



Winnipeg School Division School Ground Greening Guidelines for Play and Learning

MAKING CHILD DEVELOPMENT AND LEARNING CONNECTIONS ON OUR SCHOOL GROUNDS

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Acknowledgements

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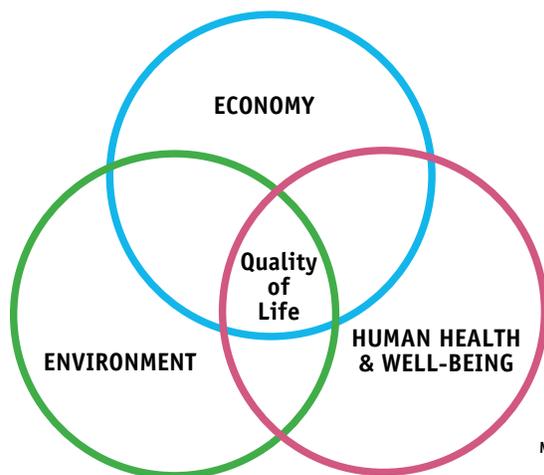
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Executive Summary

Education for Sustainable Development (ESD) is at the forefront of curriculum in Manitoba Schools. The incorporation of key themes of sustainable development into the education system will help students become informed and responsible decision-makers, playing active roles as citizens of Canada and the world. These complex concepts can be further illustrated in well-designed school grounds. These traditionally barren landscapes can contribute to social, cultural, environmental, and mental well-being of the entire community.



Manitoba Education "Enough for All, Forever" Winnipeg School Division's ESD phrase

These guidelines have been written to give school communities, including administrators, teachers, custodians, parents and design professionals a common understanding for discussing, planning, designing, and implementing outdoor play and learning environments that connect children and youth to nature. They encompass design ideas, construction details, and site management practices that incorporate innovation and long-term sustainability into the planning and design of green school grounds. They also support the Winnipeg School Division's Vision Statement for Greening School Grounds:



INSPIRE IMAGINE GROW

Winnipeg School Division is committed to creating Sustainable Environments.

The guidelines are based on a set of design principles that are centred on meeting children’s developmental needs—physical, cognitive, social, and emotional – from kindergarten through junior and senior years. They draw upon the lessons learned from Evergreen’s twenty five years of transforming Canadian school grounds into diverse, nature-filled play and learning environments.

“Take it Outside”

As new research emerges, the guidelines will be updated to reflect new learnings and integrate best practices.

These guidelines for school ground greening in the Winnipeg School Division are to be used in conjunction with the most current versions of the following documents:

- Winnipeg School Division- G8 Administrative Handbook: Guidelines for Playground Improvements
- CSA Standards for Playgrounds CAN/CSA-Z614
- The Accessibility for Manitobans Act
- Green Manitoba - Water on the Land – Sustainable Stormwater Management Guide.





Introduction

Childhood is Changing

We live in an age where childhood is moving indoors and becoming increasingly sedentary, and where contact with nature is rapidly declining. Most children and youth in Canada are not meeting the Canadian Physical Activity Guidelines (ParticipACTION; 2015). Children and youth no longer freely explore the world around them. Yet, exposure to the natural environment can have significant positive impacts on their development, in terms of both physical and mental health. Engaging in nature based activities increases the metabolism, boosts the immune system, increases resiliency and reduces stress.

Introduction

For the past twenty years researchers from a wide range of fields have been unanimous in their conclusion that today's children and youth spend very little time outdoors and that this is detrimental to their development (Bredekamp & Copple, 1997; Moore & Wong, 1997; Rivkin 1995, 2000). Children and youth are natural explorers and investigators so it follows that the outdoors are the ideal place to offer them a range of diverse learning experiences and provocations. The learning that happens outdoors is multi-faceted and complex.

Access to active play outdoors in nature—with its risks—is essential for healthy child development. We recommend increasing children's opportunities for self-directed play outdoors in nature, in all settings; at home, at school, in child care, and in the community.

Current research also makes it clear that our earliest experiences—the way we play, learn, and interact with the world around us—have a profound and formative effect on our health, thinking, and behaviour throughout our lives (Gopnik). The richer the network for natural play environments, the more opportunities children and youth have to build their self-esteem, confidence, resilience, perseverance, and creativity—all attributes of healthy childhood development (Louv).

Evolutionary psychology shows us that children are born with the instinct to take risks in play, because historically, learning to negotiate risk has been crucial to our survival. In contemporary society, growing up is about learning to make sound decisions.

“Children need to encounter risks and overcome fears on the playground.”

(Sandseter)

As students get older, access to natural play and learning spaces are equally as important. Researchers have found that:

- Students with symptoms of Attention Deficit Hyperactivity Disorder (ADHD) are better able to concentrate after contact with nature (Faber Taylor et al. 2001).
- Students with views of and contact with nature score higher on tests of concentration and self-discipline. (Faber Taylor et al. 2002, Wells 2000).
- Exposure to natural environments improves student's cognitive development by improving their awareness, reasoning and observational skills (Pyle 2002).
- Nature buffers the impact of life stress on youth and helps them deal with adversity. (Wells 2003).
- Play in a diverse natural environment reduces or eliminates anti-social behavior such as violence, bullying, vandalism and littering, as well reduces absenteeism (Coffey 2001, Malone & Tranter 2003, Moore & Cosco 2000).
- Nature helps develop powers of observation and creativity and instills a sense of peace and being at one with the world (Crain 2001).
- Youth who play in nature have more positive feelings about each other (Moore 1996).
- Natural environments stimulate social interaction between students (Moore 1986, Bixler, Floyd & Hammitt 2002).
- Outdoor environments are important to the development of independence and autonomy (Bartlett 1996). (Adapted from White Hutchinson Leisure & Learning Group, 2004)



1

Planning Principles for Outdoor Play and Learning Environments

“

In childhood one is more open to sensory impressions than ever again in one's life. Smells, sensations of heat, softness, weight, beauty and much more, form the basis of all of life's later sensations.”

Eva Insulander, Swedish School Ground Designer and Planner





CHAPTER 1 Principles for Planning Outdoor Play and Learning Environments

Natural features play a central role in creating rich and stimulating outdoor experiences. However, creating a natural play-learning environment means more than simply planting trees, shrubs, and wildflowers. Good design that balances natural and built features is essential to realizing a playground's potential.

To create a landscape that supports rich and authentic hands-on learning experiences on school grounds we recommend integrating the following design principles:

1. Follow a participatory approach
2. Be cognizant of safety in design
3. Design for all ages, stages, and abilities
4. Create a diversity of spaces
5. Provide multi-purpose elements
6. Connect to curriculum
7. Design for year-round use
8. Respond to local ecology and community
9. Meet staff needs and plan for maintenance

1. Follow a participatory approach: get people involved

The participatory process involves working together and gathering input from students, teachers, parents, administrators, caretakers, facilities managers and community users to collectively create a greening vision, develop a plan, and carry it out. A participatory process involves working together in a spirit of mutual respect and acknowledging that each person brings something of value to the initiative.

There are many tools available to committees to support this process. For example:

- Student, teacher and parent surveys about how they use the school grounds
- A sample letter to neighbours
- A template for helping to build an effective team

(See the Evergreen resource All Hands in the Dirt: A Guide to Designing and Creating Natural School Grounds <http://www.evergreen.ca/get-involved/resources/>)





2. *Be cognizant of safety in design: Crime Prevention Through Environmental Design (CPTED) principles*

Ensure the design strategies for your outdoor play and learning environment and selection of materials and structures contribute to a safe space by considering the following points:

Keep sight lines open, maximize visibility and foster positive social interaction

- Do not plant trees or tall shrubs in locations that would compromise safety by blocking sight lines, security cameras and/or night lighting.
- Increase opportunities for pedestrian and cyclist routes. It is important for people to be able to see ahead along pathways.
- Select a low height and least sight-limiting fence style appropriate for the situation.

Leave Two Ways Out

- Make sure there are two ways in and out of paths and fenced areas.
- Create well defined public and private space zones.
- Avoid dead-end entrapment zones.

Avoid

- Over-lighting (affects relationship to neighbours, scares away wildlife and ruins the opportunity to view the night sky).
- Designing features that provide access to roofs or upper levels.

3. Design for all ages, stages, and abilities

It is important to consider all age and ability ranges in the design of natural outdoor play and learning spaces, taking into account the age range and individual needs of each particular school population.

Consider scale, graduated levels of safe risk-taking, developmental needs (physical, social, emotional and cognitive), behavioural needs (e.g. ADHD) and sensory cues (vision, sound) in these spaces across all present age levels, developmental stages, and abilities. Also consider after hours use of the space by the surrounding community, and pick up and drop off zones.

The design of natural play and learning environments must ensure that students of varying abilities have access to all major play and learning spaces. Incorporating all ages, stages, and abilities into the design of outdoor play and learning areas should begin early in the planning process with consideration for layout, seating, paths, and play components.

The Design Framework in Chapter 2 provides more detail linking developmental needs with design elements in the creation of natural play and learning environments.

Chapter 4: Building Outdoor Play and Learning Environments outlines specifications for accessible paths, seating, and play elements.

4. Create a diversity of spaces for active play and learning opportunities

A landscape that offers a diversity of spaces can be a rich environment for active play, socialization, quiet reflection, and learning. Create landmarks that function as distinct meeting spaces, and places for students to play. Avoid mass repetition of the same feature in order to increase the quality of the landscape. Use both hard and soft surfaces and a range of elements to create diverse landscapes that meet the needs of the school community.

Diverse landscapes are flexible, playful, provide graduated challenges and are scaled for all ages and abilities.

The best of spaces will offer a plurality of scales/places in the same area, effectively allowing for the student to interact at the scale of the immediate (the foreground), the near (the middle ground) and the far (the background). Exceptional spaces allow for easy and subtle transitions between activities.

Flexible spaces are suggestive, not prescriptive. They provide opportunities for play, learning and movement that can be experienced different ways by students depending on how they are used. They can also be used in different ways throughout the seasons.

Colour, pattern and texture help to increase the aesthetics and playfulness in any space.

When determining locations of play areas, take advantage of the spatial quality, sense of place and shade created by existing trees. (Adapted from Moore, Goltsman - Play for All Guidelines)



5. Provide multi-purpose elements

The elements and spaces of an outdoor play and learning environment serve many purposes. Designing and choosing elements that can be used and interpreted in many ways is more challenging to the imagination than single-purpose “pieces.”

- Incorporate elements that serve many purposes (e.g., a flat-topped stone in the sand play area can be used as seating or a table top).
- Mould the landscape in interesting ways and use vegetation to create rooms, arbors, tunnels, and nooks (e.g., low hills, and tunnels made by planting Serviceberry shrubs or willows on either side of a pathway to create an allee).
- Let an area of grass grow (no mow zone) that can serve as a nature study area, hide-n-seek space, or a maze with mown paths.
- Include wooden posts that can become the frame for a fort with fabric in the spring, and with snow in the winter.
- Design rock formations that can be used as social gathering spaces and areas for outdoor learning and instruction.

6. Connect to curriculum

Many skills that educators set out to teach formally and help students to develop are achieved naturally in the outdoor environment. As an extension of the classroom, the school ground can be used in varied ways for formal and informal learning activities. All curriculum areas can be embedded into outdoor learning including Education for Sustainable Development (ESD), Science, The Arts, Literacy and Language, Social Sciences, and Physical Development.

Pay attention to existing instructional uses of the site and work with staff to expand the experiential learning opportunities outdoors. Evergreen workshops are offered to help teachers incorporate lesson plans and curriculum outcomes in the outdoors.



7. Design for year-round use

Many school playgrounds (climbers) are closed for the winter months. Creating outdoor play and learning environments is key to optimizing the seasonal potential of playgrounds. Play spaces designed for year-round use will highlight the multitude of opportunities presented by seasonal changes, consider solar exposure throughout the seasons, use materials that can withstand the weather, and consider the changes to the space throughout the seasons – wet, leaf covered, snow covered, as well as fall heights and impact attenuation of surfaces.

Consider how pathways, seating areas, gardens, exercise stations, and play elements will be used and maintained in all seasons, and design to maximize year-round use (e.g. logs that can be used for climbing in the spring and fall and sliding in the winter, nooks and forts than can be used differently in each season).

In addition, a natural school ground provides opportunities for outdoor study and reflection in all seasons and weather conditions. Sun and rain shelters and natural wind-breaks accommodate teaching outdoors and help to

extend classroom time outside. The use of evergreen trees provides shelter from the wind, winter interest, and attracts wildlife. Incorporating the colours and sounds of each season adds interest and helps create a tranquil learning and reflection space.

8. Respond to local ecology and community

Natural spaces offer the school community a rich terrain of play opportunities and social gathering spaces that influence their attitude and behaviour to their natural and cultural surroundings. Direct experiences in nature connect students to plants and animals and the ways in which human beings and the natural world are interrelated, supporting a stewardship ethic toward the environment. These spaces can also act as a place of green refuge for regaining mental clarity when overwhelmed by emotion or events.

Incorporate the local ecology into the design of natural play and learning spaces: include native trees, shrubs and understory elements such as Basswood, Red Osier Dogwood and native perennials found in the local prairie and boreal landscapes to make ecological connections and support habitat corridors; expand existing natural areas or features on the school ground; and understand the site's water and drainage patterns to make connections to the local watershed.

Include elements that reflect the unique characteristics of your school's community, including honouring and acknowledging the area's history, culture and or topography. All schools of the Winnipeg School Division are situated on treaty number one territory. First Nation Elders are available to help provide blessings, teachings and consultation.

Cultural connections can be made through plantings, art and site elements, such as mosaics, totems, and medicine wheel gardens. It is important to incorporate seating elements so these natural areas can become quiet, contemplative spaces. School or cultural messages and themes can be engraved on rock and log benches to strengthen the ties to your school community.



9. Meet staff needs and plan for maintenance

Meeting the needs of staff in natural play and learning environments is essential to the success of the space. Consider the following suggestions:

- Locate seating and work spaces in the shade.
- Provide an outdoor shelter to allow extended instructional time outside and for students to experience changing seasons and weather conditions.
- Plan for several different vantage points for supervision.
- Provide water sources for play and plant growth.
- Create flexible spaces that can be changed and manipulated by the students and staff.
- Consider access to outdoor learning spaces in the winter months.
- Provide easy-access outdoor storage areas for tools, equipment, study aids, loose parts and props used on school grounds.



Keep maintenance in mind as you plan for a diversity of play and outdoor learning spaces or loose parts integration.

A diverse environment with many play, gathering, and learning zones is different from a traditional school ground with one or two dominating features, so talk with staff about their role in supporting a more natural and dynamic play environment.

- Provide maintenance staff with gates for equipment access.
- Provide places for snow clearing and storage.
- Ensure the layout of elements will allow space for mower or snow blower clearance.
- At a minimum yearly maintenance should be performed on all planted items including pruning, removal of dead shrubs and trees, tree cages.
- Regular inspections should be performed to identify the need to replace unsafe or worn materials, for example; Replacing rotten/dangerous log steppers. Monitoring safety surfacing and filling/replacing sand, mulch, and/or fibar as required.
- Think carefully about material choices. Be sure to choose a variety of materials with different life cycles and growth rates such as oak, poplar and cedar. Consider permanent materials such as limestone boulders.
- Pay attention to transitions between adjacent materials, creating accessible routes through the spaces such as having an access point with flush log edging into the play area and a mulch trail.
- Allocate student or classroom stewards to help support plant life by watering. Student ownership is critical to protect the environment.
- Remember that stewardship of a space can be part of program goals, as it helps students to learn about responsibility and to care for each other, their surroundings and the natural world.
- All grades can share in the maintenance and upkeep of the outdoor space. In fact, this is a wonderful opportunity for character building and developing deep understanding of how and why things happen in the outdoors.

Additional Considerations for Early Years Kindergarten and Primary Play and Learning Areas



Use a Child-Centred, Inquiry-Based Approach

Make design decisions with an understanding of children, children's play, and the importance of inquiry in learning and development.

David Sobel, a leader in the field of place-based education, has outlined seven categories that help to guide us back to our earliest experiences in nature and apply these experiences as we design children's spaces today: Adventure, Fantasy and Imagination, Animal Allies, Maps and Paths, Special Places, Small Worlds, and Hunting and Gathering.

Adventure

Children are built for adventure. They thrive on physical challenge, anticipation, and mystery. Anticipation implies that you don't fully know what's going to happen when you start out. It takes into consideration the importance of risk in the landscape. Children are born with the instinct to take risks in play, because historically, learning to negotiate risk has been crucial to our survival. In contemporary society, growing up is about learning to make sound decisions. Children need to encounter risks and overcome fears on the playground (Sandseter 2011). Risk is a powerful catalyst for growth; it helps children develop good judgement, persistence, courage, resiliency, and self-confidence (Finch).

Fantasy and Imagination

Children naturally engage in creative play. Support this innate behaviour by providing props and making spaces that allow children to act out their imaginary worlds. Provide hands-on interactions with living things such as insects, birds and plants. Build rich environments that facilitate storytelling and dramatic play. Set the stage for children to imagine themselves in many different roles.

Animal Allies

Children love animals. They want to connect to the animal world and experience encounters with animals. Facilitate the interaction between children and animals by providing opportunities in the landscape, such as diversity in plant species, that support the observation and exploration of animals and their natural habitats. Children will notice the animals that they see and hear in their environment, a nuthatch or a caterpillar can be the springboard for rich learning and investigation.

Maps and Paths

Children have an inborn desire to explore. They love to search out new places and find different ways to get to places. For this reason avoid designing every square inch of a play space; allow children to devise their own secret trails, short cuts, or informal paths.



Special Places

Children want to hide, retreat, and find places for refuge. Design a space that safely incorporates hiding places and fort building and provides children with loose parts to build their own dens, forts and huts. Furthermore, school is such a busy place, filled with so many adults and children. The outdoors offers a place for a quiet moment, a chance to take a breath and regroup before re-joining the larger group. The latest research on self-regulation reminds us how important it is to allow children to have places in which they can find their balance again.



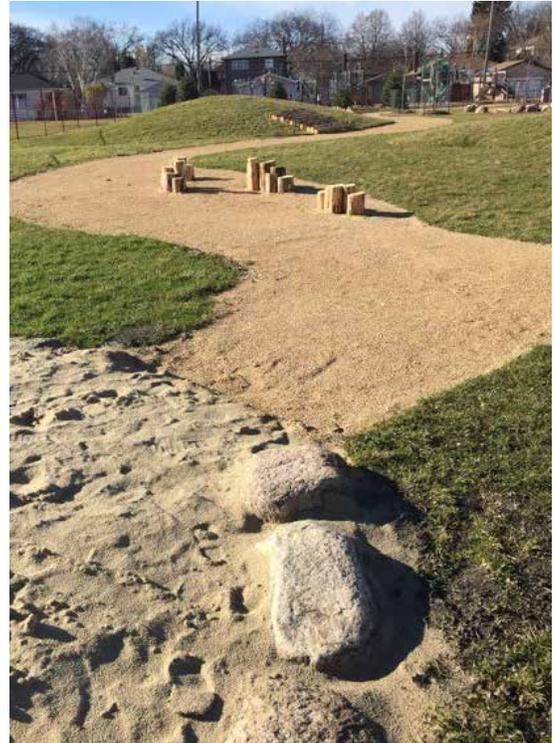
Small Worlds

Children role play real life situations through imagining scenarios and building small worlds. Plants, sand, soil, and snow, along with loose parts, are materials that children, can relate to and manipulate for building and creating their own small worlds. Creativity is an essential habit of mind for today's children as they are required to bring their own original ideas to the topics that they are exploring in school.

Hunting and Gathering

Children love to find, gather, and collect things. Holding treasure hunts, supplying loose parts, and enriching spaces with gardens and vegetation are great ways to satisfy this impulse. A space that offers a variety of natural materials, surfaces, and textures provides an environment where children can search for patterns in nature, as well as collect bugs, leaves, rocks and sticks.

The acts of hunting and gathering must however be accompanied by a respect for the natural world, including the release of live specimens (bugs) back to their natural habitat, taking care not to destroy natural habitats, and not taking too many plant specimens from a habitat area.



JB Mitchell School



Use Loose Parts

Adding props to play settings should be encouraged and accounted for in budgeting. For instance, turning stones in a nature study area, log rounds to roll and stack, garden and sand tools and watering devices, snow shovels and tools for collecting, moving and building with snow, bug nets and catchers, clipboards and field note materials, costumes and props, tarps and fabric for forts and imaginary play, found objects and natural materials (sticks, stones, pinecones, etc.) that can be used to construct and create.



Appeal to Children's Senses

Design outdoor environments that sharpen children's perceptual awareness and provide places for wonder, curiosity, and the expression of ideas. "Aesthetics" does not just refer to something that is beautiful to the eye, but anything that influences all of the senses – seeing, hearing, feeling, smelling, and tasting. For example, planting trees with leaves that rustle in the wind or tall grasses that sway and rustle in the wind around a seating area, planting a sensory garden, including colour and patterns through art and plantings, creating a labyrinth or a nature trail where children are connected to the sensory details of the space. These elements help children begin to name and notice what they see and hear in the natural world. Observing and identifying leads to asking questions, which is the beginning of the scientific inquiry cycle.

SeeHearSmellTasteTouch

2

Design Framework for Creating Outdoor Play and Learning Environments

“

In order to act as an educator for the child, the environment has to be flexible, it must undergo frequent modifications by the children and the teachers in order to remain up-to-date and responsive to their needs to be protagonists in constructing their knowledge.”

