are constructed from weather resistant materials readily available at local hardware and lumber stores. Things such as PVC pipes,

piano wires, metal plumbing pipes, and wood are transformed into sound makers. The unique acoustic qualities of each playground and the proximity of components on site, creates a distinct and special musical playscape every time.

Interplay Design Fantasy Play Component - California, USA

Interplay Design is a play component design company based in California. The driving force at Interplay is Tom Arie-Doch, an award winning sculptor and environmental artist. Interplay travels around the country and creates what can only be called fantasy lands for children. By interconnecting beautifully built sculptural elements with structural walls and active play equipment, Interplay creates special worlds for children.



Interplay is a community driven company. All of the play environments built by Interplay are installed and shaped by teams of local parents and volunteers. Some of the best examples of play components designed by Interplay include fantasy sculptures, sand gardens, forts, castles and mazes. The fantasy sculptures range from tiny riding turtles, to giant leaping whales jumping out of a raked sea of sand.



The innovative aspect of Interplay’s play components is their ‘explore all you want’ attitude. Children are encouraged and inspired to use their imaginations with this unique play equipment.

BAS Play Components – Holland

BAS is a group of Dutch artists that have come together to make playful objects for playgrounds, pools, parks and plazas. For example, Wobbles are unique animals, fantasy figures, places, etc. created according to the specific wishes of the community they are built for. Wobbles are made of glass fiber

reinforced polyester and are painted with UV resistant colours to stay brilliant. The surface of the Wobble is smooth in some areas and rough in others to provide a range of tactile experiences. Wobbles are made to various scales and dimensions from small details to full fledged play equipment. This play component, although unique, can include some favourite play elements such as climbing nets, slides, seats, and water squirters.

Some beautiful examples of Wobbles in Dutch playgrounds include the cow slide, the worm net, the lady bug seat, the sunken ship and the dollard monster. Wobbles are also built as components in water parks as fish slides or squirting crocodiles. BAS is another example of how play components can be customized, creative and functional to provide children many options for play.



Barkman Skate Park Components - Manitoba

Barkman Concrete, a Manitoba based company, is currently working to develop a line of pre-fabricated skateboard ramps, arches and steps that can be used as modules in creating skate playgrounds. These units will be composed of reinforced concrete sections designed to fit together.

3.5 Cost Implications

It is clear, from the examples described herein, that costs to build innovative playgrounds can vary from low cost to very expensive.

Prefabricated play structures can be as costly as the budget of a community will allow. The more money, the more components and the bigger the play structure; less money – less components and a smaller play structure is the result. The issue, however, is the play value obtained for the budget available. The play value that prefabricated play structures provide is limited to large motor skills, and primarily, to the development of inactive skills.

By examining budget, based on whether equipment and materials meet all of the development skill requirements for all types of play, it is possible to measure play value against budget.

4.0 INNOVATIVE PLAYGROUNDS: SUMMARY & CONCLUSION

4.1 Development Matrix: A Tool for Development of a Community Playground

Throughout the process of researching innovative playgrounds, it became apparent that the most important aspect of all the projects was a holistic and integrated approach to designing for play. Each playground considered, met a large number of diverse criteria. This Playground Development Matrix evolved from this, in an attempt to create a tool with which Manitobans could ensure this type of approach is used in the design of our playgrounds. The Development Matrix is a checklist and guide:

- designed to allow community stakeholders to consider and monitor all of the play issues presented by their unique playground locations;
- organized around a hierarchy of play considerations ranging from play objectives to play experiences; and
- that follows the chronology of the design and development process discussed in the previous section.



The Matrix is a tool which when completed, can serve as a guide for community groups as they develop the most appropriate playground design approach for their unique situation. Local environment, climactic conditions, spatial and social requirements and cultural considerations can be examined and implemented into the playground design through this approach. No community driven design development can be successful without dedicated volunteers. The Playground Development Matrix will be most effective in developing unique and innovative playgrounds when it is completed with the guidance of a well organized and devoted design committee.

4.2 The Playground Development Matrix

1. Playground Context Matrix Analyze Existing Resources & Challenges

- 1.1 This section of the Matrix is designed to help community groups to evaluate and understand existing play conditions and resources available in the playground development location. It is composed of key criteria that need to be considered and understood prior to any new development on the site.

Playground Development Matrix

1. Playground Context Matrix

(Analyze Existing Resources & Challenges)

<i>WHAT</i> <i>Item to Consider</i>	<i>HOW</i> <i>Means of Developing The Idea</i>	<i>WHAT</i> <i>Resulting Product</i>
<p>Existing Physical Characteristics</p> <p><i>Topography:</i> (hills, flat areas etc)</p> <p><i>Water & Drainage:</i> (creeks, pools etc)</p> <p><i>Vegetation:</i> (trees, shrubs, grass etc)</p> <p><i>Lighting:</i> (sunlight, artificial etc)</p> <p><i>Climate:</i> (north, wind, hot, cold etc)</p> <p><i>Existing Play Areas:</i> (structure, skate pond etc)</p> <p><i>Special Places:</i> (cool, fun, quiet etc)</p> <p><i>Negative Places:</i> (scary, unsafe, dirty etc)</p> <p><i>Surroundings:</i> (streets, noise, traffic etc)</p> <p><i>Connection & Boundary:</i> (paths, trails, walls etc)</p>	<ul style="list-style-type: none"> • It is important to understand your playground site as it exists. Organize all the potential users of the playground into a community playground committee. • Local government agencies and their mapping departments are a good source of base information for every site. Call the local map office and obtain a base map of the area complete with as many of the existing characteristics listed to the left as possible. • Analyzing the physical characteristics of a site can be a fun group project. Organize a site analysis day. Make copies of the base map to distribute to small groups of site users. Encourage each group to carefully walk the site marking missing features, taking note of the positive and negative places in the playground, and taking pictures with disposable cameras. • After the search get together and use a large base map to compile everyone's observations. Put the photographs around the map in corresponding areas. In a group discuss the pros and cons of the existing site. Make a list of things that the group likes about the playground as well as things that need to be changed. • When everyone is together ask them to agree on the location and extend of the features listed to the left. Draw lines and bubbles for these features on the base map and label them. 	<p>Playground Committee</p> <p>A Base Map for Analyzing The Site</p> <p>Site Search Day</p> <p>Site Analysis Maps Photo Essay of The Site</p> <p>List of Existing Positive & Negative Features of The Site</p> <p>Existing Site Conditions Map c/w Annotations</p>

Playground Development Matrix

1. Playground Context Matrix

(Analyze Existing Resources & Challenges)

<i>WHAT</i> <i>Item to Consider</i>	<i>HOW</i> <i>Means of Developing The Idea</i>	<i>WHAT</i> <i>Resulting Product</i>
<p>Existing Social & Cultural Characteristics</p> <p>Who Uses The Playground Now & How Do They Use It? Who (age, race, local, etc) How (run, sleep, play etc) When (morning, school, night) Why (relax, family time etc)</p> <p>What Is The History of The Playground? people events landmarks</p> <p>What Cultures Are In The Area & What Are Their Traditions? traditions games attitude towards play symbols, images stories, myths</p>	<ul style="list-style-type: none"> Analyzing the social and cultural characteristics of the playground will be a way to get to know the neighbours needs and ideas about the playground. There are several ways to find out who uses the site and how they use it. The committee could organize a survey of the houses around the site, host a community meeting for all users and/or map the use of the site for a few weeks at different times of the day. In all these cases the questions to the left should be asked and answered. After the information gathering stage compile all the information into a comprehensive chart identifying key user groups and their current use of the playground. Identify who the community would like to use the site. Organize a group of people interested and versed about the history of the area to compile a biography of the playground site and present it to the community. Together with the community decide what if any of the history of the site could be explained in the new design. Manitoba is a multicultural society that celebrates its diversity. Organize a group of people to explore the different cultures in the community. Find out what each culture has to offer as ideas for types of recreation and play in the outdoors. Use the list to the left to get started. Make a chart of all the cultures and the play ideas, motifs and architectural inspiration they have to offer. 	<p>Comprehensive User Chart</p> <p>Photo Essay of Users Using the Site</p> <p>Value Judgement List Who Should/Should Not Use The Site</p> <p>Site Biography</p> <p>List of Historical Items to Celebrate</p> <p>Comprehensive Cultural Resource Chart</p>

2. Playground Objectives Matrix Brainstorm & Develop Preliminary Goals

- 2.1 This section of the Matrix is designed to help community groups define and develop various ideas about the types of play activities and interactions they would like to foster with the new playground design. It is composed of key criteria that need to be considered when developing a set of goals and objectives from which the physical design of the playground can grow.