Carolyn Edwards - "Education and Caring Spaces"

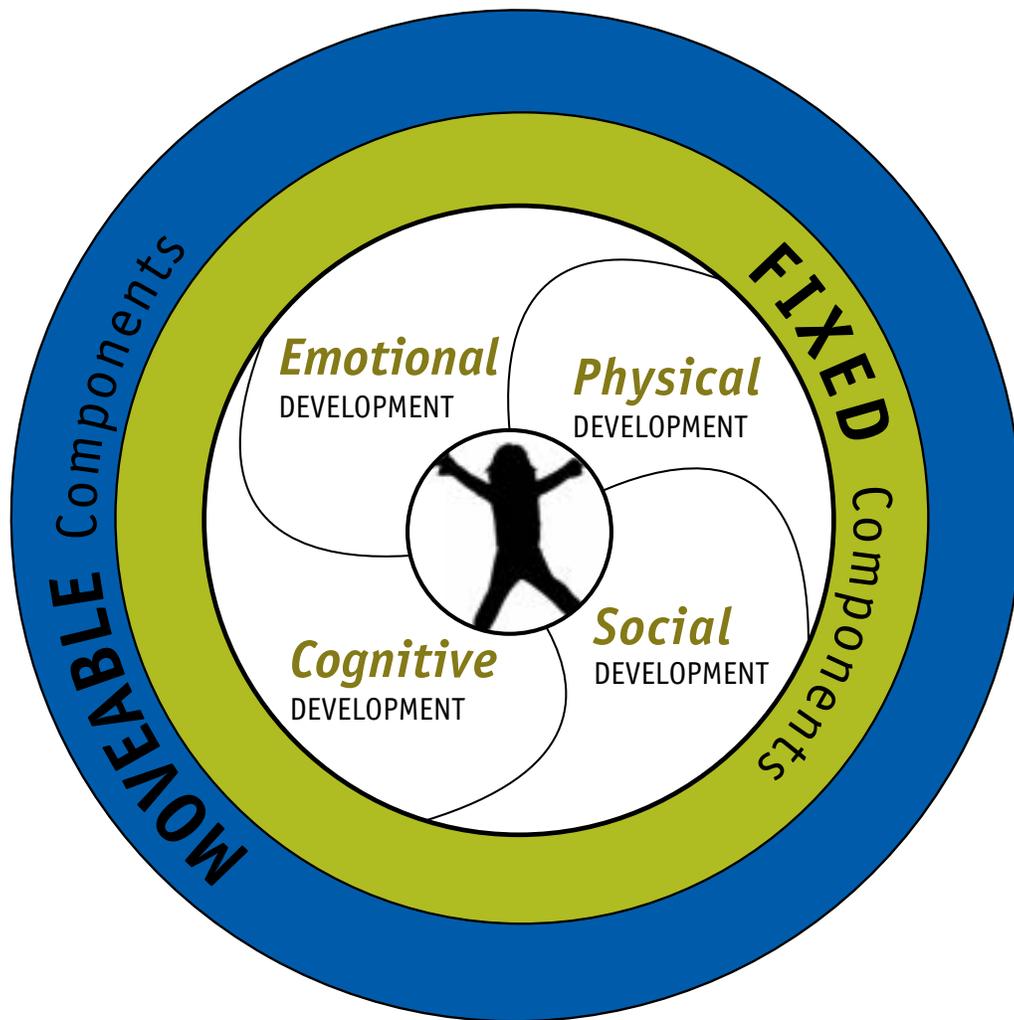




CHAPTER 2 Design Framework for Creating Outdoor Play and Learning Environments

The Design Framework is a tool for focusing and organizing design thinking about outdoor play and learning environments.

The Framework links student's developmental needs — physical, social, emotional and cognitive — to the choices and arrangement of the components of your design. Central to the framework's utility is the understanding that any distinct space on your grounds is likely to have both fixed and moveable components and serve a range of developmental needs.

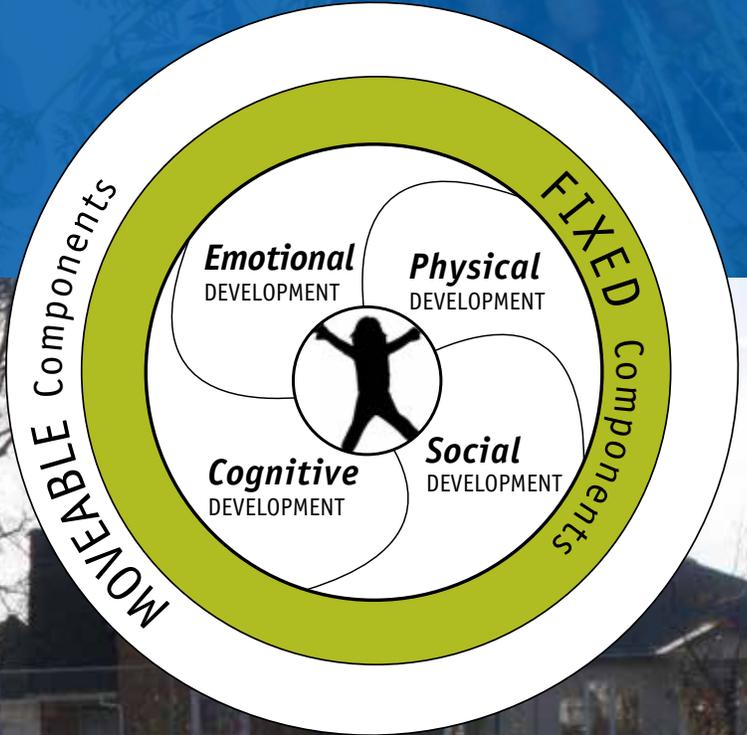
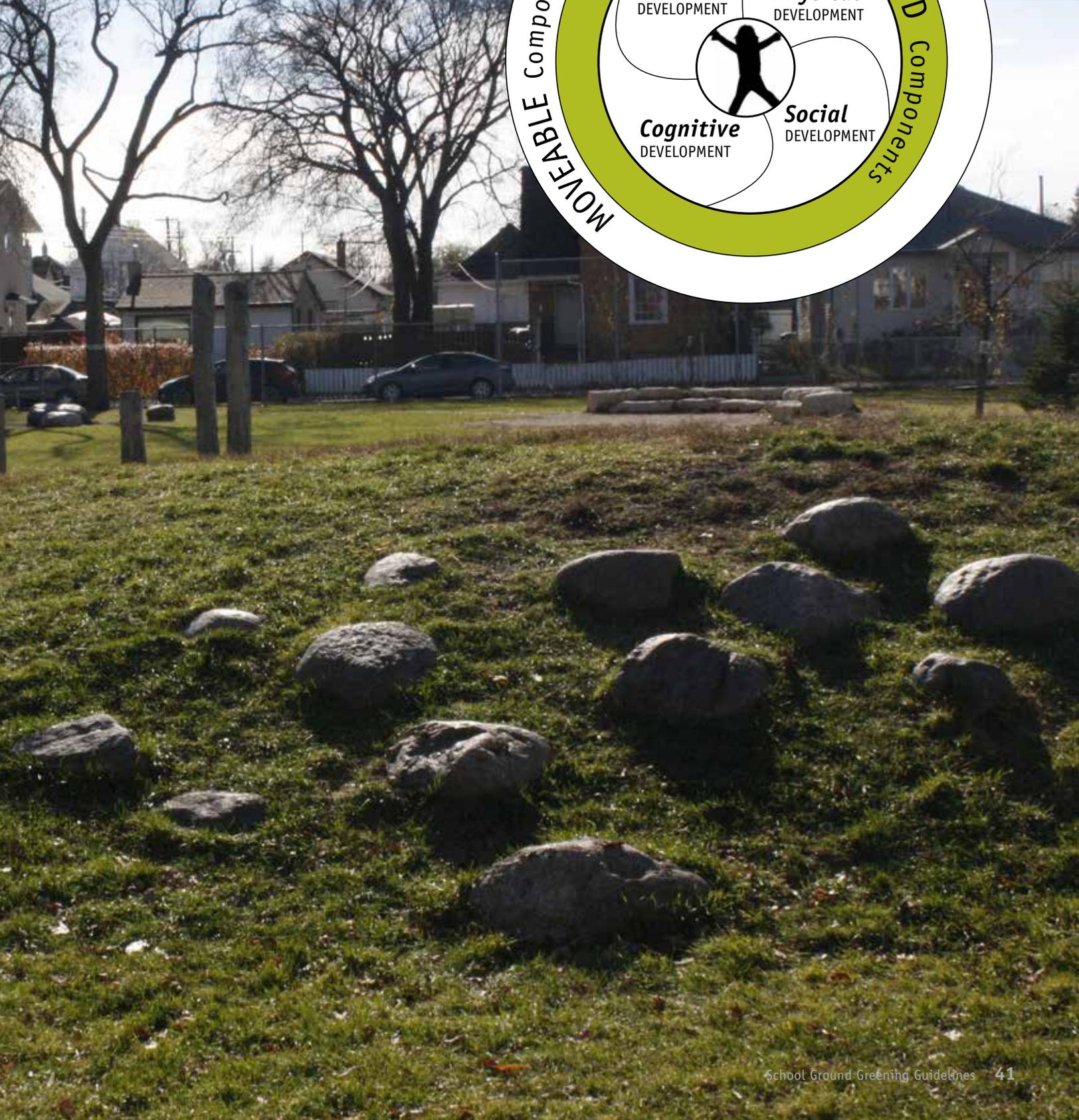


The fixed and moveable components of the design work together in service of the range of development needs of the child. This framework is intended to act as a filter for design thinking from concept through to implementation.

Fixed Components

Fixed components are the anchor points of a landscape for example, trails, groves of trees, hills, and rock circles. Arrange these components thoughtfully, to prioritize connectivity, maintain flexibility and create a kind of “loose fit” that allows educators and students to play an active role in adding moveable components to customize their environment. Consider these questions: What do you want to be able to do in the space that supports play-based learning? How might you create adventure, mystery, physical challenge, and opportunities for social interaction or quiet contemplation? How can you provoke curiosity and interest through careful planning and selection of materials? How can you create sheltered spaces from the wind that take advantage of solar gain for winter?

The suggested components that are listed in the framework are not intended as a prescriptive formula for creating exemplary spaces; it isn't a matter of simply adding these ingredients. Rather, they can serve as a designer's catalogue that illustrates the many possibilities for enhancing outdoor environments as rich, interpretative terrains for play and learning in all seasons.



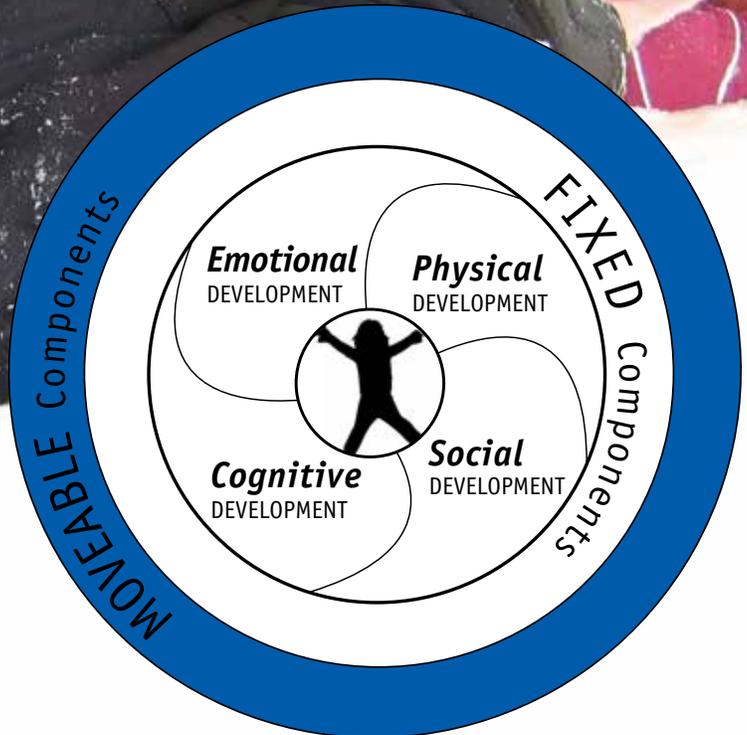
Moveable Components

The framework includes a menu of moveable components that can be incorporated into the learning space. Use different combinations of these to animate an integrated outdoor learning environment that is informed by a number of teaching practices. The list of moveable components is only restricted by your imagination - the possibilities are endless for what can be used to enhance play and learning in the outdoors.

(See Appendix F for a list of loose parts for the outdoors).

Remember, there isn't one formula, or one perfect design. Use this framework as a filter to create something that's unique to your school community, something that provides opportunities for students to connect directly with nature.





Physical Development

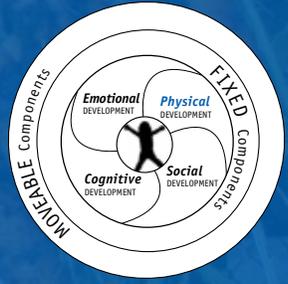
Early years spaces that incorporate paths, elevation changes, and physical challenges help develop motor skills, physical stamina and confidence while promoting fitness and health. Children in this age and stage need to climb, dig, roll, run, jump, leap, ride, hop, skip, balance, hang, grasp, cling, swing, lift, push, pull, slide, stretch, stack, carry, and pour.

Primary and junior play spaces that incorporate hills and berms, rocks and logs and different activity zones help to extend the complexity of movement at this age and support healthy risk-taking. Students in this age and stage need to climb, run, jump, and have opportunities to navigate safe risks in their physical environment.

Spaces that incorporate trails, tracks, and fitness zones encourage and support physical activity for senior students. Youth in this age and stage need more physical challenges and areas to run, walk, rock climb, exercise, and be active.

Fixed Components of an outdoor play and learning environment that support physical development:

- Paths and trails
- Bridges, stages and decks
- Berms and hills
- Sand, mulch and soil areas
- Elements for balancing or jumping from different heights
- Elements to slide, climb, crawl on around and under
- Hanging bars with safety surfacing
- Balancing logs, wobbly logs, zigzag logs
- Rumble strips
- Natural or built elements for climbing
- Climbing walls
- Climbing poles
- Rock scrambles
- Obstacle courses areas
- Benches



Moveable components used in an outdoor play and learning environment that support social development:

- Mulch piles with shovels and rakes
- Play tables
- Stump seats
- Round logs, flat topped logs, rocks
- Fabric pieces of different sizes
- Sand and water
- Building materials
- Loose parts (see Appendix F: List of Loose Parts)



Social Development

Through play children learn rules, cooperation and sharing. Children learn to use moral reasoning to develop values during play. Children develop strong cultural identity and a sense of self and experience the consequences of their decisions through play.

Children require outdoor play and learning spaces that support their need to share, engage in free play, walk and run together, play games, imagine, negotiate and problem-solve together.

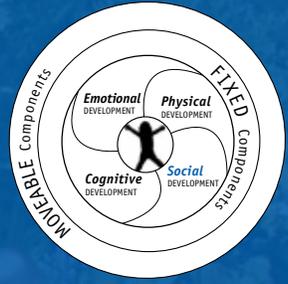
Access to natural outdoor spaces helps to reduce anti-social behaviour in older children and youth, supports positive relationships, and helps to develop independence and their sense of autonomy. Outdoor spaces that have large and small gathering areas, destination points, gardens, and work stations provide areas for junior, senior and adolescent students to socialize, talk, share, laugh hang-out, work and collaborate together.

Fixed components of an outdoor play and learning environment that support social development:

- Trails and pathways
- Bridges
- Covered/shaded sand play
- Shaded areas with seating (tree seats, wooden benches, logs, zig-zag logs)

- Places for small groups (3-5), gathering points
- Spaces for quiet games, e.g. checkers on a rock
- Berms and hills
- Work areas (work tables) for cooperative projects
- Groves for treasure hunts or scavenger hunts
- Covered activity areas (shade shelters)
- Cedar posts configured to support canvas tarps
- Raised garden beds with seating
- Outdoor classroom - rock seating circles
- Stages and decks
- No mow areas
- Benches





Moveable components used in an outdoor play and learning environment that support social development:

- Mulch piles with shovels and rakes
- Play tables
- Stump seats
- Round logs, flat topped logs, rocks
- Fabric pieces of different sizes
- Sand and water
- Building materials
- Loose parts (see Appendix F: List of Loose Parts)



Emotional Development

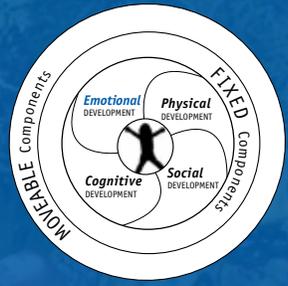
Through nature play early years and primary-aged children are able to develop individual creativity, expression, and emotional connectedness. They learn empathy and responsibility, and develop a sensory awareness and stewardship ethic. Children in this age and stage need to have daily contact with nature; explore natural areas; tend a garden; dig for worms; find, collect and gather things; experience the light, colour, and texture of vegetation changing with the seasons; and reflect mindfully.

This early connection with nature continues throughout the later years of childhood as students continue to develop an emotional bond with nature, and start to take initiative to care for the environment. Access to natural outdoor learning spaces also helps students deal better with adversity and instills a sense of inner peace. Children and youth in this age and stage need to plant and care for a tree; have time for daily reflection in nature; tend a garden and give back to the community, and expand their awareness and impact on the energy, water, and life cycles around them.

Fixed components of an outdoor play and learning environment that support emotional development:

- Nature Study Areas
- Groves of trees and shrubs
- Frog pond
- Wetlands
- Rain, bird and butterfly gardens
- Meditation gardens
- Storm water bio-swales
- Habitat gardens to attract wildlife
- Veggie gardens
- Greenhouses to grow things and connect to curriculum
- Large sand play area
- Areas of soil and vegetation where younger children can find ants, snails, worms, caterpillars, spiders
- Access to water cisterns or hose bibbs
- Serviceberry shrubs with spring flowers, red autumn leaves





Moveable components used in an outdoor play and learning environment that support emotional development:

- Sky Poles
- Logs that can be turned over
- Bird feeders, bat boxes, toad abodes
- Scarlet runner beans growing on a bean stock trellis to create a nook
- Bug trails and bug hotels
- Annual sunflowers, nasturtiums
- Trees, shrubs, wildflowers, edible crops
- Fabric pieces of different sizes
- Worm composting
- Soil to dig in
- Sand to rake
- Loose parts—seeds, leaves, beach stones, pine cones, miniature bricks, small glass beads (see Appendix F, Loose Parts Play)
- Ephemeral art mandalas
- Compost pile for collecting bugs



Cognitive Development

Natural outdoor play and learning spaces support the development of creativity, perceptual, and problem-solving skills in early and primary aged children. Children in this age and stage need to build, create, do, undo, transport, shape and reshape their environment; engage in fantasy play; perform and role play; perch, spy, plan, hide, and reveal; retreat and hide but at the same time see (between branches, from behind the tall grass); reflect mindfully; explore and discover.

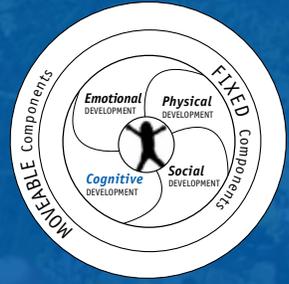
Flexible and abstract-thinking, reasoning, and observational skills are supported into the junior, senior and adolescent years through contact with natural outdoor environments. Children and youth in these ages and stages need to be involved in decisions about their space; define and evolve their environment; feel ownership and partnership; build confidence; strengthen relationships; and make choices and see the possibilities.

Fixed components of an outdoor play and learning environment that support cognitive development:

- Activity walls, graffiti walls, chalk walls
- Spaces for fort and den building, both flat and hilly
- Medicine Wheel/Circle teaching garden
- Fairy gardens, scented gardens
- Un-manicured spaces (no mow zones)
- Mazes and labyrinths
- Nature Study Areas
- Sand and water play areas
- Berms and hills, elevated spaces
- Nooks, small refuge spaces, semi-private places for 1-2 students
- Gardens with seating
- Groves of tall shrubs and trees (cedar trees)



Brampton YMCA Daycare



- Enclosed spaces and seating areas
- Forts, cedar posts for draping blankets, fabric or tarps
- Playhouse
- Dramatic play area, staging area
- Music area (chimes, drums)

Moveable components used in an outdoor play and learning environment that support cognitive development:

- Construction areas to build projects, showcase work
- Art easels
- Weaving walls
- Worktables and low decks
- Soil and sand piles, mud pit or spaces for mixing water and clay
- Flat topped logs, tree cookies for stacking
- Sand, water, soil, mud, straw, mulch
- 10 cm (4") round cedar poles – varying lengths (lightweight and moveable)
- Child-sized and regular-sized tools (shovels, rakes)
- Buckets, mixing tools and water source
- Child-sized and regular sized wheelbarrows and sawhorses
- Moveable walls – canvas tarps
- Sheets, blankets
- Dirt, soil, and sand for digging
- Costumes and props



3

Key Spaces

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An aim of site design is to locate and juxtapose settings in such a way that the greatest variety of play activity patterns will be generated, producing the greatest possible range of interactions and relationships while meeting the requirements of different ages, abilities, and developmental stages.”

Moore, Goltzman, Play for All Guidelines



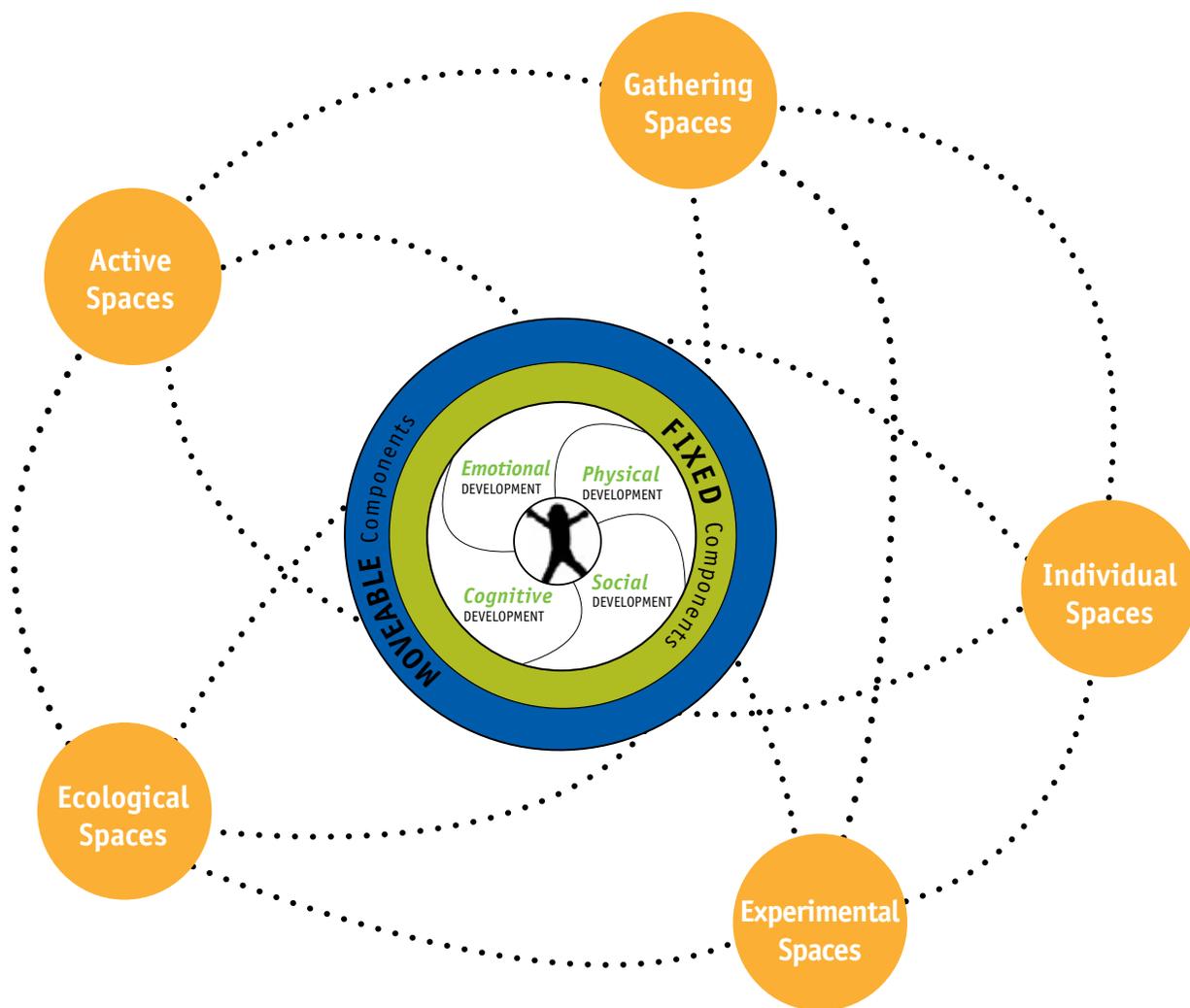


CHAPTER 3 Integrating Key Spaces into the Design Framework

Creating a conceptual design for your outdoor play and learning environment brings all the pieces together: the fixed and moveable landscape components, student's developmental needs, and the desired spatial qualities of your site.