Playground Development Matrix

2. Playground Objectives Matrix

(Brainstorming & Developing Preliminary Goals)

<i>WHAT</i> <i>Item to Consider</i>	<i>HOW</i> <i>Means of Developing The Idea</i>	<i>WHAT</i> <i>Resulting Product</i>
<p>Who Will Use The New Playground & What Kinds of Experiences Would They Like to Have?</p> <p>Possible Groups: toddlers preschoolers families groups of friends school classes teenagers</p> <p>Would you like to go to the playground to: swim relax bike read pretend play hangout ice-skate, etc...</p> <p>e.g., columns in chart age range supervision needs activity needs time of use play component needs space needs</p>	<ul style="list-style-type: none"> • There are many different possible answers to this part of the process. The direction in which the brainstorming will flow depends on the type of playground that is being developed. Allow for several weeks of research and 2-3 community meetings. • Get every community member interested involved. Make a list of people who will use the playground. Are they toddlers, teenagers, family groups, classes of school children etc.? Make a list of broad categories called user types. • Ask each group to make a collage and a prioritized list of what type of experiences they would like to have when they go to the new playground. Give examples to start the imagination rolling by asking questions like the ones listed to the left. • Once the types of experience each group would like to see in the playground are identified ask each group to do a little homework by going out and finding pictures, examples and write ups on cool places where the activities they have identified occur. • Using all the charts, lists and examples from the analysis and the brainstorming sessions, develop a comprehensive user profile chart that includes all of the groups demographics, preferences, wish lists, and play needs. For each group consider all the things that you now know starting with some of the ones listed to the left. When the chart is completed it will serve as a guide and reference for the next steps. 	<p>Community Meetings & Brainstorming Sessions</p> <p>New Playground User Groups List</p> <p>New Playground User Groups Experience Needs Collages & Lists</p> <p>Library of Playground & Playspace Examples</p> <p>Comprehensive User Group Needs & Wants Chart</p>

Playground Development Matrix

2. Playground Objectives Matrix

(Brainstorming & Developing Preliminary Goals)

<i>WHAT</i> <i>Item to Consider</i>	<i>HOW</i> <i>Means of Developing The Idea</i>	<i>WHAT</i> <i>Resulting Product</i>
<p>How are all these different users with different priorities going to use the same playground?</p> <p>Zone Examples: Quiet Sitting Area Waterpark Zone Active Play Zone Roller Sports Zone</p> <p>Related Structures: Roadways Entrances to Buildings Utility Buildings etc</p> <p>Connection Examples: Sight Lines Pathways Corridors Walls/ Fences</p>	<ul style="list-style-type: none"> • The hardest part of designing a playground is that it is seldom going to be used by only one group of people. A successful playground design depends on how well different uses are integrated, connected and overlapped on the site. Another set of group meetings are required to begin allocating space and time to different users of the playground. All the materials gathered so far should be organized and made readily available to everyone taking part in the brainstorming session. This could be done by making handouts or hanging large sheets up. • To begin the brainstorming session divide all the participants into small groups composed of a variety of different users. Give each small group a copy of the existing conditions map. It is time to develop preliminary playground use bubble diagrams. Ask each group to go over the resource materials they have gathered and to begin drawing large bubbles or zones that represent the location of playspaces for different users. Some zones can combine user groups if they are used at different times or if the play components are the same for both groups. Make sure each zone is well connected to related structures on the site. Draw connections between different zones with dotted lines for visual connections, solid lines for physical connections and heavy solid lines for barriers. Label each zone and connection with key words. • Compromise is a key factor in community design. Gather all the small groups together to review and discuss the diagram options. Try to chose or create one or two favourite bubble diagram configurations for use in the design development stage. Consider which suggestions best meet everyone's needs. 	<p>Community Meetings</p> <p>Resource Information Package</p> <p>Four to Six Bubble Diagrams</p> <p>One or Two Preferred Preliminary Zoning Options</p>

3. Playground Design Matrix Developing a Detailed Design Concept

- 3.1 This section of the Matrix is designed to help community groups transform all the goals and ideas generated through the Objectives Matrix into physical form. It is composed of various steps that should be undertaken in the process of transforming preliminary ideas and goals into detailed and connected spaces designed for a variety of complex play activities.

- 3.2 This section of the Matrix does not have to be followed in order. In fact, community groups will find that they move back and forth between each section until a satisfactory design solution is reached.