Evergreen and The Winnipeg School Division suggest priority should be placed on five key spaces that work in concert to create a diversity of play and learning opportunities: Active, Experimental, Individual, Gathering and Ecological.

For clarity, they are explored as distinct spaces, but in practice it is their relationship to each other that generates the greatest amount and variety of play and learning opportunities and benefits across all developmental domains.



There isn't one formula, or one perfect design; use this framework as a filter to create something that's unique to your school community - something that provides opportunities for students to connect directly with nature, through all ages.

Individual

Individual spaces support quiet reflective moments, observation, and listening. This type of space would accommodate one or two students and could be on the edge of another play zone, most likely away from an active play area. This space is for private time, a place for respite, retreat, and refuge, away from loud noises. Individual spaces support cognitive, social, and emotional development needs.

Gathering

Gathering spaces can be for a large or small group. They offer seating, shade, and should have a balance of soft and hard features. They accommodate multiple uses (outdoor classrooms, planned events) and users (students, staff, parents). They support physical, social, emotional, and cognitive development needs.

Active Play

Spaces that encourage active play vary in topography, incorporate changes in height and physical fitness elements. These spaces feel energetic; they promote fitness and health and support physical and cognitive development needs.

Experimental

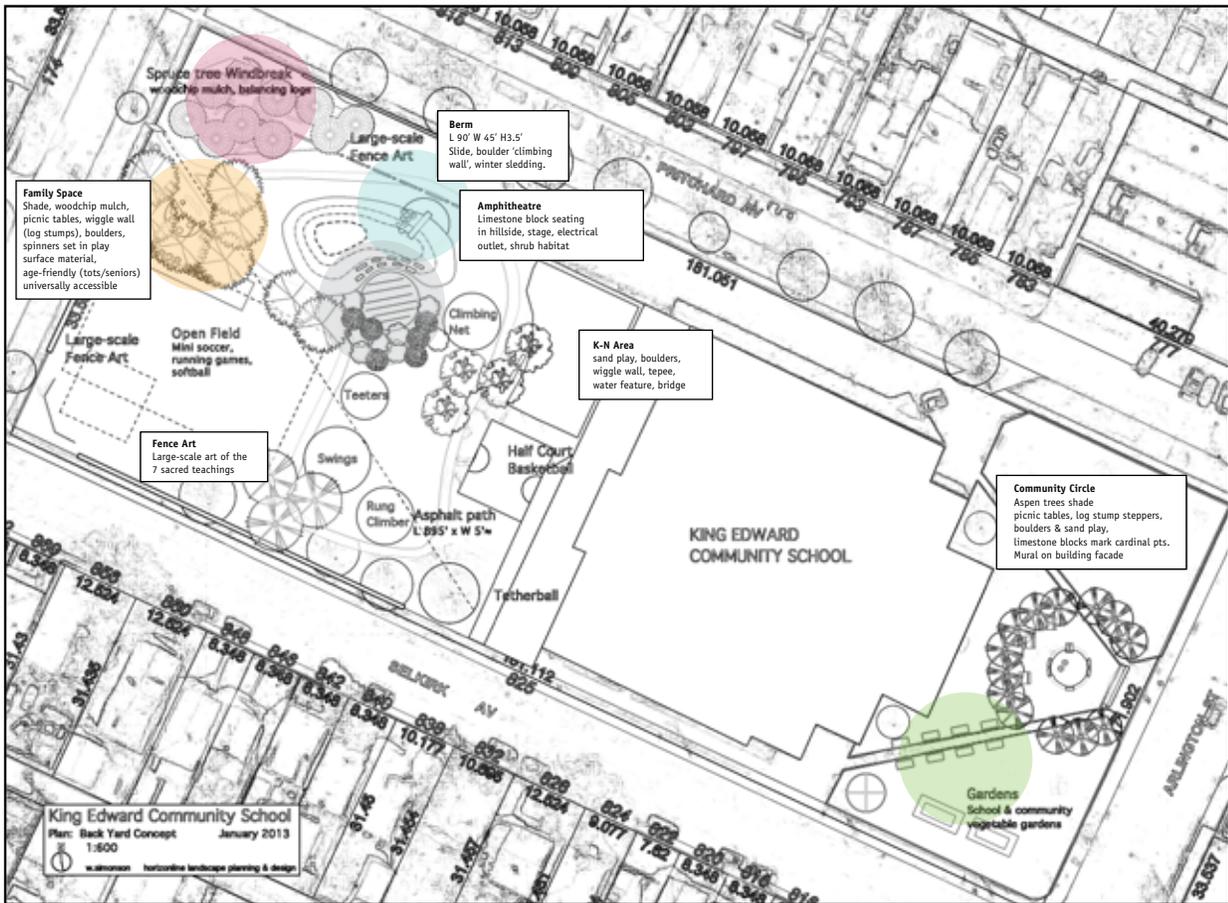
These spaces are flexible and temporary in nature. They are for discovery and exploration. They encourage creativity, constructing, building, testing, and idea-generating. They are filled with loose materials, and have seating and storage for educational materials such as hand lenses, clipboards, pencils, art supplies, paint, and cameras. These spaces support all the developmental needs - social, emotional, cognitive and physical.

Ecological

These spaces attract birds, butterflies, insects, and worms. They are a real-life demonstration of the cycles in waste, energy, and water. They inspire creative thinking, invite observation, and provoke inquiry. They evoke an emotional response, nurture a sense of responsibility, stimulate all the senses, and offer moments for reflection. These spaces support emotional, cognitive and social development needs.

Concept Realized

The following conceptual design and accompanying images exemplify the use of the design framework in creating vibrant outdoor learning spaces across all age ranges in the WSD.



- Individual
- Experimental
- Active
- Gathering
- Ecological



Individual



seating and shade



rock seating

Experimental



spruce grove and balance logs



rock play



sand, step logs and stage

Active



step logs and wiggle wall



climbing wall and slide



log jam

Gathering



stage and amphitheatre



sand, log steppers, boulders, picnic tables

Ecological



school and community gardens



native wildflower garden

4

Building Outdoor Play and Learning Environments

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With the evolving needs of the Winnipeg School Division and the community at large, it is our desire to ensure that we continue to explore new opportunities for staff and student development. Building outdoor spaces, that develop knowledge, skills and values in an accessible, sustainable and safe manner will help us extend the learning environment to the outdoors. different ages, abilities, and developmental stages.”

Chris Tormey; CET, CHRP, LEED
Maintenance Coordinator
Winnipeg School Division





CHAPTER 4 Building Outdoor Play and Learning Environments

Building successful outdoor play and learning environments means utilizing guidelines and construction details based on “best practices” that have been purposefully developed for greening school grounds.

The section that follows provides principles, guidelines, and some planning and construction details to assist design facilitators and skilled trade professionals in planning and installing exemplary outdoor play and learning environments at schools. Please note: the addition of any fixed components into a schoolyard requires approval by the Winnipeg School Division Building Department and Senior Administration. Requests will be approved on a project by project basis.



The Big Picture

Best practices for designing outdoor play and learning environments on school grounds takes into consideration:

- Meeting accessibility guidelines
- Designing with the existing ecological features
- Treating water as a resource, not as waste
- Protecting existing trees and expanding the urban forest
- Using sturdy and sustainable materials
- Creating a balance of hard and soft surface areas



Meet Accessibility Guidelines

Natural play and learning environments need to meet the needs and range of abilities of the whole school community.

Keep sight lines open to maximize visibility and foster positive social interaction.

Natural play and learning spaces create an opportunity to provide for meaningful and diverse experiences for all users. Accessible play and learning spaces are inclusive spaces. Use a thoughtful layout for the play and learning components to foster interaction and socialization among all users (students, parents, care-providers, community members), do not just provide accessible components in one section of the play space. Consider elements for a range of abilities, including:

- Physical (e.g. mobility equipment);
- Sensory (e.g. visual, hearing); and
- Mental/Emotional (e.g. developmental; mindful reflection).

As well, consider accessibility to different components as a play opportunity in itself. For instance, pathways, ramps, bridges, and joining elements are also part of the play experience, and can provide for the developmental needs of children with all abilities.

All play spaces must comply with the most current standards of two key pieces of legislation:

- CAN/CSA -Z614-14 Children's Playspaces and Equipment (CAN/CSA-Z614-14) and the appended accessibility guideline, Annex H (informative) Children's play-spaces and equipment that are accessible to persons with disabilities; and
- The Accessibility for Manitobans Act 2013 (AMA).

The legislation applies to new play and learning environments, as well as renovations and retrofits to existing playgrounds, including walkways, paths, and seating areas.

The key considerations for accessible design are to:

- Ensure users can get to each element (e.g. provide a stable surface, provide visual cues);
- Ensure elements can be used by school and community members with varying physical and sensory abilities;
- Provide "like" opportunities for varying abilities (e.g. multiple access points to a sand play area; a rumble strip path alongside a step log climber path);
- Remove barriers (e.g. curb edging, walls);
- Provide supports (e.g. transfer stations, railings); and
- Increase opportunities and create a range of challenges so users can choose their own experience.

protect

The Winnipeg School Division strives to exceed all guidelines where possible to provide increased play and learning opportunities for all abilities.

Design with the Site's Existing Ecological Features in Mind

Let the natural features of your site guide your decisions. If an area is naturally moist, don't fight it. Plant moisture-loving species, create a small pond or swale. Let the soil structure, topography and sun dictate what species go where.

Treat Water as a Resource, Not as Waste

Start with the big picture: link each school property to its watershed. Positive action at the site level benefits the whole watershed. The goals are to reduce the quantity and to improve the quality of stormwater runoff through infiltration at the site, rather than sending it to the storm sewer. Consider how rain discharge

from roof areas onto the site at roof drains can be mitigated and used. Where practical, consider alternatives to impervious hard surface asphalt in play areas, or direct runoff to transition zones of trees and mulch situated between hard and soft surfaces.

Protect Existing Trees and Expand the Urban Forest

Take every measure to protect existing natural areas and especially healthy and mature trees and native shrubs. When installing new outdoor play and learning areas/elements ensure that within the drip-line (the outermost reach of the branches) of existing trees there is no root cutting; changes to the grade by adding fill, excavating or scraping; soil compaction; storage or stockpiling of construction materials, equipment, soil, debris or waste; or movement of heavy vehicles or equipment.

(See Appendix A: Protect Existing Trees, for more details)



Use Sturdy and Sustainable Materials

Playgrounds take enormous abuse and require regular maintenance if they are to last. Use sturdy and resilient materials to withstand constant use and seasonal changes. Consider the care and maintenance of the site over the next 10, 15 and 20 years. How will the materials and elements be maintained? How durable are they? How long will they last? Will they stand up to vandalism? What will be the cost to maintain and or replace elements?

Plan for flexibility in future site use. Avoid sending useful materials to the landfill. These actions have multiple benefits—reducing the energy required to extract, process, and transport resources, as well as reducing the impact and avoidable cost of waste disposal. Any time we reduce energy use by reusing materials on site, we produce fewer greenhouse gases. Use sustainably sourced construction materials when possible.

Create a Balance of Hard and Soft Surface Areas

Strike a balance between hard and soft surfaces in the design of the outdoor play and learning environment. A varied palette of surface materials in the play space can be a strong stimulant for physical, cognitive and social development. Consider the use of berms and elevation changes, along with path and surface materials.



King Edward School

Creating Shade

The WSD recognizes that the strategic provision of shade reduces the heat island effect by reducing the temperature of hard surfaces including paved areas and parking lots; and enables children and youth to play in outdoor environments while protecting them from the harmful impact of ultra-violet radiation (UVR).

One of the most effective ways to protect students and staff from UVR is to plant shade trees where people congregate—for example, around playground equipment, benches and tables; in or next to hard-surface play areas; and along sports fields.



École Riverview School

Guiding Principles:

- Make shade for play spaces a priority—look to extend existing shade with careful placement of trees.
- Ensure that new shade initiatives do not intensify winter conditions at the site. Winter shade provision should minimize UVR levels while allowing for transmission of sufficient levels of heat and light. Summer shade provision should minimize UVR exposure as well as reduce heat and light.
- Strive to achieve canopy coverage of key play areas on the school property at maturity, and coverage of all hard surface areas.
- Provide a variety of shade features in a number of areas on the school ground if possible—especially around asphalt and sand surfaces, which reflect much more UVR than grass does.
- Decrease the demand for fossil fuels by shading buildings to reduce air conditioning use. (Where solar panels are present or planned on a roof, consider planting smaller trees such as hackberry 7 m (23 feet) from the school, or planting large trees 10 m (33 feet) from the school, to avoid shading the panels).



Natural Shade

Introduce shade using trees rather than shade structures or gazebos. Trees are a long-term investment: they improve and enlarge as they age (rather than deteriorate), are less expensive at the outset, and provide many environmental benefits.

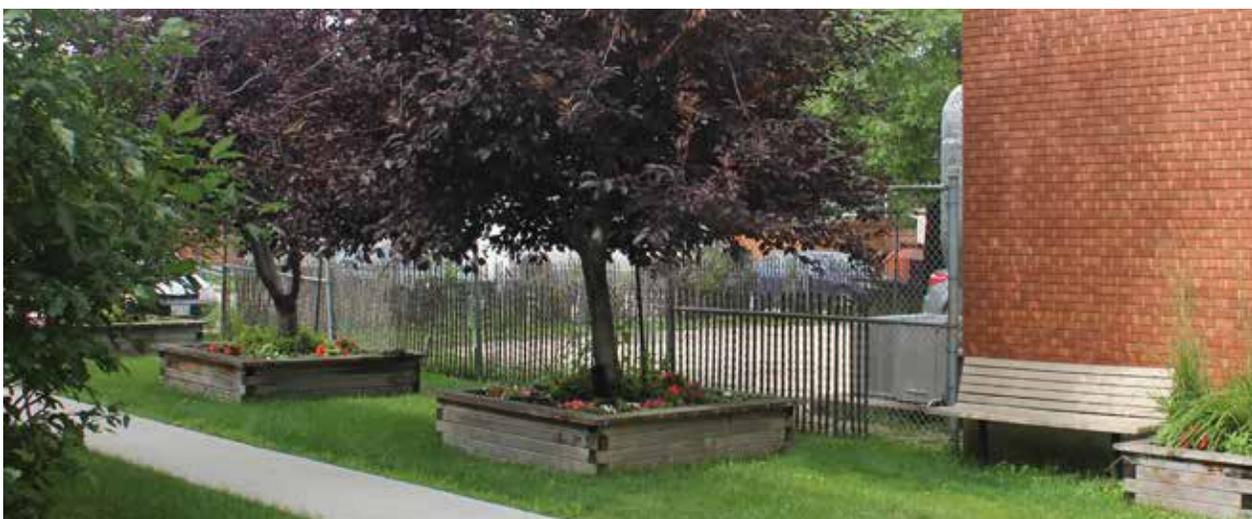
Use deciduous trees on the southeast, south, and southwest sides of the play spaces to shade children during the hottest parts of the day when the sun's UV rays are strongest, and to reduce the reflectivity of paved surfaces and building walls. Use different sizes of trees to create some instant shade.

Create Groves of Trees

Plan for groves of a variety of deciduous tree species to create natural gazebos for shade and cooling.

Shade needs to be where children play rather than lining the far edges of the school ground. Ensure that trees are located where children spend most of their time:

- Active play areas (asphalt areas, high-traffic or compacted-soil areas, near play structures).
- Meet-and-greet areas (drop-off and pick-up locations).
- Small and large seating areas (benches, outdoor classrooms and amphitheatres).



Brock Croydon School

shade

Built Shade

Shade structures can be used for multiple functions, such as outdoor classrooms, social gatherings, and areas for eating, reading and writing, or quiet reflection.



Cecil Rhodes School

Permanent Shade Structures

Examples of permanent structures built as protection from sun, wind, and rain include pergolas, trellises, and arbours—often used as an entrance to a garden or school building or as shelter on the school grounds.

Consider the following points in your planning:

- Consider adding elements to existing structures to provide shade, such as an awning or pergola off a school or portable wall.
- Gazebos and pavilions can be built in a variety of shapes and sizes, accommodating different class sizes and numbers of children.
- Take care to ensure that the roof pitch and height from the ground provide the maximum amount of shade.
- Consider using vines for shade and habitat on pergolas and fences (excluding any school structures). Non-natives are needed for this function as the vines need to be self-clinging. Be sure to check preferred species of vines for toxicity as any plant parts can be poisonous. (Refer to the most current Canadian Standards Association document CAN/CSA-Z614-07 Table G.1 Plants to be Avoided in Children's Play Spaces, for a list of toxic plants).
- Take into account snow loads in winter and water runoff from the roof.
- Be aware that built shade is more costly than natural shade (trees, shrubs, vines).
- Be aware that locating these structures next to buildings could allow access to the roof, possibly inviting undesirable and unsafe activity, including vandalism.

Designing with Trees and Shrubs

A tree planting strategy and design should be an integral part of every school's vision for their outdoor play and learning environment.

Guiding Principles:

- Consider shade, cooling and rooftop solar panels when choosing locations for trees.
- Protect and increase biodiversity.
- Choose native species of trees or adapted cultivars.
- Provide optimum growing conditions to support long-term plant survival and growth.
- Ensure that there is a reliable source of water for tree care.
- Reduce the demand for potable water through greater efficiencies (grading and creating infiltration trenches).
- Choose good nursery stock—planting healthy and structurally stable trees is a primary goal.

Ecological, Economic, and Health Benefits of Designing with Trees and Shrubs

Trees and shrubs provide a number of ecological, economic, and health benefits.

For example, they:

- Provide shade from summer sun and shelter from harsh winter wind.
- Absorb water and replenish the water table.
- Reduce stormwater runoff.
- Prevent soil erosion.
- Reduce the amount of time, energy, water, fertilizers, and pesticides required to maintain ornamental plants in the urban environment.
- Provide wildlife habitat (nesting houses, appropriate understory plantings).

Tree and Shrub Placement

The right location of trees and shrubs is essential to their survival and long-term health. When planning tree and shrub placement:

- Do not plant trees or shrubs within fire or service access routes or snow clearing and storage areas.
- Avoid planting trees in areas of potential building expansion, portable installation (including portable move-in and move-out routes) or parking lot expansion.
- Be sure to check that there is a source of water nearby. If possible, create a source of water for tree management during establishment (repair existing hose bibbs; install new hose bibbs; design the building with external roof leaders and cisterns or rain barrels; and direct surface runoff toward planting areas).
- Do not plant trees on berms: avoid possible erosion, compaction, and exposed roots.
- Shrubs require more maintenance and should be incorporated into beds to make them easier to care for and to improve their chances of survival.

Tree-Planting Distances from Built Objects

The following standards help ensure student safety, maintenance and emergency access, and healthy growing conditions for your tree plantings. All distances are measured as a radius and are expressed as minimum distances.

- 2 m (6.5 feet) from a bench, seating stone or rock
- 2 m (6.5 feet) from an interior fence
- 7 m (23 feet) from a fence of an adjacent residential perimeter neighbour
- 2 m (6.5 feet) from asphalt areas and walkways
- 5 to 7 m (16 feet to 23 feet) from other trees (or appropriate to the selected species)
- 7 m (23 feet) from a building
- 7 m (23 feet) from a running track (no trees planted inside track area)
- 6 m (20 feet) from soccer and football boundary lines
- 6 m (20 feet) from a fire hydrant
- 10 m (33 feet) from a flag pole
- 3 m (10 feet) from underground utilities
- 3 m (10 feet) from above ground utilities
- 4 m (13 feet) from the toe of a berm

Maintaining Visibility

Plantings that are more integrated with play environments can be designed to provide interesting play spaces and still allow for visual access. The following guidelines will help to minimize safety concerns:

- Avoid blocking night lighting or interfering with security cameras.
- Remove low, side branches of large shrubs in areas where visibility is a concern.
- Taller shrubs, such as Alternate Leaf Dogwood, Serviceberry, and Nannyberry naturally grow in a vase shape and are ideal choices when sightlines need to be accommodated.
- Prune trees 2 m (6.5 feet) from the ground to the lowest branches to allow good visibility when the tree is mature.
- Adjust patterns of supervision and routine observations of school grounds to reflect the new plantings.

Avoiding Salt Damage

Anticipate areas that will be subject to salt runoff and, if possible, avoid them. Follow these guidelines when it is necessary to plant in these areas:

- Check to see if paved play surfaces are plowed in winter and if salt is used to keep them clear. Encourage schools to stop plowing and salting paved areas (other than the building's access routes) as a general practice whenever possible.
- Areas next to collector routes may be affected by salt aerosol. Select salt-tolerant species when planting near collector routes is necessary.
- Calculate drainage flow and avoid planting trees in other areas subject to salt runoff - locate planting islands on the uphill side of salted areas, or plant trees in large raised planters.
- Plant in a large box planter using small varieties such as Serviceberry or Dogwood shrubs. (Refer to www.evergreen.ca for Evergreen's Native Plant Database).

Trees and Shrubs Selection

Consider a number of factors when choosing trees and shrubs for the school ground. The following principles will help to ensure that the unique characteristics and features of your region and school ground are central to the plant selection process.

Guiding Principles:

Consider the following as you plan your selections of tree/shrub species:

- Sun/shade requirements
- Seasonal requirements (wind/snow breaks/shelters)
- Size of the planting space and proximity to overhead wires and rooftop solar panels
- Wood strength (vandalism)
- Soil needs (including type, porosity, characteristics, pH, and compaction)
- Water requirements (drought tolerance and ability to tolerate poor drainage)
- Salt tolerance
- Leaf size (e.g., small leaves are best in courtyards)
- Using species that lack thorns, berries, or other fruit and nuts to reduce debris, the potential for throwing of the objects, toxicity, and allergies

- Avoiding species that are low-pollinating and poisonous or a “noxious weed” (See the Manitoba Agriculture, Food and Rural Development list of noxious weeds at: <http://www.gov.mb.ca/agriculture/crops/weeds/>)
- Designing for diversity and avoidance of monoculture plantings
- Avoiding shrubs whose tops need to be pruned and clipped regularly, as this adds a maintenance burden
- Perennial vines on fences need on-going maintenance: remove trees, shrubs and weeds that quickly become established along the fence line. Choose annual vines instead that you can remove at the end of each growing season

Refer to Appendix G: Recommended Plant Lists; Appendix C: Criteria for Acceptable Nursery Stock; and the Native Plant Database at evergreen.ca for associated plant lists.

Tree and Shrub Sizes

Minimum size requirements should be met to protect against vandalism and to ensure the survival of the trees and success of the project.

Deciduous Trees

- Trees should be a minimum of 50mm (2 inches) caliper in remote parts of the school ground where vandalism is not a concern, and 80mm (3 inches) caliper in high activity and/or vandalism-prone areas.
- Smaller trees, whips, and seedlings may be considered for Nature Study Areas where mowing is carefully managed and students can do the planting.

Coniferous Trees

- Trees should be 2.5–3 metres (8 to 10 feet) tall, depending on their susceptibility to vandalism or proximity to high-activity areas.

Shrubs

- Deciduous tall shrub, planted as singles or in groves should be a 200 – 250 cm (79 to 98 inches).
- Deciduous small shrub, planted in a protected area should be 60 cm (24 inches).
- Coniferous shrub, planted in a protected area should be 60 cm (24 inches).

Native Species

Native species are recommended on school grounds for a number of reasons:

- Planting native species of trees and shrubs can replace natural communities that have been destroyed in urban centres.
- Native species have adapted to local soil and climate conditions, and once they are established will not require watering, chemical fertilizers, or pesticides in order to thrive.
- These species have evolved with local bird, mammal, butterfly, and insect populations and therefore provide essential food and habitat.
- Growing native species improves biodiversity and creates a local seed source.
- Planting native species and connecting existing green spaces provides migration corridors for urban wildlife.
- Native plants can provide an educational resource on school grounds.

Non-native Species

When non-native species must be used, consider the following suggestions:

- Place non-native plants in a separate garden from native species.
- Use columnar or dwarf cultivars of native species or non-invasive species in narrow areas around buildings or access routes.
- Use hybrids of native varieties that show resistance to Dutch Elm Disease or Emerald Ash Borer, and are more tolerant of compaction and salt, etc.

What is a non-invasive species?

A non-invasive species is one that will not spread abundantly into local natural areas and compete with native species for space, water and light.

Refer to www.evergreen.ca for the Evergreen Native Plant Database.



Installation and Protection of Trees and Shrubs

Like proper placement, the proper installation of trees in school grounds is essential to their long-term health and survival. Following these recommendations will help to ensure a successful tree planting project.

Guiding Principles:

Consider the following as you plan your selections of tree/shrub species:

- For a single tree planted in a primarily hard surface area provide a minimum of 30 cubic metres (39 cubic yards) of quality soil and a minimum 3 square-metre (32 square feet) opening.



École Robert H. Smith School

- For trees planted in groups of two or more in a hard surface area, provide a minimum of 15 cubic metres (19 cubic yards) of high-quality soil per tree.
- When removing hard surface area, such as asphalt, to create an opening for tree(s) ensure that the granular base and rubble is also removed.
- Dig the hole for the tree at least three times the width of the root ball and angle the sides to 45 degrees.
- Be sure to remove all nursery tags and canopy ties before placing the tree in the planting hole.
- Be sure to protect the trunk from damage when using a backhoe and chain to lower the tree into the hole.
- Install protective caging (see Figures 1.01–1.13, for tree planting details).

Protecting Newly Planted Trees

Trees (and the tree trunk) can be protected in the following ways:

- Planting trees into planting beds will protect roots and bark from traffic and lawn maintenance equipment.
- Install protective tree caging to protect trees from compaction and damage (see Fig. 1.02.).
- Use rodent guards for smaller trees (below 60mm/2 inches) in no mow areas.



Watering Newly Planted Trees

Newly planted trees will need summer watering for approximately three years. From May to August, each tree needs 136 litres (30 gallons) of water every week. From September to mid-October, each tree needs 136 litres (30 gallons) of water every two weeks. Landscape architects should specify these parameters alongside their tree planting detail. For a school-based watering strategy see Appendix B: Watering Guidelines for Newly Planted Trees.

Steps to Follow:

- Ensure that hose bibs are accessible or that other water sources are available prior to planting.
- After planting, soak the root ball of newly planted trees and the distributed soils around the root ball with 227 litres (50 gallons) of water.
- Establish watering schedules with the school community prior to planting.
- Consider budgeting for a water service.

NOTE: Avoid using wires and hoses around the tree trunks.

Mulch and Composted Amendments for Trees

New tree: apply approximately 3 wheelbarrow loads (.4 cubic metres or 1/2 cubic yard) per tree to a depth of 150 mm (6 inches).

Existing tree: spread mulch in a doughnut shape around the trunk out to the drip line. Top up the mulch in active play areas annually; less active areas can be topped up biannually.

To add nutrients, top mulch with 25 mm (1 inch) compost or worm castings, then replace mulch to a depth of 150 mm (6 inches) each year.

In the fall, keep leaves under the tree to break down into humus and naturally fertilize the tree.

Utilising Slow Release Watering bag around the tree may be advantageous when there is limited maintenance. It is highly recommended to contract a company to water newly planted trees and shrubs.

Making Good Decisions: A Summary

DO

- Design for diversity.
- Use native species wherever possible.
- Plant trees in hard surfaces to shade areas of active play.
- Use tall shrubs, such as Alternate Leaf Dogwood, Serviceberry, or Nannyberry for shading small spaces, if room allows.
- Plant a variety of native tree and shrub species for teaching and learning purposes.
- Use annual vines on fences.
- Plan for planting that is manageable, does not interfere with existing or proposed structures and is sustainable.
- Specify deciduous trees at 80 mm (3 inch) caliper and coniferous trees 2.5 metres (8 feet) height in areas of active play.
- Determine drainage flow and avoid planting trees in areas subject to salt runoff (e.g., locate planting islands on the uphill side of salted areas or plant trees in large raised planters).
- Plant trees away from neighbouring houses and gardens on property lines.
- Insist the school community have a summer watering plan in place as a condition of planting trees during tree establishment period.
- Create a Watering Schedule Sign-up Sheet.

DON'T

- Plant single species of trees (monocultures).
- Plant species with toxic parts (Refer to most current version of CAN/CSA-Z614-07 Table G.1. for plants to be avoided in children's play spaces.)
- Plant invasive non-native species, such as Norway maple, or species vulnerable to insects and disease, such as Ash.
- Plant trees with large fruit or large cones—these can attract wasps and provide possible projectiles in the school ground.
- Plant trees with attractive bark that peels, such as birch.
- Plant trees on the top of berms because of possible erosion, compaction, and exposed roots.
- Plant trees in the middle of parking lots.
- Plant trees in areas of potential building expansion, portable installation, or parking lot expansion.
- Plant nut trees near school buildings (to guard against possible allergies and anaphylaxis).

Hills, Berms and Soft Surface Play Areas

Variation in topography on the typically flat prairie landscape becomes an important play feature in a school yard. Students are attracted to hills for winter sledding and in fall, spring and summer for climbing, rolling and viewing the school yard.

If berms and hills are being considered, keep the following in mind for a successful outcome:

- Generally a good height for winter sliding and summer climbing up and rolling down is .9 to 1.2 metres (3 to 4 feet). The higher hill, the more room is needed to maintain a safe slope (between 27-33%)
- Mulch has proven more effective as a surface covering than grass. Grass surface is very difficult to maintain on a well-used berm unless regular sod replacement is



Lord Selkirk School

within the school's budget, and the berm is taken out of play for extended periods of time. On wet days, the berm can be off limits for play to prevent the top of the hill from turning to mud.

- Consider the effects that a berm could have on drainage. A berm with a flattened top at least 4 m (13 feet) wide helps increase the absorption of stormwater runoff. It slows the flow of water down the sides of the berm which not only increases absorption, but helps reduce pooling at the toe of the berm.
- Grading at the base of the berm needs to be level with adjacent grades; avoid creating a depression at the base of the berm which would collect water.
- Grading at the toe of the berm must be shallow to prevent mower decks from cutting into the sides of the berm.
- The fill for berms must be free of any rubble.
- Planting trees or shrubs on the top of a play berm or at its base is not recommended. Water, and play, tends to erode soil from around the roots of plantings on a berm. Any trees planted near the base of a hill where sliding could occur should be 4 m (13 feet) from the toe of the berm.
- Consider existing slopes as opportunities for increased play potential by adding a slide, step logs or vertical logs for climbing and sliding.

Mulch Mounds

Berms made out of mulch are durable and provide great play value. (See Fig. 3.04 Mulch Mound.) They must be replenished annually or biannually, but otherwise require little maintenance.

Mulch Play Areas

- Shredded pine mulch is recommended for surfacing in play spaces and outdoor classrooms as it tends to mat together and stay in place.
- Engineered wood fibre (fibar) in accordance with most current version of ASTM F 1292 Standard Specification for Impact Attenuation of Surface Systems is also recommended under and around play equipment.
- Avoid wood chips as a surfacing for play areas—they are a safety concern when thrown by lawnmowers and tend to float during heavy rainfalls, plugging up catch basins and causing flooded areas.
- Artificial colours and/or dyes not permitted.
- All perimeter containment installed around play equipment should be designed and constructed to maintain a level surface for the mulch and to prevent it from scattering. Tough Timbers Curbing is recommended.
- Replenish mulch every year to a depth of 150 mm (6 inches).

Grass

Grass provides a more cushioned surface for play and a cooler surface than artificial turf, asphalt, and rubberized surfaces. Soil erosion can be reduced with deep-rooted grasses and can increase infiltration as water passes over the surface, allowing for recharging of underground water. See maintenance section for mowing clearance requirements.

- Turf should have at least 300 mm (12 inches) of growing medium.
- This medium must not be clay; turf needs sandy loam soils that have a high percentage of sand.
- Perennial ryegrass and rhizomatous tall fescue are resilient grasses and are good choices for school grounds.

Snow hills

During the winter, snow clearing activities can be taken advantage of and excess snow can be used for play. Snow drifts, piles, and snow balls are wonderful and playful ways to engage with the winter landscape. Students can create spaces, seats, steps, and gathering areas in and with the snow.

- Ensure snow piles are clean and free of debris and sand.
- Provide snow shovels for digging and sculpting.

Sand Play

Many adults prefer to do without sand altogether because they feel it's too messy. But if you watch a group of children in a sand pile, you'll see its play value. Besides soothing emotions and providing rich, tactile experiences, it is a vital "loose part" that fosters constructive play, dramatic play, social interactions, and experimentation with physical properties.

Studies show that children and young people prefer to play with loose parts such as water, sticks, sand, ropes, and boxes more than traditional toys and play equipment, because they can use their imagination and have greater control in their play. Playing with sand, in particular when it's combined with water, offers a lot of choice and opportunities for creativity.

Designing for a Successful Sand Play Area

Location

Sand play areas should be located away from school building entrances and catch basins. Also avoid corners of buildings where wind can trap debris. Maximize the area of sand for improved play value. Large areas of sand will not attract visiting cats and other critters that prefer to use smaller enclosed sand boxes as a litter box. If a small sandbox is necessary then it must be covered with a breathable mesh netting material that allows air to circulate and sun to penetrate in order for the sand to dry out after water play or a rain.

Containment

Edging around sand can be flat-topped logs, limestone blocks, flat-topped boulders, cedar timbers, cedar posts, or a rolled asphalt edge. This helps to limit the sand from spreading across the play area.

Installation Details

Depending on site conditions, a base of clear gravel topped with geotextile and/or weeping tile will be necessary. The sand needs to be 60 cm (2 feet) deep to provide a challenging depth for digging. If sand play is not possible consider a soil pile; children love to dig in soil as well.



Accessibility

Make the sand play area accessible with suitable surfacing and appropriate transfer systems.

- Limestone boulders or large logs can be used to create a seat-level, transfer into sand play areas.
- Decks and ramps can be used to access sand areas, as long as the slope is a maximum of 5% and does not create a long transfer experience.
- Raised sand tables or planting tables can provide a space for wheelchair uses.
- Stock tanks have become popular at schools, as they are sturdy (galvanized steel) and can be used for raised, accessible, contained sand (and dirt) play.

Storage

Storage of buckets, shovels, scoops, molds, and other loose parts for construction is essential for enriching the sand play experience. The storage could be a shed or it could be designed into the perimeter seating. In designing the storage space, make it accessible to the students so that they can retrieve and put away the materials themselves.

Shade

Students will spend hours playing with sand and loose parts. Be sure to incorporate shade into the design of your sand play area. Natural shade can be accomplished by providing trees and/or large shrubs to the south and south-west sides of the sand play area. Because these natural shade options take longer to provide adequate shade, other options such as shade sails and umbrellas can be used to augment the plantings until they mature.

Type of Sand

Use play sand rather than brick sand or concrete sand, which tends to blow around on dry windy days and can be a safety concern.

Maintenance

Occasional raking, annual topping up and occasional replacement will be required.

Pathways

Pathways help to separate areas in the play space that serve different functions. They also provide a boundary to areas that should not be entered, and can be designed to function as features for informal play. Good circulation in a space can be a core catalyst for creativity. Pathways are essential in planning not only a highly functional space, but also one that inspires spontaneous acts of play. Wide paths can be recreational and play spaces in and of themselves. Smaller trails can provide private moments or facilitate a game of hide and seek. Paths, tracks, and trails diversify the play environment by allowing children to move between and through elements, helping them to orient themselves in space.



Serathcona School

We recommend following these criteria for designing pathways in playgrounds:

- Provide a variety of path choices to enhance variations for play and exploration.
- Plan for pathways that lead to, intersect, or run adjacent to play settings.
- Include seating, accessible play features, and pull-off points along the path to rest, read signs, or play.
- Consider designated paths for tricycle riding and cart pulling.
- Design pathways in the form of intersecting circles to allow for continuous movement—avoid dead-end paths.
- All pathways should be built with accessibility for all students in mind.

Guidelines for Pathway Surface Materials

Pathway materials should be chosen with accessibility in mind. Materials should be non-slip asphalt, concrete, unit pavers, turf-stone, limestone screenings, or crushed brick.

Do not use pressure-treated lumber on any surface on a school ground. (See Appendix D: Evergreen's Rationale for Avoiding ACQ Lumber)

Cedar is an excellent choice of wood, as it is not treated and has a natural resistance to rot.



Types of Pathways

Pathways provide accessibility and help to separate spaces that serve different functions. The following types of pathways and the suggested materials provide a variety of options that are meaningful, practical and sustainable.

Bridges

Connecting spaces with bridges or tunnels provides variation and challenge and enhances the visual interest of the play space. For example, the corduroy bridge provides slight variations in height at the ground level, encouraging children to respond to the uneven terrain, which helps them to develop gross motor skills (See Fig. 5.01 Wooden Bridge).

Garden Paths

Use limestone screenings, wood mulch, straw, or mown grass for perimeter garden paths, as well as between container and vegetable gardens.

Use secured log rounds, bricks, or stepping stones for informal paths through garden areas.

Nature Trails

Nature trails can support a number of activities, with pull-out spots for reading, quiet reflection, group gatherings, and nature study, allowing students to explore a larger area of the school ground without interfering with active play zones.

Trails can also be used for winter activities such as snowshoeing and cross-country skiing.

Use mulch or mown paths that will not require heavy labour to install, possibly disrupting the ecology of the site. To provide a firm walking surface lay down 10–15 cm (4-6 inches) of shredded pine mulch.

If wheelchair accessibility is desired, use limestone screenings or ASTM approved wood fibre. (See Fig. 3.02 Limestone Screening Walkway).

Standard Dimensions for Accessible Paths

- Minimum width of 1.5 m (5 feet).
- Maximum slope of 5% (1:20), although 1–2% is ideal.
- Minimal cross slope, but never steeper than 5% (1:20). Where technically not feasible to achieve 2% maximum shall never exceed 4% (1:25).
- Surfacing must be firm, stable, and slip resistant (e.g., asphalt, limestone screenings).
- Minimum clear height of 2100 mm along the entire length and width of the path or provide cane detectable barrier around object obstructing head room clearance.

Source: '2015 City of Winnipeg Accessibility Design Standards' Third Edition (November 2015).

Seating

Seating provides an opportunity for repose, a place to reflect and recharge or to socialize. Choose seating from diverse materials—anything from sculpted logs, sod, stumps or rocks to store-bought benches or even a cement mosaic in the shape of an animal!

Amphitheatre seating can also be created formally using composite or concrete benches or mini-bleachers or with natural materials such as limestone blocks terraced into a slope. Look for opportunities to use the existing grade for informal seating, such as grassy slopes and low retaining walls. Explore creating sod or snow furniture. Incorporate different levels of seating if possible and provide a natural place for an instructor to sit or stand in clear view of all seats.

Guiding Principles for Seating

- Observe students at play to determine where students currently gather and what activities take place in those areas to match the seating with the use in that area.
- Interview staff to understand what their needs are with respect to teaching outdoors.
- Make sure the seating is accessible to all students; leave space near fixed seating for wheelchairs and other portable seating.
- Allow for seating in a variety of sizes, shapes, and arrangements, based on project goals and the different ages of the students.
- Consider opportunities for incorporating seating with existing or new built features, such as container gardens, raised beds, steps, retaining walls, or trees (tree seating rings).



Lord Nelson School

- Supply some form of movable seating such as logs or stumps that will allow students to create their own arrangements.
- Construct seating to stand up to the weather.

Types of Seating

Seating that is either permanent or moveable is essential in an outdoor environment. Stone, wood, and logs are the most popular materials used for seating in these spaces. This section outlines a number of considerations with respect to design, sustainability and scale to help you determine the best solutions for a particular site and its users.



Lord Nelson School

Wood Benches

In some locations, wood benches may be preferred to seating stones, such as outdoor work and eating areas for older students, pick up and drop off zones, formal teaching areas, and around trees in high traffic areas. Here are some considerations for wood benches:

- Choose natural materials instead of synthetic materials wherever possible for ready-made benches.
- Consider safety and how to minimize vandalism in your design.
- Do not construct with wood that has been treated with chemicals.
- Square wood and metal frame benches placed around trees help to protect new and existing trees and provide a shady spot for socializing, reflecting, and learning. (See Fig. 1.32 Square Wood Bench with Deciduous Tree).



Robert H. Smith School



Stones

Flat-topped, block-shaped rocks provide a long-term seating solution. Rounded boulders are not easy to use as seats or tables and their sloped sides tend to be slippery, especially when wet or covered with frost or ice.

Limestone boulders are generally the best seating stones as they are layered, angular, block shaped, and often contain fossils and crystals. The following are guidelines for placement:

- Place with tops level so they are comfortable as seats and can be used as tables.
- Place either tight together or minimum 1.8 m apart to discourage jumping from rock to rock.
- Optimum “seat-to-feet” height range, related to the top of the mulch is 275–325mm (11-13 inches) for Kindergarten or 325mm – 400mm (13-16 inches) for primary and junior play areas (See Fig. 2.02, Limestone Blocks Seating, Single Boulders).
- Provide a surface such as mulch around the base of all seating stones for a minimum 1 m (3 feet) distance.
- Be sure to remove any sharp edges—bush hammer, chisel, or grind down the edges of the stone to a 6 mm (.2 inch) radius (See Fig. 2.02, Limestone Blocks Seating, Single Boulders).
- Incorporate a checkerboard pattern on rocks to create a play and seating space.

Logs

Logs are versatile; however, there are some things you should be aware of when using logs:

- Do not use logs from old or sick trees that have been felled. These logs attract wasps, rot quickly, and can spread disease to other trees on the school ground.
- Logs should be solid hardwood and peeled. An exception to this would be in a very naturalized informal area where the bark left on logs offers more opportunities for scientific inquiry.
- Optimum “seat-to-feet” height range for primary ages - from the top of the mulch - is 275–325 cm (11-13 inches), the same as with stones.
- Logs can be sculpted and sealed to protect their longevity.
- Logs should be leveled on two sides or set in the ground to prevent rolling.
- Place the log on a bed of gravel to eliminate contact with the soil which would accelerate rot.
- Fasten or trench any large logs that could pose a risk to student safety.
- Logs can be used in loose parts play; early years classes will move and use log discs in a variety of imaginative ways.
- Logs may need to be replaced after 10 years due to weathering.

Classroom-size Seating Areas

The purpose of providing a class-size seating area is to create a space for an entire class to gather outside at the start and end of an activity or for music, art, or drama classes. We recommend following these criteria when designing your outdoor classroom seating area:

- Provide protection from sun, wind, and rain by planting trees, installing awnings, or building shade structures over the seating area.
- Provide enough space to accommodate the maximum number of students who might be involved in outdoor classes.
- Provide enough open space for instructors to display items and for students to make presentations or engage in passive creative play.
- Locate class seating away from noisy streets and close to the school building for ease of transporting teaching and creative tools and equipment.
- Orient classroom seating areas to the east so students are not looking into the sun.

For an example of amphitheatre style seating see Fig. 2.04 Limestone Blocks Seating—Tiered.

Temporary DIY Seating

Sit-upons

Students can create their own portable “sit-upon” to use for informal gathering spots in wet or cold conditions by placing one or two sections of newspaper into a ziploc bag and sealing it.

Also known as a Wedgie Board, a ‘sit-upon’ is a waterproof cushion used for sitting on grass, logs, or anywhere outside. Having a Sit-Upon keeps bottoms dry and comfortable while writing in journals, drawing, quiet listening and rest times. A piece of soft cushion foam can also be used instead of the newspaper.

Snow-sofas

Students can build their own “sofas” or chairs during the winter. Using clean snow and piling and packing to create a surface for sitting. In warmer months this can be done with sod and straw bales.

Artistic and Musical Elements

Artistic and musical elements can make the school ground come alive and allow the creative abilities of the students, educators, and the community to find an outlet within the outdoor environment of the school. There are a variety of approaches that can be considered:

Activity Walls

Chalk walls can be included in outdoor learning spaces. Attach them to fences or shed walls, or create free standing structures as part of a fence or activity station.

- Use standard marine grade plywood 1.2 m x 2.4 m x 1.27 cm (4 feet x 8 feet x .05 inches).
- Apply one coat of primer and two coats of flat black paint.
- Frame with drip edge and mount 1500 mm (60 inches) above grade.