Playground Development Matrix

3. Playground Design Matrix

(Developing a Detailed Design Layout Plan)

<i>WHAT</i> <i>Item to Consider</i>	<i>HOW</i> <i>Means of Developing The Idea</i>	<i>WHAT</i> <i>Resulting Product</i>
<p>Develop Detailed Design Component Requirements for Each Zone</p> <p>e.g., Creek Zone streambed water flow / waterfall catchment area types of plants types of animals stepping stones / bridges sitting areas safety / exploring areas paths / lights windmill / watermill winter skating etc</p> <p>Codes & Standards For Each Component</p> <p>Compare Each Play Component Researched Against The Standards</p> <p>Consult with the experts</p>	<ul style="list-style-type: none"> • The design stage is difficult to accomplish with a large group. At this time the community should seek to form a core design development committee composed of volunteers with administration, design and construction experience. This committee must be dedicated to the responsibilities of bringing a detailed design to the community for review. • Taking the preferred bubble diagram option developed in The Playground Objectives Matrix, break down each zone of the bubble diagram into the environmental and play components required to create that play space. Use the playground examples, existing conditions, cultural factors and user needs charts the community has developed. Give each zone a theme. • While developing the list of components research the basic layout size, configuration and number of each component that will be part of the corresponding zone. Take note of the examples to the left. • For user safety and accessibility it is very important that each design component meets government and manufacturing codes and regulations. • The Design Committee should obtain The CSA Playground Standards and The Play For All Standards (listed in the bibliography). These standards must be used to ensure each design component is not only a fun environment but also a safe and accessible one. • The Design Committee should also make sure to consult with community members that have disabilities to make sure they will also be able to use the site. 	<p>Design Development Committee</p> <p>Design Component Chart for Each Zone</p> <p>Complete With Detailed Product Information</p> <p>Check List of Standard Codes for Each Design Component</p> <p>List of User Accessibility Needs</p>

Playground Development Matrix

3. Playground Design Matrix

(Developing a Detailed Design Layout Plan)

<i>WHAT</i> <i>Item to Consider</i>	<i>HOW</i> <i>Means of Developing The Idea</i>	<i>WHAT</i> <i>Resulting Product</i>
<p>Project Materials</p> <p>Material Qualities:</p> <p><i>State:</i> solid, liquid, etc.</p> <p><i>Malleability:</i> rigid, moldable etc</p> <p><i>Type / Durability:</i> organic, inorganic etc. wood, metal, plastic etc</p> <p><i>Texture / Touch:</i> rough, smooth, silky etc</p> <p><i>Colour:</i> yellow, orange, blue etc</p> <p><i>Taste / Smell:</i> sweet, pungent etc</p> <p><i>Sound:</i> timbre, resonance etc</p> <p><i>Light:</i> direct, artificial etc</p> <p><i>Cultural Significance:</i> traditional materials</p>	<ul style="list-style-type: none"> • There is a design motto that says 'design is in the details'. One of the most important steps in developing a rich and exciting playground is deciding on the types of materials the playground will be made of. • Having developed a list of key components for each zone take each component and carefully consider the types of material qualities you would like each to have. Using the list to the left make a chart and consider all the material qualities possible for each playspace. • For example depending on the users and the theme of the active play zone a component such as a climbing structure could be made out of molded earth , concrete, wood or metal. Each material has pros and cons as well as an expected life-span. All these factors should be considered when the Committee chooses the overall material qualities of the playground, from bike path to shade tree. 	<p>Materials Awareness</p> <p>Blank Material Considerations Chart</p> <p>Comprehensive Design Component Materials Chart</p>

Playground Development Matrix

3. Playground Design Matrix

(Developing a Detailed Design Layout Plan)

<i>WHAT</i> <i>Item to Consider</i>	<i>HOW</i> <i>Means of Developing The Idea</i>	<i>WHAT</i> <i>Resulting Product</i>
<p>Playground Concept Development</p> <p>Remember to Consider: Scale Orientation Configuration Circulation & Connection Barriers & Buffer Grading & Drainage Cultural Expression</p>	<ul style="list-style-type: none"> • Once the Design Committee has gathered all the information from the previous sections, it is time to transform the preferred bubble diagram into a scaled concept plan drawing of the proposed playground. • This stage will be more difficult if there is no one on the Committee with design, drafting or construction experience. Try to find a community member with these types of skills to participate or contract the services of a professional landscape architect. • Develop the concept plan with the Design Committee. Taking all the base information, analysis materials, brainstorming results and detailed playground zone / component definitions, begin the layout. Start with larger play zones and components. They will serve as anchor points for the playground. Make sure all the environmental and play components are to the scale of the base plan. Fill in the plan by thinking of how connections, nodes, and boundaries will help people get to and use the feature areas. One of the most important features of a site is grading and drainage. Use the existing hills, swales and flat areas for your design or design new ones where they are necessary. • Use tracing paper to make several tentative concept plans. The layout plan can change and shift while the group is designing. Do not be afraid to try several configurations, orientations and connections until they satisfy all the criteria you have developed. • Choose two concepts for community review. Make changes based on community input and prepare a final concept plan complete with elevations and sections as necessary. 	<p style="text-align: center;">Professional Help Volunteer or Contract</p> <p style="text-align: center;">Concept Design Brainstorming Session(s)</p> <p style="text-align: center;">Two Preferred Concept Plans</p> <p style="text-align: center;">Community Review & Final Concept Plan</p>