Acrylic paint walls can be created with plexiglass panels. Attach them to fences or sheds, or as free-standing structures as part of a fence or activity corner. Mount 1500 mm (60 inches) above grade.

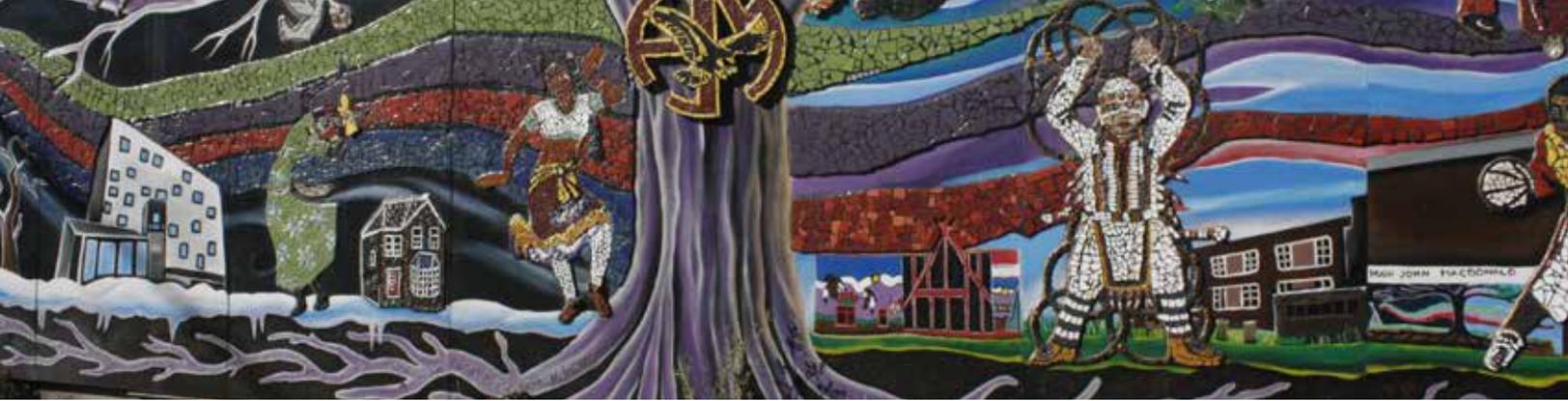
Murals and Asphalt Painting

Consider murals on asphalt, walls, or attached to fences.

- Use 4x8 sheets of exterior plywood for murals to attach to school walls and sheds (per WSD). Ensure your mural is not in direct sun so the colours do not fade and the paint does not weaken with direct UV light.
- Prepare the asphalt area you are going to paint by cleaning it with a pressure-washer. Make sure you find an area of asphalt that is smooth and free of cracks and depressions. Mark out your area with tape. Use a good UV-resistant exterior latex paint (or traffic paint).
- Paintings on asphalt will need to be touched up every year.



Robert H. Smith School



Consider the following ideas for asphalt paintings to brighten the school grounds:

- Sundials (large enough for students to be the 'human dial' and cast the shadow)
- Maps
- Mazes
- Paths
- Train tracks
- Games such as snakes and ladders, tic-tac-toe, chess or checkers
- Hundred square
- Ponds and lily pads for hopping
- River/stream
- Rainbows
- Planets, stars, moon
- Pawprints, footprints



Lord Nelson Scho

Artwork

Artwork can be attached to fences. Artwork related to the elements (sun, wind, rain) or that responds to weather can draw attention to the microclimate within the school ground and can be tied to curriculum investigations of local weather systems. Artwork can also reflect your school's mascot and values, be used to raise funds and awareness for your project, add colour, or mimic a natural habitat with wild-flower, butterfly and ladybug patterns. Durable ribbon material can also be used to weave through the fence in patterns and shapes.

Artwork, such as painted tiles, hand-made stepping stones, figures, statues, decorative mosaic benches, can also be incorporated into gardens and around the school ground. These pieces of art can become focal points and make each school ground unique and different.

Musical Elements

Incorporate drums, chimes and other instruments of sound into gardens and play spaces. There are a number of companies that sell musical elements however, schools can also consider the following homemade ideas to incorporate sound on the school ground:

- Copper pipes cut to varying lengths
- Pots and pans attached to the fence
- Empty propane cylinders for drums
- Different pieces of wood

Gardens

Food Gardens

Growing food connects students to the natural world – plant life cycles, soils, insects and pollinators. It helps them to make healthy eating choices and reinforces nutrition learning at school. It also connects them to local farming and local food systems, helping to build connections to their broader community. Growing food at schools has also been connected with enhanced scientific understanding, numeracy, literacy, and language skills.

Here are some guidelines for school food gardens:

- Create a yearly theme: pizza gardens, vegetable soup gardens, herb gardens, spaghetti sauce gardens, three sisters gardens, etc.
- Incorporate the food from the garden into school activities – healthy lunches, litter-less lunches, grade group or whole school cooking experience, etc.
- Consider maintenance and summer care – raised beds work well for maintenance and accessibility, but dry out quickly so watering plans need to be considered.
- Provide a garden for each class to plant and maintain.
- Select vegetables that are easy to grow and can be harvested during the school year (spring or fall).
- Learn about companion planting, crop rotation, and organic gardening practices.
- Test the soil before starting a food garden if it is not in a raised bed.
- Connect with the local community, horticulture groups and community garden groups.



Robert H. Smith School



Theme Gardens

Theme gardens create spaces that are unique to each school and school community. They are inclusive spaces that embrace school mottos, cultural diversity, learning, sharing and accessibility. Gardens will vary based on each school and community. Some examples include:

- Spiral gardens
- Music gardens
- Peace gardens
- Meditation/Reflection gardens
- Storybook gardens
- Rainbow gardens
- Sensory gardens
- Fairy gardens
- Medicine-wheel gardens
- Be creative: The 3B Gardens (Bees, Butterflies and Birds)



Shaughnessy Park School

Habitat Gardens

Natural habitat communities on school grounds provide excellent educational models for exploring plant-animal interactions and life and energy cycles.

Natural habitat communities vary by region, so consult local experts to help select plant species for the school's region (refer to Evergreen's Native Plant Database at www.evergreen.ca.) Some examples of natural habitat communities and habitat gardens:

- Prairie butterfly garden
- Meadow—wet and dry
- Woodland bird garden
- Forest edge woodland—hedgerow
- Riparian pond garden
- Marsh or bog
- Storm water retention garden
- Alvar and xeriscape gardens



Shaughnessy Park School

Play Elements

The following play elements, along with the other elements described in this section, will help to create a strong sense of place and opportunities for students to engage in stimulating play and learning experiences.

Tires

Tires are not permitted on Winnipeg School Division property for the following reasons:

- Tires can trap and allow standing water
- Exposed steel on tires is unsafe for play areas
- Used tires have chemical residue that could rub off on student's hands or clothing and leach into soil

Play Posts

Play posts mark an entrance to a path or space. They can be carved into animals or totems to add a cultural or community connection. They can also be used for play to create the frame for a fort, to run through and around, to imagine and create. Add notches to them and they can become climbing challenges. Add rope between them and they can become a balancing challenge. Versatile and sturdy, play posts add another creative element to natural play and learning spaces.

Design considerations:

- Posts should be round, peeled cedar 150 – 200 mm (6-8inch) diameter.
- Posts should be spaced a minimum of 1500 mm (3 feet) apart for safety and accessibility.
- The top of the post should be angled to a minimum of 30 degrees.
- Post heights in kindergarten spaces should be a maximum of 1350 mm (4 feet).
- Post heights for entrances and other spaces should be a standard height of 1350 – 1500 mm (4-5 feet).
- Sand posts prior to installation to ensure there are no rough edges.
- Ensure posts are free of splinters, stable and free of movement after installation.

See Figures 5.11, 5.14 and 5.15 for installation details.



Pole Structures and Forts

Pole structures and forts provide a meeting point, gathering place, and stage for dramatic and fantasy play. They provide a refuge and vantage point in the school landscape.

Design considerations:

- Ensure forts and structures are accessible, including surfacing materials leading up to and around the elements, as well as the distance between poles.
- Incorporate themed and sensory gardens to increase the play and learning experience.
- Incorporate tarps or different platform levels to increase play value.
- Connect with your local community and cultural connections and/or division Elder by incorporating traditional First Nation designs.



John M. King School

Logs

Logs have tremendous play value as edging along paths and sand play areas or as an activity element on their own.

- Configure logs in a vertical step pattern, with varying widths and heights. (See Figure 5.14)
- Log cookies of various diameters can be used for rolling, stacking, stepping.
- Sections of 100 mm (4inch) diameter cedar logs can be used for constructing, rolling, configuring.



King Edward School



King Edward School

Nature Study Areas

Areas of the school ground that provide an opportunity to stop regular mowing and are left to naturalize allow students to view first-hand the ecological principle of succession.

- Provide mown pathways, mazes, labyrinths or mulched pathways throughout the area for exploration.
 - Ensure all or part (at least) of the nature study area is accessible with hard surface paths.
 - In areas where ticks are a concern, use a minimum 1m (3 foot) wide path of wood chips or limestone screenings so kids can move through the area without grasses brushing against them.
 - Whips, seedling trees, shrubs, and native wildflowers can be planted by students in this area. Spacing should allow for annual mowing or removal of woody invasive species.
 - If your Nature Study Area is adjacent to neighbour's property be sure to maintain a mown strip approximately 2m (6.5 foot) wide along the fence lines to help define the area and keep vegetation from growing up onto the fence.
- Install signs to explain that the area will be managed and maintained—include information on how the Nature Study Area will be used by educators and its value to students' inquiry-based learning.
 - Include bird feeders and houses, bat boxes, toad houses and other wildlife amenities.
 - Include storage for clipboards, magnifying glasses, cameras and other educational materials that might be used in the space.



Robert H. Smith School

Water Play

Water features provide many benefits on school grounds, including creation of habitat and food sources for local wildlife, a unique resource for a variety of curriculum-based activities, and improved retention and infiltration of runoff from precipitation.

Design considerations:

- Containers, hoses and tubes attached to a fence offer an opportunity for water exploration.
- Try solar water pumps or water falls to provide constant movement in the water—standing water should be avoided.
- Courtyards provide great opportunities for designing water features with restricted access.
- Bog, downspout, or wetland gardens may be viable solutions to wet-area problems on certain school grounds, and they also increase the propagation of wetland plant species and the creation of wildlife habitats.
- Standing water levels greater than 15 cm (6 inches) must be adequately protected/secured to remove the risk while appropriate supervision is not available.



École LaVérendrye School

Gates and Fences

Gates and fences can be opportunities for creating a sense of place. They provide opportunities for artistic expression, transition from one space to another, and a playful sense of entry. These also need to address the goals of the design and not impart barriers to entering or leaving the play space.

Guiding Principles

- Include colours, varied textures, peepholes, murals, and mosaics to make gates and fences attractive areas of entry, transition, and play.
- Include cultural and community connections.
- Modify the fence line and height to make it more interesting.
- Include “nooks and crannies” by zigzagging the fence line.
- Gate opening must be a minimum 915 mm (36 inches) wide to allow free passage of a person using a mobility device. 1200mm (47 inches) wide access if preferred.
- Pedestrian gates hardware should be suitable for independent use, and any closing device should not be significantly spring-loaded.

- Maintenance access gates need to be 2400mm (96 inches) wide.
- Take care not to create climbing structures out of fences and gates.
- Do not provide access to fences around trees where students could climb from one to the other.
- Use galvanized brackets and screws. Do not use nails to secure fence or gate structures.

Different Types of Fences

The types of fencing often used in school grounds include:

- Vinyl-coated mesh or galvanized chain-link
- Wood
- Cedar post (See Fig. 4.01 Wood Rail Fence)
- Temporary snow fence



Robert H. Smith School

Signage

Signs provide information and define spaces. They are also a way to build support and recognition for a school ground project as well as thank those who have contributed to the project.

Guiding Principles

- Provide signs at the entrance to special areas and at decision points along pathways.
- Use interpretive signs to educate people about the plants and habitats they may experience in naturalized spaces.
- Place signs at a comfortable height for people to read or touch: standard mounting height for students is 120 cm (47 inches) or lower depending on their age and 150cm (60 inches) for adults.
- Involving students in fabricating signs makes learning about plant names meaningful.
- Engraved rocks provide vandal-proof long-term options.
- Ensure signage is mounted in a manner such that it can not be removed from its location (i.e. cannot be pulled out) and can withstand the elements.



John M. King School



Robert H. Smith School

5

Maintaining Outdoor Play and Learning Environments

“

Diverse play settings can liberate creative energy from children. A breadth of action and interaction distinguishes a play environment that is well-designed and well-managed; that always has something new to offer, but at the same time is thought of as a familiar friend, a comfortable secure haven.”

Moore, Goltsman, *Play For All Guidelines*





Chris Torrey: CET, CHRP, LEED
Maintenance Coordinator
Winnipeg School Division



CHAPTER 5 Maintaining Outdoor Play and Learning Environments

It is necessary to consider the maintenance of the proposed play space features throughout the planning and design process. A well-planned and organized maintenance plan will protect your investment of energy, resources, money, and time. As well, a maintenance budget will need to be kept at the school for the purchase of mulch, sand, tools, etc.

Implementing Your Maintenance Plan

School committees will need to create a maintenance team. The maintenance team keeps a record of the weekly, monthly and annual work that needs to be done, and tracks what has been completed, in a maintenance log or journal.

Maintenance logs or journals can be unique and reflect your school community, but contain similar elements for success:

- Clear description of maintenance tasks.
- Clear roles.
- Clear recording of tasks with date, time, and task completed.

Remember to include students and the community in the maintenance of your greening project.

- Classes can water and care for a tree in the yard.
- High school students can support summer maintenance tasks.
- Students (classes or the eco-club) can help top up mulch annually.

Caring for Trees, Shrubs, and Natural Areas

Appoint a School Tree Advocate

The School Tree Advocate is the voice of the trees on the school ground. Their role is to:

- Organize the tree care and maintenance strategy (weeding, watering, mulching) and make sure it is carried out effectively.
- Provide a copy of the maintenance plan to the principal for record keeping.
- Make sure the School Tree Advocate position is re-assigned when necessary.



Watering

- Trees require watering for 3 years after planting. Set up a weekly, bi-weekly, then monthly watering schedule with your school committee.
- See Appendix B: Watering Guidelines for Newly Planted Trees.

Trimming and Weeding

- Prune dead wood from trees and shrubs in spring and fall and apply pruning paint/paste or beeswax immediately after the cut.
- Prune trees 2m (79 inches) from the ground to the lowest branches to allow good visibility when the tree is mature. Ensure branches are trimmed close to the trunk so they do not pose an ocular hazard.
- Remove low, side branches of large shrubs in areas where visibility and safety are a concern.
- Weed regularly around trees and shrubs, and before topping up mulch.
- Remove garbage and debris that is trapped in the tree cages.
- Remove any invasive and woody species from no-mow zones in spring and fall.
- Signage identifying invasive species volunteers can encourage "random acts of weeding".

Mulch

- Top up the mulch annually in active play areas to a depth of 10cm (4 inches) and around trees to 15cm (6 inches); less active areas can be topped up biannually.
- To add nutrients, top existing mulch with 2.5cm(1 inch) compost or worm castings, then replace mulch to a depth of 15cm(6 inches) each year.
- In the fall, keep leaves under the tree to break down into humus and naturally fertilize the tree.

Winter Care

- Check trees for ice and snow damage. Report any damage to the WSD Building Department so damaged trees can be trimmed or removed as needed.
- Replacement of damaged trees will need to be planned and installed by the School Greening Committee

Grass Cutting

- Winnipeg School Division Building Department cuts all large outdoor play areas.
- Grass areas around structures and on berms are cut by Building Caretaker.
- Minimum equipment clearance requirement is 2.4m (96 inches) between any vertical elements such as trees and posts.
- Grass is cut to 9cm (3.5 inches) to promote healthy growth and slow evaporation of water from soils.

Pathways

- Check and fix any areas that have received water damage and show signs of washed away mulch or screenings.
- Maintain mown paths through no-mow and garden areas on a regular basis throughout spring, summer and fall.
- Have a winter maintenance plan – who will shovel the pathways to ensure year-round accessible use?

Logs

- Check logs for large cracks and rot every few years. Hardwood logs should last about 10 years before requiring replacement.

Sand Areas

Sand will migrate even with the best edging. Budget for annual top-up of sand play areas, and plan time for sweeping sand back into the sand space. Students can help with this task by providing brooms in the sand play area.

- Remove sticks and debris from sand areas so they do not pose a safety risk.

Check sand areas for sharp objects on a regular basis.

Gardens

- Weed and tidy up the garden area in the spring and fall.
- Add compost and leaf litter in spring and fall.
- Weed and harvest over the summer.
- Monitor for vandalism over the summer.

Vandalism

Vandalism of trees, buildings, and play features should be reported to the WSD Building Department immediately. Damage needs to be remediated as soon as it happens to deter future incidents of vandalism.

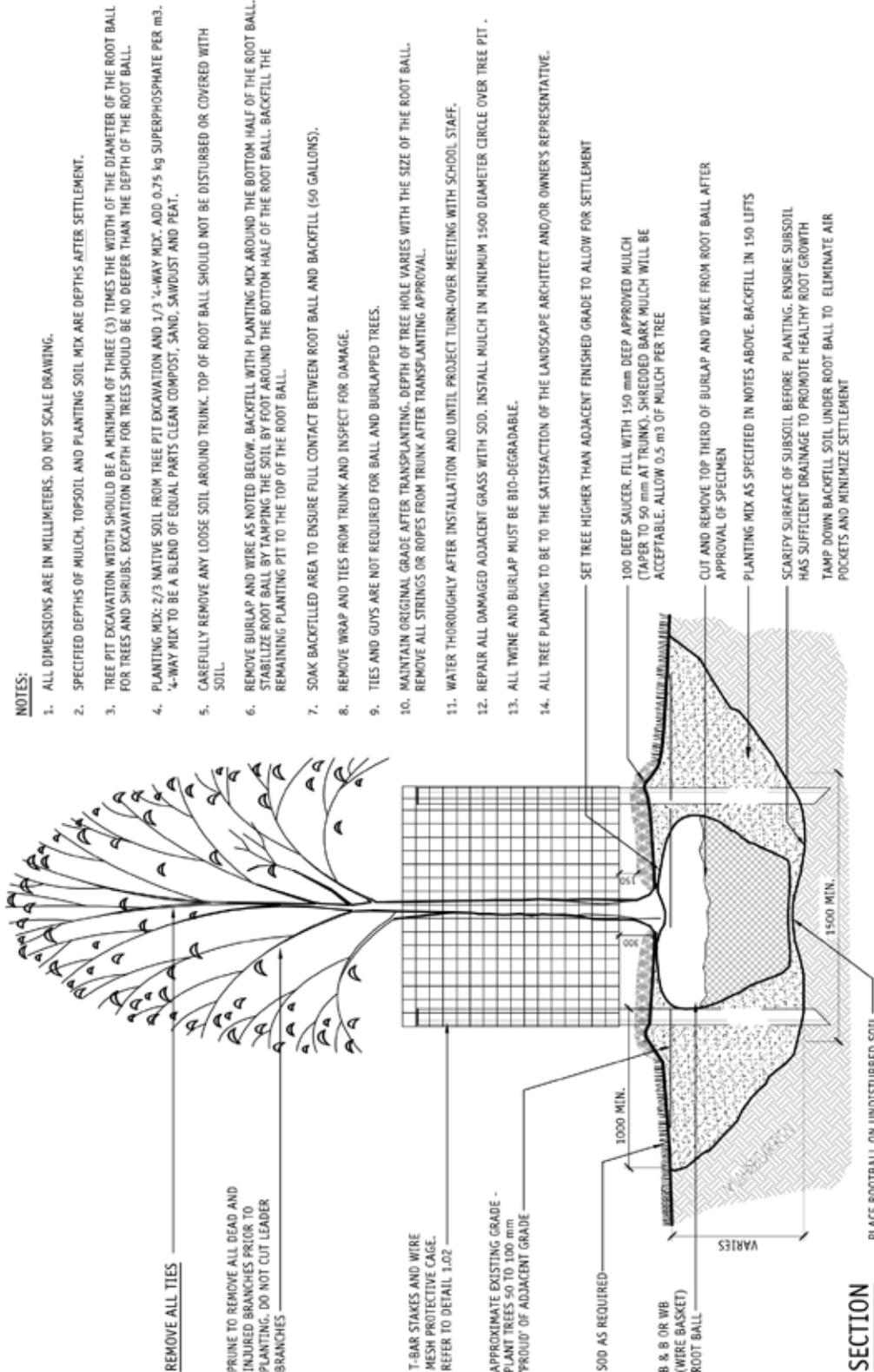
Vandalism can be deterred by selecting sturdy materials, effective planning and design, and involving the whole school and surrounding community in your project.

FIGURES

When considering the following figures, specific site conditions and school/community requirements must be taken into consideration.

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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF MULCH, TOPSOIL AND PLANTING SOIL MIX ARE DEPTHS AFTER SETTLEMENT.
3. TREE PIT EXCAVATION WIDTH SHOULD BE A MINIMUM OF THREE (3) TIMES THE WIDTH OF THE DIAMETER OF THE ROOT BALL FOR TREES AND SHRUBS. EXCAVATION DEPTH FOR TREES SHOULD BE NO DEEPER THAN THE DEPTH OF THE ROOT BALL.
4. PLANTING MIX: 2/3 NATIVE SOIL FROM TREE PIT EXCAVATION AND 1/3 4-WAY MIX. ADD 0.25 kg SUPERPHOSPHATE PER m³. 4-WAY MIX TO BE A BLEND OF EQUAL PARTS CLEAN COMPOST, SAND, SAWDUST AND PEAT.
5. CAREFULLY REMOVE ANY LOOSE SOIL AROUND TRUNK. TOP OF ROOT BALL SHOULD NOT BE DISTURBED OR COVERED WITH SOIL.
6. REMOVE BURLAP AND WIRE AS NOTED BELOW. BACKFILL WITH PLANTING MIX AROUND THE BOTTOM HALF OF THE ROOT BALL. STABILIZE ROOT BALL BY TAMPING THE SOIL BY FOOT AROUND THE BOTTOM HALF OF THE ROOT BALL. BACKFILL THE REMAINING PLANTING PIT TO THE TOP OF THE ROOT BALL.
7. SOAK BACKFILLED AREA TO ENSURE FULL CONTACT BETWEEN ROOT BALL AND BACKFILL (60 GALLONS).
8. REMOVE WRAP AND TIES FROM TRUNK AND INSPECT FOR DAMAGE.
9. TIES AND GUYS ARE NOT REQUIRED FOR BALL AND BURLAPPED TREES.
10. MAINTAIN ORIGINAL GRADE AFTER TRANSPLANTING. DEPTH OF TREE HOLE VARIES WITH THE SIZE OF THE ROOT BALL. REMOVE ALL STRINGS OR ROPES FROM TRUNK AFTER TRANSPLANTING APPROVAL.
11. WATER THOROUGHLY AFTER INSTALLATION AND UNTIL PROJECT TURN-OVER MEETING WITH SCHOOL STAFF.
12. REPAIR ALL DAMAGED ADJACENT GRASS WITH SOD. INSTALL MULCH IN MINIMUM 1500 DIAMETER CIRCLE OVER TREE PIT .
13. ALL TWINE AND BURLAP MUST BE BIO-DEGRADABLE.
14. ALL TREE PLANTING TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

SECTION

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SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS



WINNIPEG SCHOOL DIVISION

Metric	Imperial
50	2"
100	3 13/16"
150	5 13/16"
300	11 13/16"
1000	39 3/8"
1500	59 1/16"
0.5m ³	1 7/8 US

**DECIDUOUS TREE PLANTING
- SOFT SURFACE**

DETAIL #

1.01

NOT TO SCALE

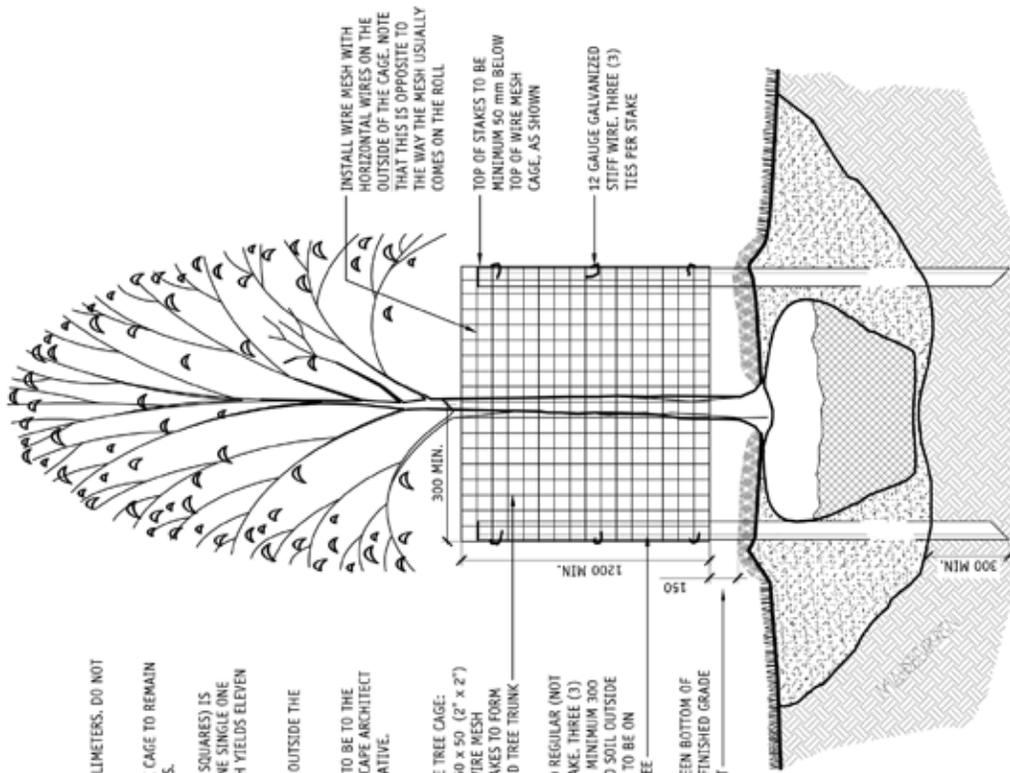
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. WIRE MESH PROTECTIVE TREE CAGE TO REMAIN IN PLACE FOR TEN (10) YEARS.
3. 2743 (97) OF WIRE MESH (64 SQUARES) IS REQUIRED FOR EACH TREE. ONE SINGLE ONE HUNDRED FOOT ROLL OF MESH YIELDS ELEVEN (11) CAGES.
4. T-BAR STAKES TO BE PLACED OUTSIDE THE ROOTBALL.
5. ALL PROTECTIVE TREE CAGES TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

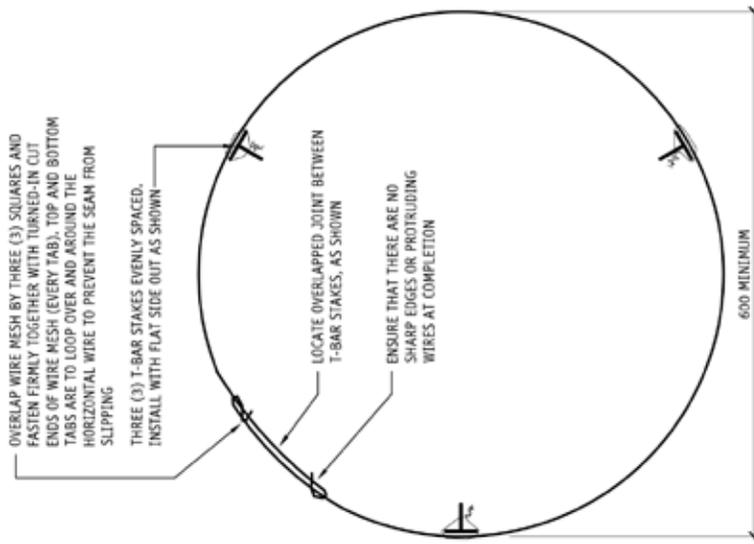
WIRE MESH PROTECTIVE TREE CAGE:
 1200 HIGH 10 GAUGE 50 x 50 (2' x 2') GALVANIZED WELDED WIRE MESH FASTENED TO T-BAR STAKES TO FORM CIRCULAR CAGE AROUND TREE TRUNK

2400 (8') LONG 40 x 40 REGULAR (NOT LIGHT-DUTY) T-BAR STAKE, THREE (3) PER TREE. DRIVE STAKE MINIMUM 300 mm INTO UNDISTURBED SOIL OUTSIDE ROOT BALL. ONE STAKE TO BE ON WINDWARD SIDE OF TREE

ENSURE 150 GAP BETWEEN BOTTOM OF WIRE MESH CAGE AND FINISHED GRADE OF SURFACE TREATMENT



SECTION



PLAN

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SCHOOL GROUND
 STANDARD
 CONSTRUCTION
 DETAILS



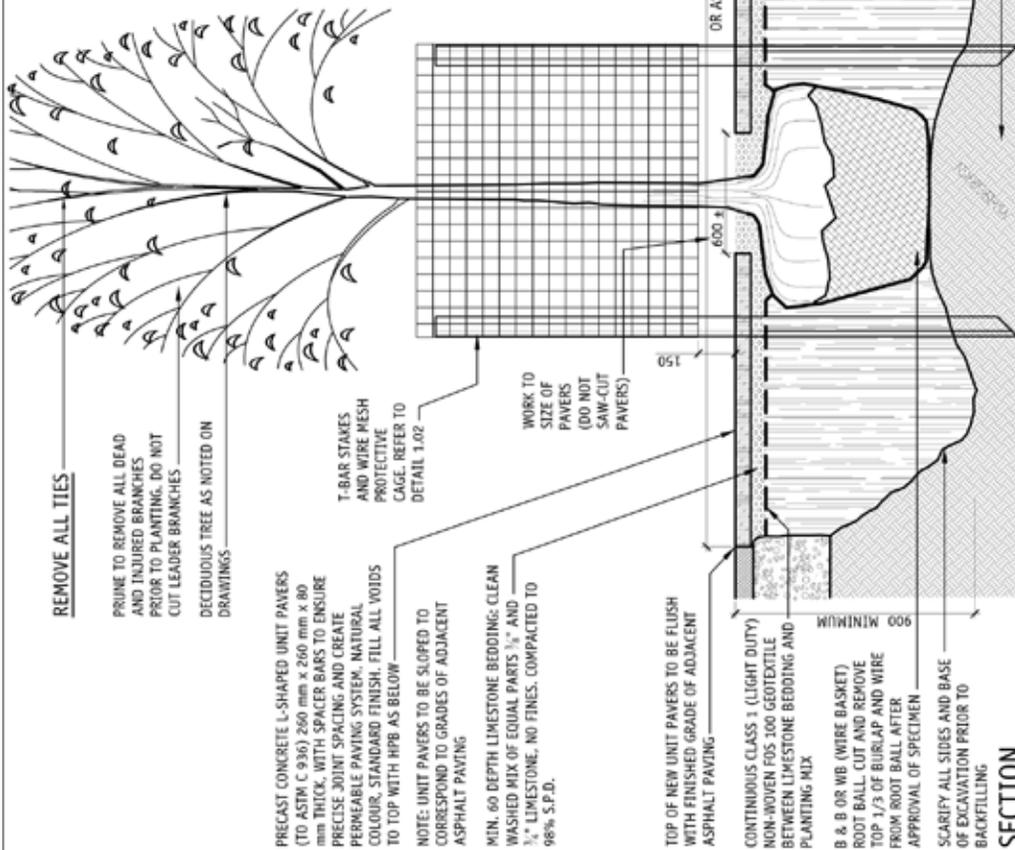
Metric	Imperial
40	1 9/16"
50	2"
150	5 15/16"
300	11 13/16"
600	23 5/8"
1200	47 1/4"

PROTECTIVE TREE CAGE
 - DECIDUOUS TREES

DETAIL #

1.02

NOT TO SCALE



REMOVE ALL TIES

PRUNE TO REMOVE ALL DEAD AND INJURED BRANCHES PRIOR TO PLANTING. DO NOT CUT LEADER BRANCHES.

PRECAST CONCRETE L-SHAPED UNIT PAVERS (TO ASTM C 936) 260 mm x 260 mm x 80 mm THICK, WITH SPACER BARS TO ENSURE PRECISE JOINT SPACING AND CREATE PERMEABLE PAVING SYSTEM. NATURAL COLOUR, STANDARD FINISH. FILL ALL VOIDS TO TOP WITH HPB AS BELOW.

NOTE: UNIT PAVERS TO BE SLOPED TO CORRESPOND TO GRADES OF ADJACENT ASPHALT PAVING.

MIN. 60 DEPTH LIMESTONE BEDDING: CLEAN WASHED MIX OF EQUAL PARTS 1/2" AND 1/4" LIMESTONE, NO FINES, COMPACTED TO 98% S.P.D.

TOP OF NEW UNIT PAVERS TO BE FLUSH WITH FINISHED GRADE OF ADJACENT ASPHALT PAVING.

CONTINUOUS CLASS 1 (LIGHT DUTY) NON-WOVEN FDS 100 GEOTEXTILE BETWEEN LIMESTONE BEDDING AND PLANTING MIX.

B & B OR WB (WIRE BASKET) ROOT BALL CUT AND REMOVE TOP 1/3 OF BURLAP AND WIRE FROM ROOT BALL AFTER APPROVAL OF SPECIMEN.

SCARIFY ALL SIDES AND BASE OF EXCAVATION PRIOR TO BACKFILLING.

SECTION

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
- SPECIFIED DEPTHS OF MULCH, TOPSOIL AND PLANTING MIX TYPE 'A' ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF GRANULAR BASES AND PLANTING MIX TYPE 'B' IS COMPACTED DEPTH.
- TREE PIT EXCAVATION WIDTH TO BE AS SHOWN. ANY/ALL GRANULARS ARE TO BE REMOVED FROM THE TREE PLANTING PIT PRIOR TO INSTALLATION OF THE PLANTING SOIL MIX. EXCAVATION DEPTH UNDER THE ROOT BALL SHOULD BE NO DEEPER THAN THE DEPTH OF THE ROOT BALL.
- PLANTING MIX (REFER TO PROJECT DRAWINGS):
2/3 NATIVE SOIL FROM TREE PIT EXCAVATION AND 1/3 1/4-WAY MIX. ADD 0.75 kg SUPERPHOSPHATE PER m³. 1/4-WAY MIX TO BE A BLEND OF EQUAL PARTS CLEAN COMPOST, SAND, SANDWUST AND PEAT.
- CAREFULLY REMOVE ANY LOOSE SOIL AROUND TRUNK. TOP OF ROOT BALL SHOULD NOT BE DISTURBED OR COVERED WITH SOIL.
- REMOVE BURLAP AND WIRE AS NOTED BELOW. BACKFILL WITH PLANTING MIX AROUND THE BOTTOM HALF OF THE ROOT BALL. STABILIZE ROOT BALL BY TAMPING THE MIX BY FOOT AROUND THE BOTTOM HALF OF THE ROOT BALL. BACKFILL THE REMAINING PLANTING PIT TO THE TOP OF THE ROOT BALL.

- SOAK BACKFILLED AREA TO ENSURE FULL CONTACT BETWEEN ROOT BALL AND BACKFILL (50 GALLONS).
- REMOVE WRAP AND TIES FROM TRUNK AND INSPECT FOR DAMAGE.
- TIES AND GUYS ARE NOT REQUIRED FOR BALL AND BURLAPPED TREES.
- MAINTAIN ORIGINAL GRADE AFTER TRANSPLANTING. DEPTH OF TREE HOLE VARIES WITH THE SIZE OF THE ROOT BALL. REMOVE ALL STRINGS OR ROPES FROM TRUNK AFTER TRANSPLANTING APPROVAL.
- WATER THOROUGHLY AFTER INSTALLATION AND UNTIL PROJECT TURN-OVER MEETING WITH SCHOOL STAFF.
- ALL TWINE AND BURLAP MUST BE BIO-DEGRADABLE.
- ALL TREE PLANTING TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE.

- REMOVE EXISTING ASPHALT PAVING AND LEAVE A 150 WIDE LEDGE OF GRANULAR BASE AROUND THE INSIDE PERIMETER OF THE ASPHALT CUT TO ALLOW FOR A FIRM BASE FOR EDGE SUPPORT OF THE UNIT PAVERS.
- EXISTING OR NEW ASPHALT PAVING (REFER TO DETAIL 3.01). FOR NEW PAVING, PLANT TREE BEFORE PAVING; OVER-PAVE, THEN SAW-CUT NEATLY AS SHOWN ON LAYOUT PLAN TO ALLOW FOR UNIT PAVEMENT INSTALLATION.
- GRANULAR BASE UNDER ASPHALT PAVING. REFER TO DETAIL 3.01.
- NOTE:
1. ALLOW PLANTING MIX (SOIL MIX) TO SETTLE FOR ONE MONTH PRIOR TO INSTALLATION OF LIMESTONE BEDDING AND UNIT PAVERS.

EXISTING SUBGRADE

SCHOOL GROUND STANDARD CONSTRUCTION DETAILS



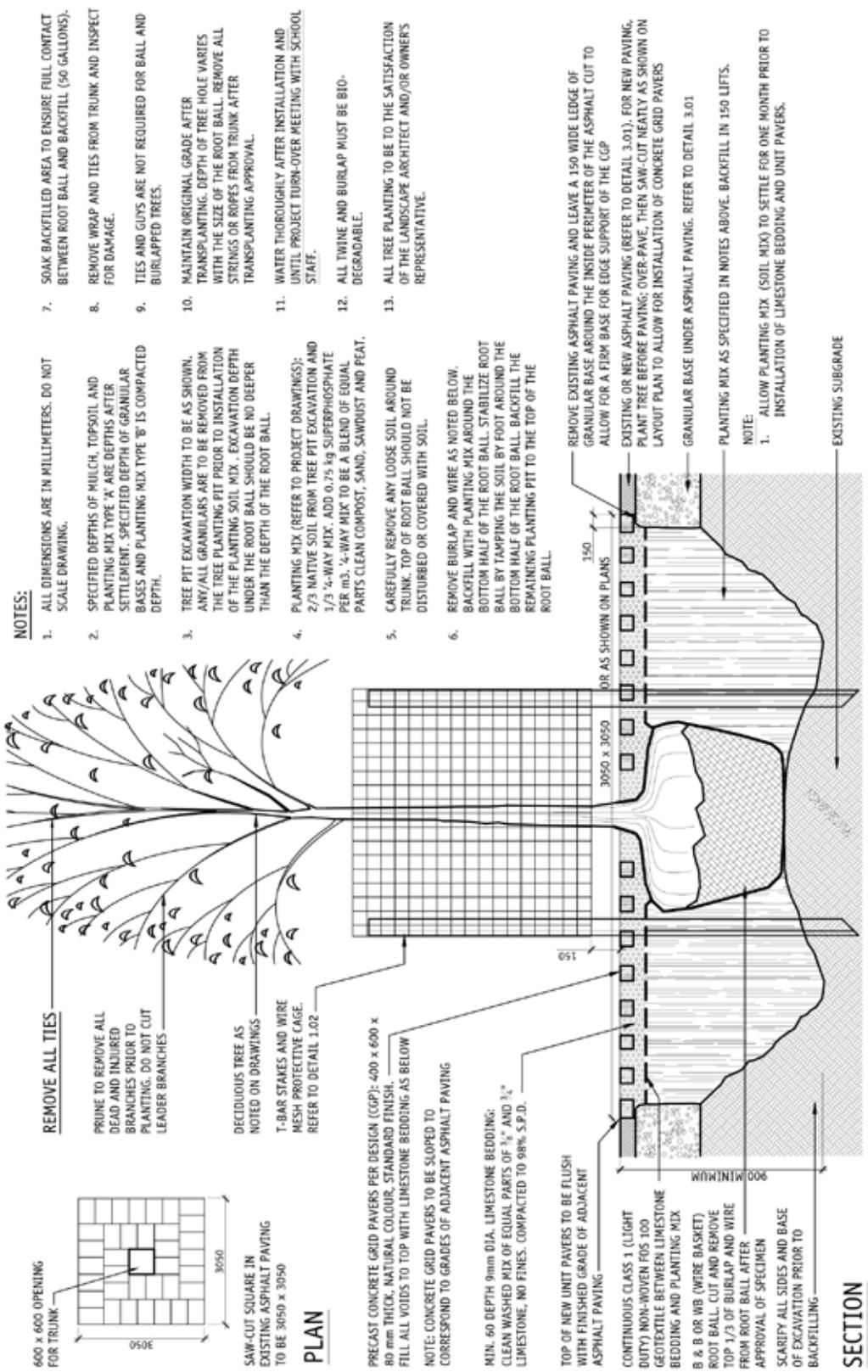
Metric	Imperial	Metric	Imperial
9.5	3/8"	150	5.15/16"
60	2 3/8"	260	10 1/4"
80	3 1/8"	600	23 5/8"
100	3 15/16"	900	35 7/16"
		3050	120 1/16"

DECIDUOUS TREE PLANTING
- PERMEABLE UNIT PAVING

DETAIL # **1.11**

NOT TO SCALE

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3. TREE PIT EXCAVATION WIDTH TO BE AS SHOWN. ANY/ALL GRANULARS ARE TO BE REMOVED FROM THE TREE PLANTING PIT PRIOR TO INSTALLATION OF THE PLANTING SOIL MIX. EXCAVATION DEPTH UNDER THE ROOT BALL SHOULD BE NO DEEPER THAN THE DEPTH OF THE ROOT BALL.
4. PLANTING MIX (REFER TO PROJECT DRAWINGS): 2/3 NATIVE SOIL FROM TREE PIT EXCAVATION AND 1/3 1/2-WAY MIX. ADD 0.75 kg SUPERPHOSPHATE PER m³. 4-WAY MIX TO BE A BLEND OF EQUAL PARTS CLEAN COMPOST, SAND, SAWDUST AND FEAT.
5. CAREFULLY REMOVE ANY LOOSE SOIL AROUND TRUNK. TOP OF ROOT BALL SHOULD NOT BE DISTURBED OR COVERED WITH SOIL.
6. REMOVE BURLAP AND WIRE AS NOTED BELOW. BACKFILL WITH PLANTING MIX AROUND THE BOTTOM HALF OF THE ROOT BALL. STABILIZE ROOT BALL BY TAMPING THE SOIL BY FOOT AROUND THE BOTTOM HALF OF THE ROOT BALL. BACKFILL THE REMAINING PLANTING PIT TO THE TOP OF THE ROOT BALL.
7. SOAK BACKFILLED AREA TO ENSURE FULL CONTACT BETWEEN ROOT BALL AND BACKFILL (50 GALLONS).
8. REMOVE WRAP AND TIES FROM TRUNK AND INSPECT FOR DAMAGE.
9. TIES AND GUYS ARE NOT REQUIRED FOR BALL AND BURLAPPED TREES.
10. MAINTAIN ORIGINAL GRADE AFTER TRANSPANTING. DEPTH OF TREE HOLE VARIES WITH THE SIZE OF THE ROOT BALL. REMOVE ALL STRINGS OR ROPES FROM TRUNK AFTER TRANSPANTING APPROVAL.
11. WATER THOROUGHLY AFTER INSTALLATION AND UNTIL PROJECT TURN-OVER MEETING WITH SCHOOL STAFF.
12. ALL TWINE AND BURLAP MUST BE BIO-DEGRADABLE.
13. ALL TREE PLANTING TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE.

REMOVE EXISTING ASPHALT PAVING AND LEAVE A 150 WIDE WEDGE OF GRANULAR BASE AROUND THE INSIDE PERIMETER OF THE ASPHALT CUT TO ALLOW FOR A FIRM BASE FOR EDGE SUPPORT OF THE CGP

EXISTING OR NEW ASPHALT PAVING (REFER TO DETAIL 3.01). FOR NEW PAVING, PLANT TREE BEFORE PAVING; OVER-PAVE, THEN SAW-CUT NEATLY AS SHOWN ON LAYOUT PLAN TO ALLOW FOR INSTALLATION OF CONCRETE GRID PAVERS

GRANULAR BASE UNDER ASPHALT PAVING. REFER TO DETAIL 3.01

PLANTING MIX AS SPECIFIED IN NOTES ABOVE. BACKFILL IN 150 LIFTS.