4. Playground Implementation Matrix Fundraising & Construction

- 4.1 This section of the Matrix is designed to help community groups to develop a firm understanding of the fundraising and construction process required to make their ideal playground a reality. It is composed of various steps that should be undertaken in the process of developing realistic cost estimates, funding targets and construction timelines for the implementation of the playground design.

- 4.2 This section of the Matrix can be undertaken at the same time or after the Design Development Matrix is completed. Fundraising is a lot more successful, however, when a design and cost estimate are in place.

Playground Development Matrix

4. Playground implementation Matrix

(Fundraising & Construction)

<i>WHAT</i> <i>Item to Consider</i>	<i>HOW</i> <i>Means of Developing The Idea</i>	<i>WHAT</i> <i>Resulting Product</i>
<p>Fundraising Continued</p>	<ul style="list-style-type: none"> • Using the Concept Design and Cost Estimate the community has developed apply to all the funding sources on the list. Make sure you are aware of key application dates and requirements. Try to gear each application to the special interests of the funding body you are applying to. • Additional funds can also be raised through local fundraising events focused on the future playground. These types of events not only get the community involved and excited but also show larger agencies that the neighbourhood supports the playground initiative and will take care of the completed project. 	<p>Fundraising Applications</p> <p>Local Fundraising Events</p>
<p>Construction Design & Implementation</p>	<ul style="list-style-type: none"> • Using the Concept Design, develop a set of detailed design drawings followed by construction drawings and specifications for the project. This may be done in several ways: <ol style="list-style-type: none"> a) Formal Contract - With the help of a professional landscape architect, follow a standard tender process. Implementation to be done by contractors only. b) Semi Formal Contract - Work with a professional landscape architect to develop a final design and construction drawings which include both contract work and volunteer help. c) Design Build Contract - Work with a design build company to finalize the design and develop construction drawings. During the construction process, the contractor and volunteers work together to install the playground. d) Volunteer Design Build - Find skilled designers and contractors to volunteer their time in the construction of the project. 	<p>Construction Drawings & Specifications</p> <p>Professional Service Contractor Installation Highest Cost With a Guaranteed Product</p> <p>Professional Service Contractor & Volunteer Installation / Less Cost More Organization</p> <p>Professional Service Install Together Less Cost / Lots of Volunteer Commitment</p> <p>No Professional Service Lowest Cost / Highest Risk of Liability</p>

4.3 Matrix Summary

Next Steps for Community Groups, Schools & Other Stakeholders

- 1.1 Liaise with government stakeholders to obtain information.
- 1.2 Organize the core group of stakeholders in the community / schools (children, parents, teachers, etc.).
- 1.3 Use this resource and other strategies, to identify goals and objectives for the playground development.
- 1.4 Examine resources within the community:
 - designers, artists, crafts people;
 - trades; and
 - equipment manufacturers.
- 1.5 Develop a plan and cost estimate.
- 1.6 Examine all funding possibilities:
 - government;
 - corporate and private sponsors;
 - fundraising events; and
 - in-kind donations.
- 1.7 Determine strategy for implementation.
- 1.8 Develop a maintenance plan.



4.4 Conclusion

Looking Forward Developing Better Playgrounds in Manitoba

The trade off imbalance which has been going on all this century between natural environments converted to urban development and their substitution by standard type playgrounds has been totally in conflict with the best interests of children. This tide of change can not be stopped, but much can be done to re-establish a balance on the playground. ... there is a need to depart from the stereotype acquisition and placement of 'play structures' in flat open spaces (Landscape Australia, 1990, p. 194).



Countries such as Denmark, Germany, Scotland, England, and Australia, having realized that childhood play was being threatened, have taken great strides to create appropriate and integrated 'play places' for their children.

Manitobans can learn from these examples, and move forward in developing innovative playgrounds for their schools and neighbourhoods. The diverse examples of innovative playgrounds explored in this research paper, should serve as a starting point for future government and community initiatives that support the creation of better play environments.

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