NOTE:

1. ALLOW PLANTING MIX (SOIL MIX) TO SETTLE FOR ONE MONTH PRIOR TO INSTALLATION OF LIMESTONE BEDDING AND UNIT PAVERS.

EXISTING SUBGRADE

SECTION

DECIDUOUS TREE PLANTING
- CONCRETE GRID PAVING

	Metric	Imperial	Metric	Imperial
	9	3/8"	400	15 3/4"
	60	2 3/8"	600	23 5/8"
	80	3 1/8"	900	35 7/16"
	150	5 15/16"	3050	120 1/16"



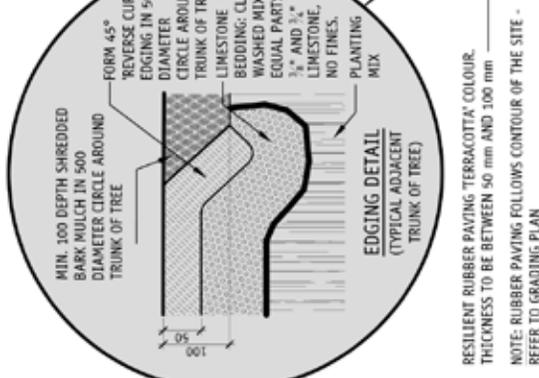
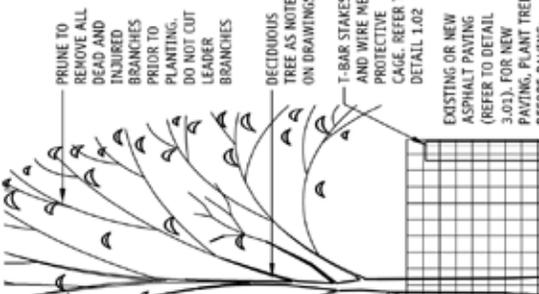
SCHOOL GROUND STANDARD CONSTRUCTION DETAILS

DETAIL # **1.12**
NOT TO SCALE

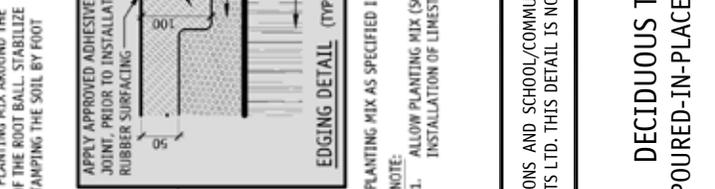
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- NOTES:**
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 3. TREE PIT EXCAVATION WIDTH TO BE AS SHOWN. ANY/ALL GRANULARS ARE TO BE REMOVED FROM THE TREE PLANTING PIT PRIOR TO INSTALLATION OF THE PLANTING SOIL MIX. EXCAVATION DEPTH UNDER THE ROOT BALL SHOULD BE NO DEEPER THAN THE DEPTH OF THE ROOT BALL.
 4. PLANTING MIX (REFER TO PROJECT DRAWINGS):
2/3 NATIVE SOIL FROM TREE PIT EXCAVATION AND 1/3 4-WAY MIX. ADD 0.75 kg SUPERPHOSPHATE PER m³. 3-WAY MIX TO BE A BLEND OF EQUAL PARTS CLEAN COMPOST, SAND, SAWDUST AND PEAT.
 5. CAREFULLY REMOVE ANY LOOSE SOIL AROUND TRUNK. TOP OF ROOT BALL SHOULD NOT BE DISTURBED OR COVERED WITH SOIL.
 6. REMOVE BURGLAP AND WIRE AS NOTED BELOW. BACKFILL WITH PLANTING MIX AROUND THE BOTTOM HALF OF THE ROOT BALL. STABILIZE ROOT BALL BY TAMPING THE SOIL BY FOOT
 7. SOAK BACKFILLED AREA TO ENSURE FULL CONTACT BETWEEN ROOT BALL AND BACKFILL (50 GALLONS).
 8. REMOVE WRAP AND TIES FROM TRUNK AND INSPECT FOR DAMAGE.
 9. TIES AND GUYS ARE NOT REQUIRED FOR BALL AND BURGLAPPED TREES.
 10. MAINTAIN ORIGINAL GRADE AFTER TRANSPLANTING. DEPTH OF TREE HOLE VARIES WITH THE SIZE OF THE ROOT BALL. REMOVE ALL STRINGS OR ROPES FROM TRUNK AFTER TRANSPLANTING APPROVAL.
 11. WATER THOROUGHLY AFTER INSTALLATION AND UNTIL PROJECT TURN-OVER MEETING WITH SCHOOL STAFF.
 12. ALL TWINE AND BURGLAP MUST BE BIO-DEGRADABLE.
 13. ALL TREE PLANTING TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

1. REMOVE ALL TIES
- PRUNE TO REMOVE ALL DEAD AND INJURED BRANCHES PRIOR TO PLANTING. DO NOT CUT LEADER BRANCHES
- DECIDUOUS TREE AS NOTED ON DRAWINGS
- T-BAR STAKES AND WIRE MESH PROTECTIVE CAGE. REFER TO DETAIL 1.02
- EXISTING OR NEW ASPHALT PAVING (REFER TO DETAIL 3.01). FOR NEW PAVING, PLANT TREE BEFORE PAVING. THEN SAW-CUT NEATLY AS SHOWN ON LAYOUT PLAN TO ALLOW FOR PERMEABLE RUBBER PAVING INSTALLATION
- 3000 DIAMETER OR AS SHOWN ON PLANS
- MIN. 60 DEPTH 9mm DIA. LIMESTONE BEDDING: CLEAN WASHED MIX OF EQUAL PARTS 3/4" AND 1/2" LIMESTONE, NO FINES, COMPACTED TO 98% S.P.D.
- TOP OF NEW PERMEABLE RUBBER PAVING TO BE FLUSH WITH FINISHED GRADE OF ADJACENT ASPHALT PAVING
- CONTINUOUS CLASS 1 (LIGHT DUTY) NON-WOVEN FOS 100 GEOTEXTILE BETWEEN LIMESTONE BEDDING AND PLANTING MIX
- B & B OR WB (WIRE BASKET) ROOT BALL CUT AND REMOVE TOP 1/3 OF BURGLAP AND WIRE FROM ROOT BALL AFTER APPROVAL OF SPECIMEN
- SCAFFRY ALL SIDES AND BASE OF EXCAVATION PRIOR TO BACKFILLING



1. ALLOW PLANTING MIX (SOIL MIX) TO SETTLE FOR ONE MONTH PRIOR TO INSTALLATION OF LIMESTONE BEDDING AND LIMIT PAVERS.



EDGING DETAIL (TYPICAL ADJACENT ASPHALT PAVING)

APPLY APPROVED ADHESIVE AT JOINT, PRIOR TO INSTALLATION OF RUBBER SURFACING

FINISHED GRADE, ASPHALT PAVING

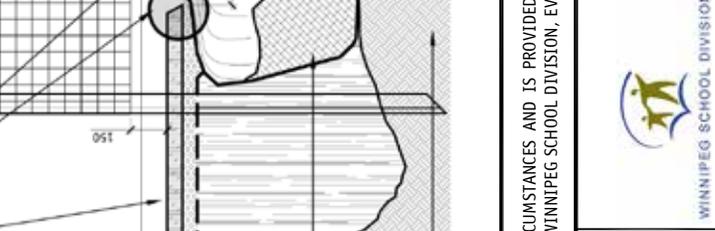
FORM RUBBER 'REVERSE CURB' EDGING OVER GRANULAR BASE AT INTERFACE WITH ASPHALT PAVING

WASHED MIX OF EQUAL PARTS 3/4" AND 1/2" LIMESTONE, NO FINES, PLANTING MIX

PLANTING MIX AS SPECIFIED IN NOTES ABOVE. BACKFILL IN 150 LIFTS.

NOTE:

Metric	Imperial	Metric	Imperial
9	3/8"	150	5 15/16"
50	2"	500	19 11/16"
60	2 3/8"	600	23 5/8"
100	3 15/16"	900	35 7/16"
		3000	118 1/8"



SECTION

RESILIENT RUBBER PAVING 'TERRACOTTA' COLOUR. THICKNESS TO BE BETWEEN 50 mm AND 100 mm

NOTE: RUBBER PAVING FOLLOWS CONTOUR OF THE SITE - REFER TO GRADING PLAN

MIN. 60 DEPTH 9mm DIA. LIMESTONE BEDDING: CLEAN WASHED MIX OF EQUAL PARTS 3/4" AND 1/2" LIMESTONE, NO FINES, COMPACTED TO 98% S.P.D.

TOP OF NEW PERMEABLE RUBBER PAVING TO BE FLUSH WITH FINISHED GRADE OF ADJACENT ASPHALT PAVING

CONTINUOUS CLASS 1 (LIGHT DUTY) NON-WOVEN FOS 100 GEOTEXTILE BETWEEN LIMESTONE BEDDING AND PLANTING MIX

B & B OR WB (WIRE BASKET) ROOT BALL CUT AND REMOVE TOP 1/3 OF BURGLAP AND WIRE FROM ROOT BALL AFTER APPROVAL OF SPECIMEN

SCAFFRY ALL SIDES AND BASE OF EXCAVATION PRIOR TO BACKFILLING

EXISTING SUBGRADE

DETAIL #
1.13
NOT TO SCALE

**DECIDUOUS TREE PLANTING
POURED-IN-PLACE RUBBER PAVING**

Metric	Imperial	Metric	Imperial
9	3/8"	150	5 15/16"
50	2"	500	19 11/16"
60	2 3/8"	600	23 5/8"
100	3 15/16"	900	35 7/16"
		3000	118 1/8"



SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS

EVERGREEN

northwood

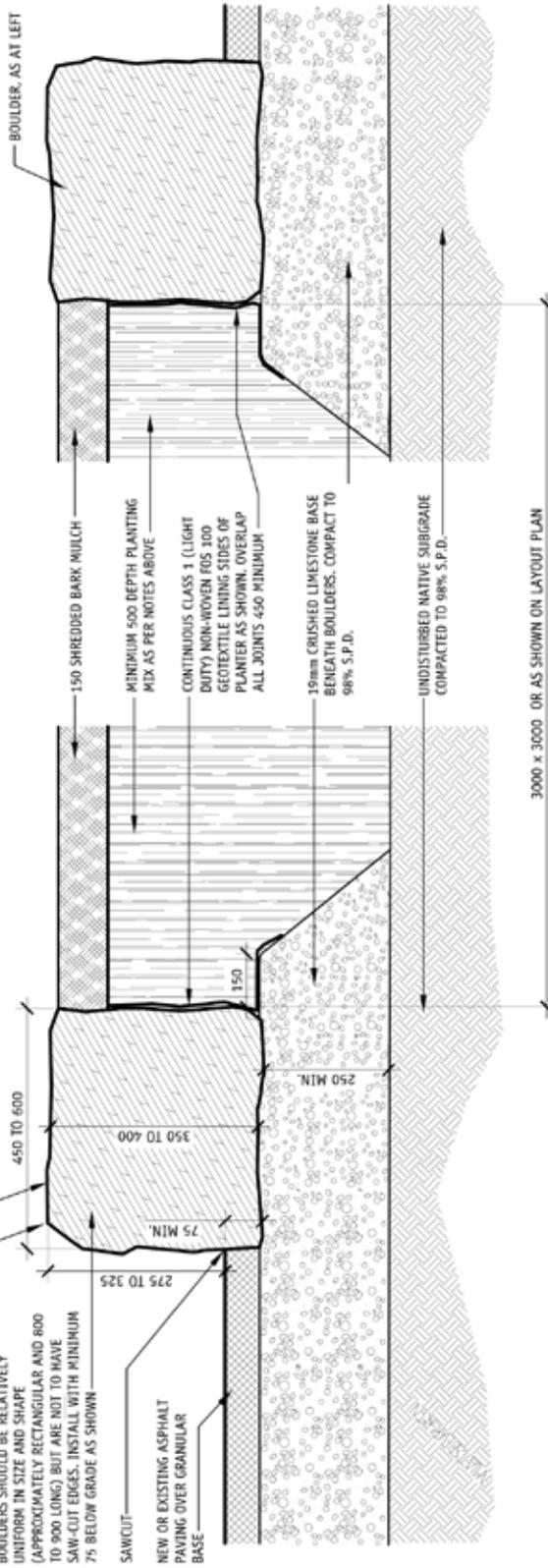
WINNIPEG SCHOOL DIVISION

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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF MULCH, TOPSOIL AND PLANTING MIX ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF GRANULAR BASE IS COMPACTED DEPTH.
3. ENSURE THAT ANY SHARP CORNERS AND EDGES ON EXPOSED SIDES OF BOULDERS ARE ELIMINATED (ROUNDED TO A MINIMUM 6 mm RADIUS BY GRINDING OR OTHER SIMILAR MEANS TO SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE).
4. GAPS BETWEEN BOULDERS ARE TO BE MINIMIZED TO REDUCE DANGER OF ENTANGLEMENT
5. ENSURE THAT ALL BOULDERS ARE STABLE AND FREE FROM ALL MOVEMENT.
6. ENSURE THAT ALL BOULDERS ARE INSTALLED WITH SEATING SURFACE LEVEL.
7. WHERE MORE THAN ONE PLANTER IS INSTALLED IN A LINEAR CONFIGURATION, USE A STRING LINE TO LAY OUT AND ALIGN (LINE UP) PLANTERS.
8. PLANTING MIX: APPROVED 3-WAY MIX, OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE. ADD 0.75 kg SUPERPHOSPHATE PER m³.
9. DECIDUOUS TREE PLANTING IN PLANTER TO BE TO DETAIL 1.01 C/W PROTECTIVE CAGE TO DETAIL 1.02 OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE.
10. PLANTER CONSTRUCTION TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE.

TOP OF EACH SECTION OF PLANTER WALL TO BE INSTALLED LEVEL AT ONE CONSTANT ELEVATION. ADJUST ELEVATION OF GRANULAR BASE AS REQUIRED. OBTAIN LANDSCAPE ARCHITECT'S AND/OR OWNERS' REPRESENTATIVE'S APPROVAL OF AVERAGE HEIGHT PRIOR TO INSTALLATION. GRIND ALL SHARP EDGES AND CORNERS TO MINIMUM 6 mm RADIUS. BOULDERS TO BE ANGULAR IRREGULAR FLAT-TOPPED NATURAL HARD (DOLOMITE) LIMESTONE BOULDERS (NOT CAP ROCK, NOT SPALLING OR FLAKING). TYPICAL BOULDERS SHOULD BE RELATIVELY UNIFORM IN SIZE AND SHAPE (APPROXIMATELY RECTANGULAR AND 800 TO 900 LONG) BUT ARE NOT TO HAVE SAW-CUT EDGES. INSTALL WITH MINIMUM 75 mm BELOW GRADE AS SHOWN



SECTION

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SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS



Metric	Imperial	Metric	Imperial
6	1/4"	350	13 3/4"
19	3/4"	400	15 3/4"
75	2 15/16"	450	17 3/4"
150	5 15/16"	500	19 11/16"
250	9 13/16"	600	23 5/8"
275	10 13/16"	800	31 1/2"
325	12 13/16"	900	35 7/16"
		3000	118 1/8"

PLANTER
- LIMESTONE BOULDER

DETAIL #
1.21
NOT TO SCALE

PRECAST CONCRETE BLOCKS PER DESIGN OR ALTERNATE PRODUCT AS SPECIFIED ON THE PROJECT DRAWINGS.

TOP OF EACH SECTION OF PLANTER WALL TO BE INSTALLED LEVEL AT ONE CONSTANT ELEVATION. ADJUST ELEVATION OF GRANULAR BASE AS REQUIRED. OBTAIN LANDSCAPE ARCHITECTS AND/OR OWNERS REPRESENTATIVES APPROVAL OF NUMBER OF COURSES EXPOSED PRIOR TO INSTALLATION

COPING UNIT, SAW-CUT AS REQUIRED TO ACHIEVE LAP JOINT SQUARE CORNERS

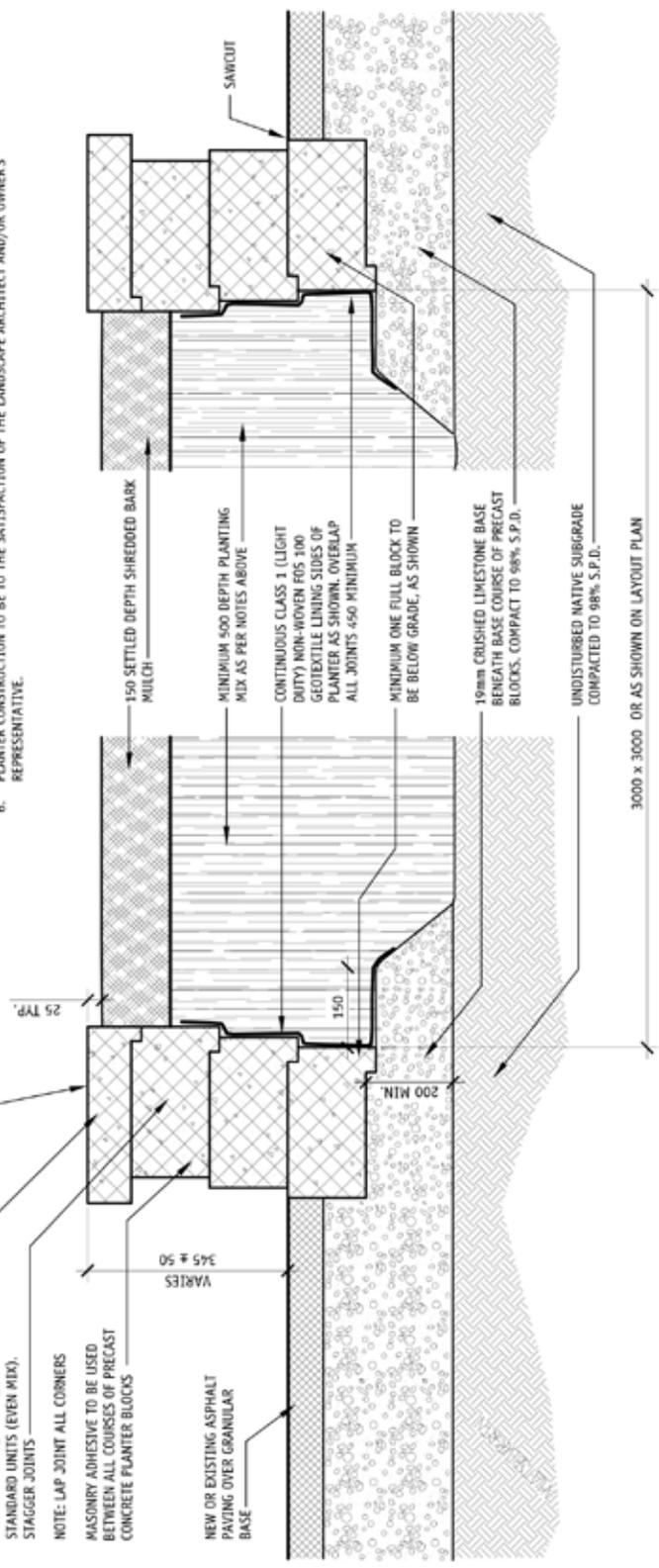
135 mm THICK #3 AND #4 STANDARD UNITS (EVEN MIX), STAGGER JOINTS

NOTE: LAP JOINT ALL CORNERS MASONRY ADHESIVE TO BE USED BETWEEN ALL COURSES OF PRECAST CONCRETE PLANTER BLOCKS

NEW OR EXISTING ASPHALT PAVING OVER GRANULAR BASE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF MULCH, TOPSOIL AND PLANTING MIX ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF GRANULAR BASES IS COMPACTED DEPTH.
3. WHERE MORE THAN ONE PLANTER IS INSTALLED IN A LINEAR CONFIGURATION, USE A STRING LINE TO LAY OUT AND ALIGN (LINE UP) PLANTERS.
4. PLANTING MIX: APPROVED 3-WAY MIX, OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE. ADD 0.75 kg SUPERPHOSPHATE PER m³.
5. DECIDUOUS TREE PLANTING IN PLANTER TO BE TO DETAIL 1.01 C/W PROTECTIVE CAGE TO DETAIL 1.02
6. PLANTER CONSTRUCTION TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE.



SECTION

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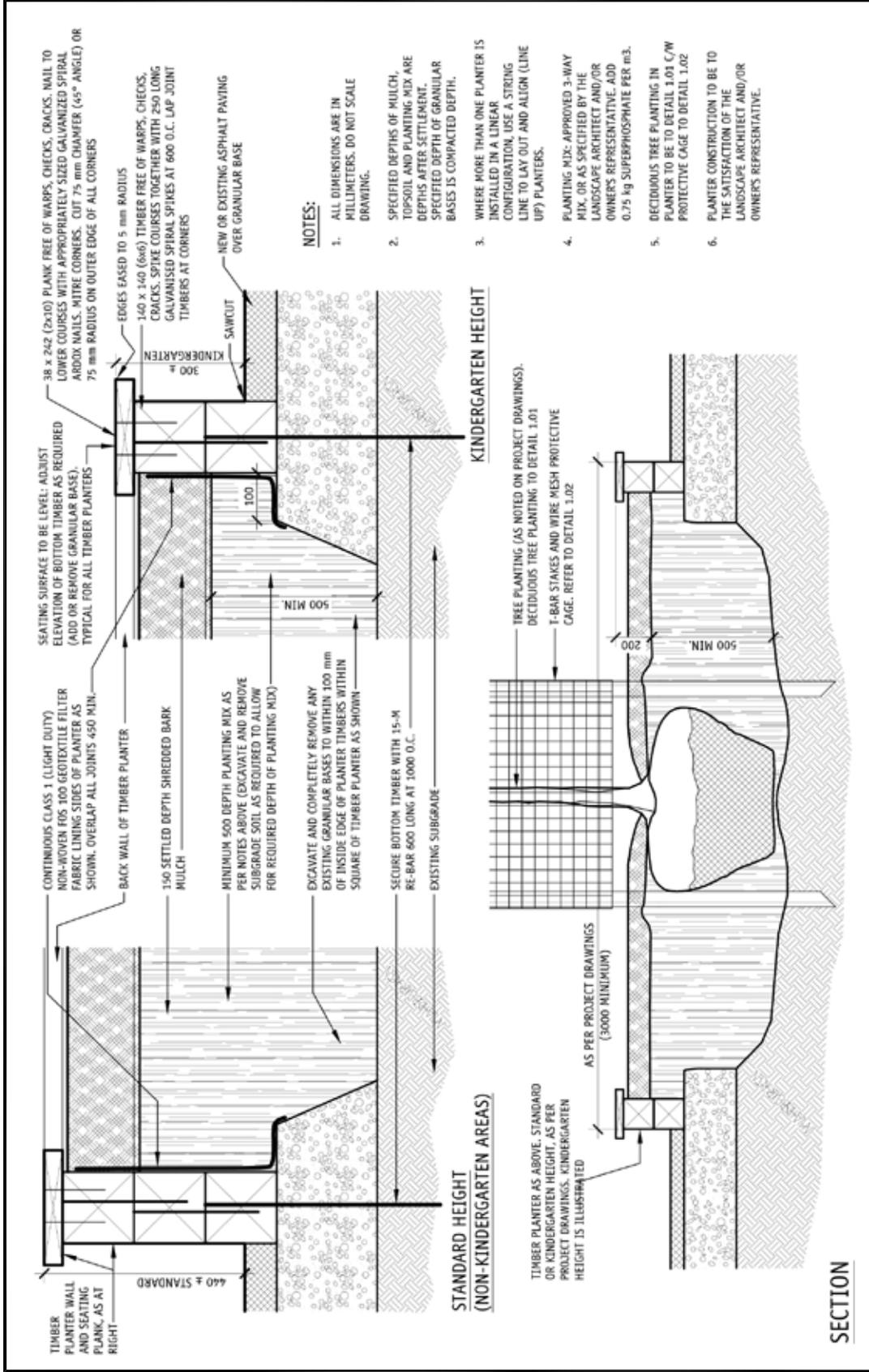
SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS



Metric	Imperial	Metric	Imperial
19	3/4"	200	7 7/8"
25	1"	345	13 9/16"
50	2"	450	17 3/4"
135	5 5/16"	500	19 11/16"
150	5 15/16"	3000	118 1/8"

PLANTER
- PRECAST CONCRETE

DETAIL #
1.22
NOT TO SCALE



SECTION

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF MULCH, TOPSOIL AND PLANTING MIX ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF GRANULAR BASES IS COMPACTED DEPTH.
3. WHERE MORE THAN ONE PLANTER IS INSTALLED IN A LINEAR CONFIGURATION, USE A STRING LINE TO LAY OUT AND ALIGN (LINE UP) PLANTERS.
4. PLANTING MIX: APPROVED 3-WAY MIX, OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE. ADD 0.75 kg SUPERPHOSPHATE PER m³.
5. DECIDUOUS TREE PLANTING IN PLANTER TO BE TO DETAIL 1.01 C/W PROTECTIVE CAGE TO DETAIL 1.02
6. PLANTER CONSTRUCTION TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE.

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Metric	Imperial	Metric	Imperial
75	2 15/16"	440	17 5/16"
100	3 15/16"	450	17 3/4"
150	5 15/16"	500	19 11/16"
200	7 7/8"	600	23 5/8"
250	9 13/16"	1000	39 3/8"
300	11 13/16"	3000	118 1/8"

DETAIL #
1.23
NOT TO SCALE

TREE PLANTER IN ASPHALT
- **TIMBER**
- **KINDERGARTEN & STANDARD**

SCHOOL GROUND STANDARD CONSTRUCTION DETAILS

EVERGREEN
northwood
WINNIPEG SCHOOL DIVISION

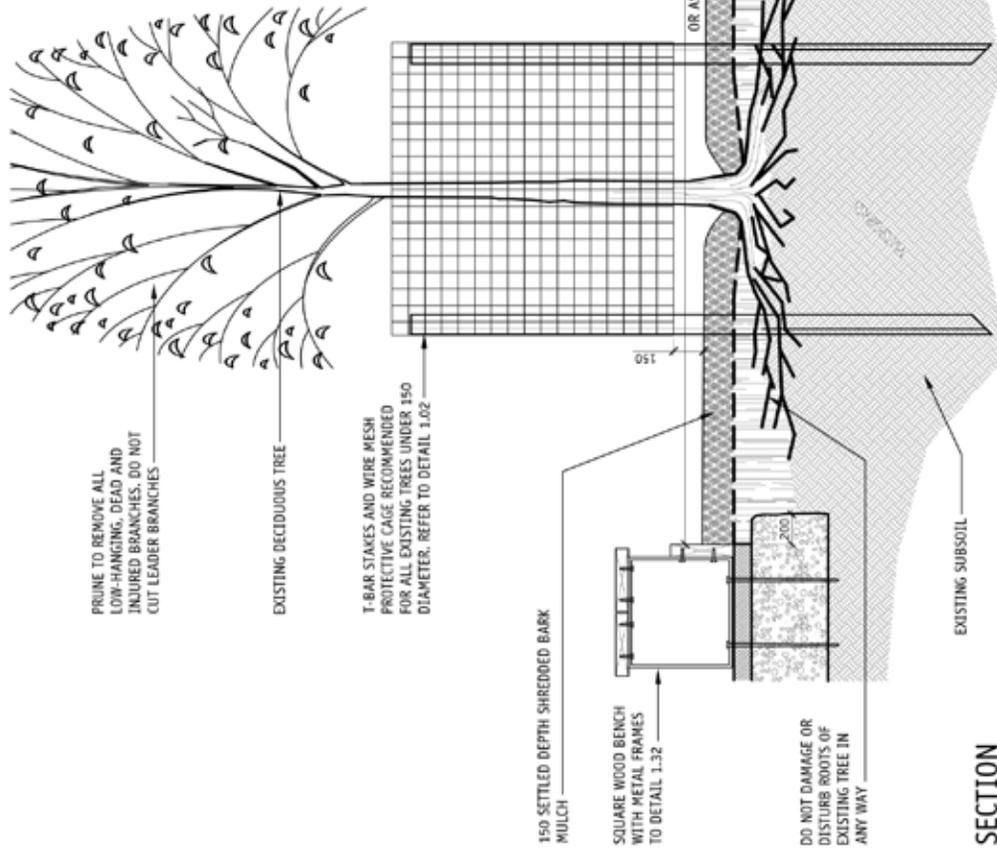
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
 2. SPECIFIED DEPTHS OF MULCH, TOPSOIL AND PLANTING SOIL MIX ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF GRANULAR BASES IS COMPACTED DEPTH.
 3. BENCH INSTALLATION TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE.
 4. THIS DETAIL TO BE READ TOGETHER WITH DETAIL 1.32.

WHERE EXISTING TREE IS SURROUNDED BY PAVING:

5. REMOVE ANY EXISTING HARD SURFACING (TREE GRATES, CONCRETE GRID OR UNIT PAVERS) AND/OR SAW-CUT AND REMOVE EXISTING ASPHALT PAVING.
6. CAREFULLY (BY HAND) REMOVE EXISTING GRANULAR BASE TO WITHIN 200 mm OF NEW EDGE OF PAVING. DO NOT DAMAGE TREE ROOTS IN ANY WAY.
7. REPLACE REMOVED GRANULAR MATERIALS AND FILL TO TOP OF EXISTING ASPHALT PAVING WITH 1/4-WAY MIX (BLEND OF EQUAL PARTS CLEAN COMPOST, SAND, SAWDUST AND PEAT). ADD 0.75 kg SUPERPHOSPHATE PER m³. TOP WITH MINIMUM 150 DEPTH TUB-GRINDER (PEELER BARK/UTILITY) MULCH AS SHOWN BELOW.

WHERE EXISTING TREE IS SURROUNDED BY TURF:

8. SKIN SOD WITH SOD-CUTTER.
9. DO NOT EXCAVATE OR REMOVE ANY TOPSOIL WITHIN DRIP LINE OF EXISTING TREE.



SECTION

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Metric	Imperial
150	5 15/16"
200	7 7/8"
2250	88 9/16"



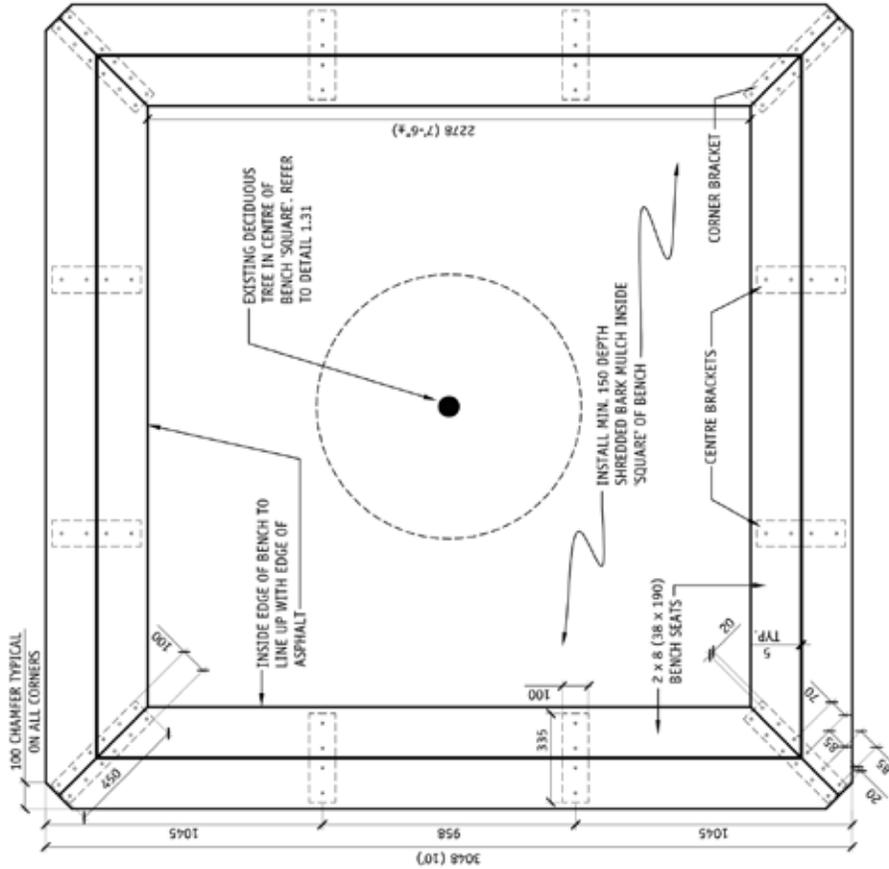
SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS

DETAIL #
1.31
NOT TO SCALE

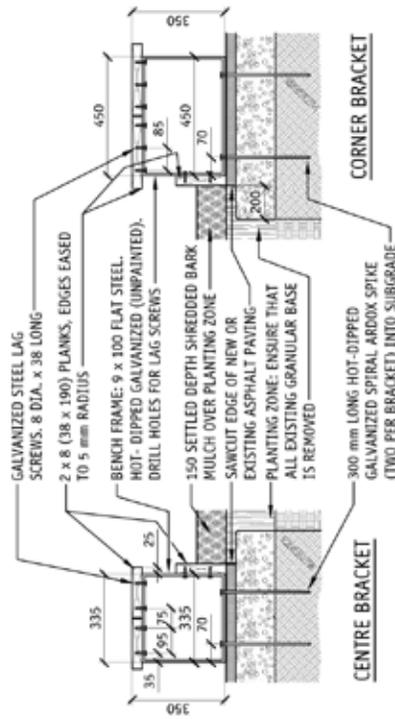
**EXISTING DECIDUOUS TREE
- WITH NEW WOOD BENCH**

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF MULCH, TOPSOIL AND PLANTING MIX ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF GRANULAR BASES IS COMPACTED DEPTH.
3. ALL GALVANIZED METAL FRAME COMPONENTS TO BE LEFT UNFINISHED (NO PAINT).
4. FRAME COMPONENTS SHALL BE ELECTRICALLY WELDED.
5. WOOD COMPONENTS TO BE LEFT UNFINISHED. ALL WOOD TO BE FREE OF WARPS, CHECKS AND CRACKS
6. WHERE MORE THAN ONE SQUARE BENCH IS INSTALLED IN A LINEAR CONFIGURATION, USE A STRING LINE TO LAY OUT AND ALIGN (LINE UP) BENCHES.
7. ALL BENCHES SHOULD BE INSTALLED WITH SEATS LEVEL. UNUSUAL SITE CONDITIONS WILL REQUIRE DIRECTION FROM LANDSCAPE ARCHITECT AND/OR THE OWNER'S REPRESENTATIVE.
8. BENCH CONSTRUCTION AND INSTALLATION TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR THE OWNER'S REPRESENTATIVE.
9. THIS DETAIL TO BE READ TOGETHER WITH DETAIL 1.31



PLAN



SECTION

SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS



WINNIPEG SCHOOL DIVISION

Metric	Imperial	Metric	Imperial	Metric	Imperial
5	3/16"	70	2 3/4"	300	11 13/16"
8	5/16"	75	2 15/16"	335	13 3/16"
9	3/8"	85	3 3/8"	350	13 3/4"
20	13/16"	95	3 3/4"	450	17 3/4"
25	1"	100	3 15/16"	558	21 7/8"
35	1 3/8"	150	5 15/16"	1045	41 3/8"
38	1 1/2"	200	7 7/8"		

DETAIL #

1.32

SQUARE WOOD BENCH
-AROUND EXISTING
DECIDUOUS TREE IN PAVING

NOT TO SCALE

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PLANT LIST
 SHRUB PLANTINGS ON SCHOOL GROUNDS TO BE MULTI-STEM SPECIMEN SHRUBS IN WIRE BASKETS, 1800 TO 2400 HEIGHT. REFER TO DIVISION RECOMMENDED PLANT LIST IN APPENDIX.

REFER TO PLANTING PLAN FOR PROJECT-SPECIFIC PLANT LIST

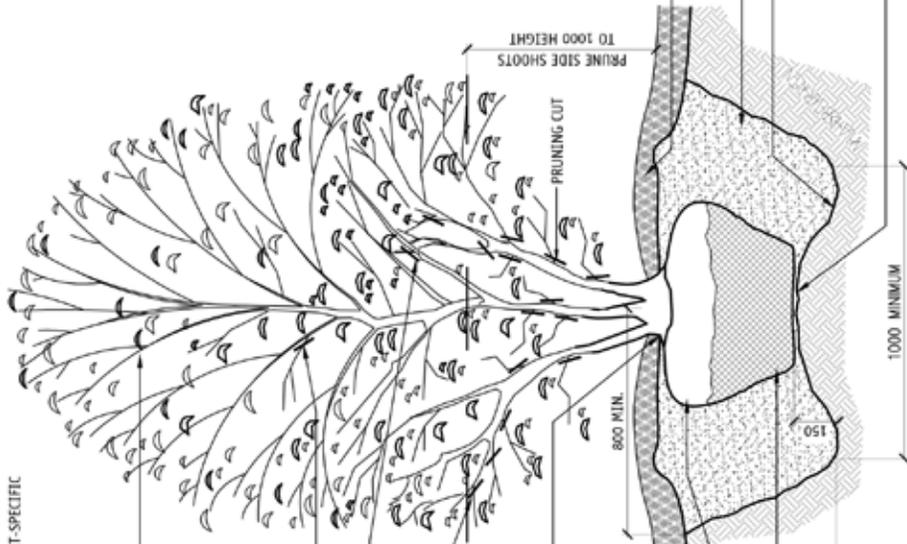
REMOVE ANY AND ALL TIES

SHRUB PRUNING:
 REFER ALSO TO NOTES AT RIGHT

PRUNE TO REMOVE ALL DEAD AND INJURED BRANCHES PRIOR TO PLANTING

PRUNE TO REMOVE ALL CROSSING AND OVERLAPPING BRANCHES

PRUNE TO REMOVE ALL SIDE SHOOTS TO 1000 ABOVE NEW FINISHED GRADE



SECTION

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
 2. SPECIFIED DEPTHS OF MULCH, TOPSOIL AND PLANTING SOIL MIX ARE DEPTHS AFTER SETTLEMENT.
 3. PLANTING PIT EXCAVATION WIDTH SHOULD BE A MINIMUM OF THREE (3) TIMES THE WIDTH OF THE DIAMETER OF THE ROOT BALL FOR TREES AND SHRUBS. EXCAVATION DEPTH SHOULD BE NO DEEPER THAN THE DEPTH OF THE ROOT BALL.
 4. PLANTING MIX: 2/3 NATIVE SOIL FROM TREE PIT EXCAVATION AND 1/3 4-WAY MIX. ADD 0.75 kg SUPERPHOSPHATE PER m³. 4-WAY MIX TO BE A BLEND OF EQUAL PARTS CLEAN COMPOST, SAND, SANDWUST AND PEAT.
 5. CAREFULLY REMOVE ANY LOOSE SOIL AROUND TRUNK. TOP OF ROOT BALL SHOULD NOT BE DISTURBED OR COVERED WITH SOIL.
 6. REMOVE BURLAP AND WIRE AS NOTED BELOW. BACKFILL WITH PLANTING MIX AROUND THE BOTTOM HALF OF THE ROOT BALL. STABILIZE ROOT BALL BY TAMPING THE SOIL BY FOOT AROUND THE BOTTOM HALF OF THE ROOT BALL. BACKFILL THE REMAINING PLANTING PIT TO THE TOP OF THE ROOT BALL.
 7. SOAK BACKFILLED AREA TO ENSURE FULL CONTACT BETWEEN ROOT BALL AND BACKFILL.
 8. REMOVE ANY WRAP AND TIES FROM TRUNKS AND INSPECT FOR DAMAGE.
- PRUNING:**
15. ALL PRUNING TO BE TO BEST ARBORICULTURAL PRACTICE. ALL CUTS TO BE MADE AT NARROWEST PART OF BRANCH (DO NOT DAMAGE BRANCH COLLAR) USING CLEAN AND SHARP TOOLS.
 16. ALL PROTRUSION HAZARDS (AS DEFINED BY CAN/CSA-2614 LATEST EDITION) ARE TO BE REMOVED.

100 DEEP SAUCER. FILL WITH 150 mm DEEP APPROVED MULCH (TAPER TO 50 mm AT TRUNK). SHREDED BARK MULCH WILL BE ACCEPTABLE. ALLOW 0.5 m³ OF MULCH PER SHRUB

PLANTING MIX AS SPECIFIED IN NOTES ABOVE. BACKFILL IN 150 LIFTS

SCARIFY SURFACE OF SUBSOIL BEFORE PLANTING. ENSURE SUBSOIL HAS SUFFICIENT DRAINAGE TO PROMOTE HEALTHY ROOT GROWTH

TAMP DOWN BACKFILL SOIL UNDER ROOT BALL TO ELIMINATE AIR POCKETS AND MINIMIZE SETTLEMENT

PLACE ROOTBALL ON UNDISTURBED SOIL

SCHOOL GROUND STANDARD CONSTRUCTION DETAILS

EVERGREEN



Metric	Imperial
50	2"
100	3 15/16"
150	5 15/16"
800	31 1/2"
1000	39 3/8"
1800	70 7/8"
2400	94 1/2"
0.5m ³	17.6m ³

Winnipeg School Division

EVERGREEN

northwood

Winnipeg School Division

SCHOOL GROUND STANDARD CONSTRUCTION DETAILS



Metric	Imperial
50	2"
100	3 15/16"
150	5 15/16"
800	31 1/2"
1000	39 3/8"
1800	70 7/8"
2400	94 1/2"
0.5m ³	17.6m ³

DETAIL # 1.41

MULTI-STEM SPECIMEN SHRUB PLANTING & PRUNING

NOT TO SCALE

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WHERE BOULDERS ARE INSTALLED IN AREAS OF EXISTING GRASS:

SKIN SOD WITH SOD-CUTTER AND REMOVE 40mm DEPTH OF TOPSOIL IN AREA OF NEW BOULDER. PLACE BOULDER DIRECTLY ON REMAINING TOPSOIL. NOTE: DO NOT EXCAVATE WITHIN DRIP-LINE OR OTHERWISE DISTURB OR DAMAGE ROOTS OF ANY EXISTING TREES)

NEW FINISHED GRADE OF MULCH
150 DEPTH SHREDDED BARK MULCH OVER EXISTING TOPSOIL IN MINIMUM 900 WIDE BAND AROUND ALL BOULDERS INSTALLED IN GRASS

EXISTING GRASS OR SOD OVER MIN. 150 DEPTH TOPSOIL
FINISHED GRADE BEYOND 900 WIDE AREA OF MULCH

BOULDERS:

TO BE ANGULAR IRREGULAR FLAT-TOPPED NATURAL HARD (DOLOMITE) LIMESTONE BOULDERS (NOT CAP ROCK, NOT SPALLING OR FLAKING). TYPICAL SIZES APPROXIMATELY AS SHOWN. BOULDERS SHOULD BE RELATIVELY UNIFORM IN SIZE AND SHAPE (APPROXIMATELY RECTANGULAR) BUT ARE NOT TO HAVE SAW-CUT EDGES

NEW FINISHED GRADE OF MULCH (LARGE CONTINUOUS AREA OF MULCH AS SHOWN ON LAYOUT PLANS)

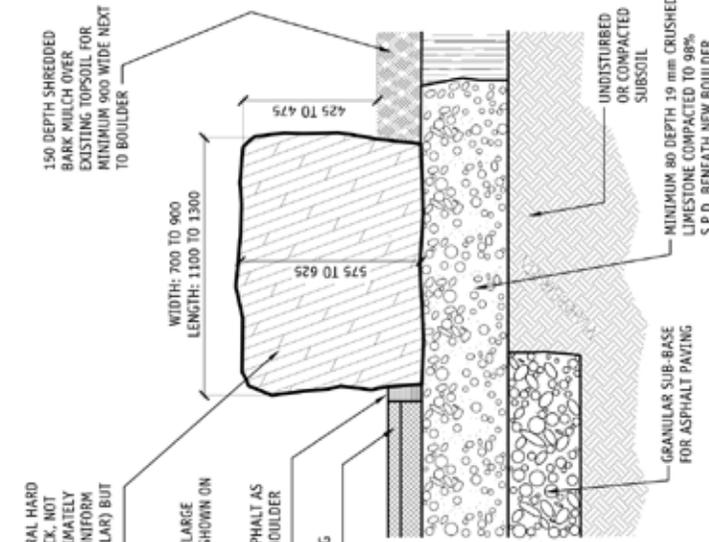
FOR EXISTING ASPHALT-PATCH ASPHALT AS REQUIRED TO FILL GAP BETWEEN BOULDER AND EXISTING EDGE OF PAVING

NEW OR EXISTING ASPHALT PAVING AND GRANULAR BASE

150 DEPTH SHREDDED BARK MULCH OVER EXISTING TOPSOIL

EXISTING TOPSOIL

UNDISTURBED OR COMPACTED SUBSOIL



BOULDERS ADJACENT ASPHALT PAVING

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF MULCH AND TOPSOIL ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF GRANULAR BASES IS COMPACTED DEPTH.
3. ALL BOULDERS TO BE SIZES AS INDICATED ABOVE.
4. INSTALL ALL BOULDERS WITH MINIMUM ONE-FIFTH BELOW FINISHED GRADE OF SURROUNDING MULCH AS SHOWN.
5. ENSURE THAT ALL BOULDERS ARE STABLE AND FREE FROM ALL MOVEMENT AFTER INSTALLATION IS COMPLETE.
6. PRIOR TO PROJECT COMPLETION ENSURE THAT ALL SHARP CORNERS AND EDGES ON EXPOSED SIDES OF STONES ARE ELIMINATED (ROUNDED) TO LEVEL.
7. GAPS BETWEEN BOULDERS ARE TO BE MINIMIZED TO REDUCE DANGER OF ENTANGLEMENT AND ENTRAPMENT. TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE. GAPS ARE EITHER TO BE LESS THAN 50mm OR GREATER THAN 2000 mm.
8. ENSURE MINIMUM 2000 DISTANCE BETWEEN ALL BOULDERS AND TREE TRUNKS AND/OR TREE CAGES.
9. ENSURE THAT ALL BOULDERS ARE INSTALLED WITH SEATING SURFACE LEVEL.
10. INSTALLATION OF BOULDERS TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

SECTION

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SCHOOL GROUND STANDARD CONSTRUCTION DETAILS



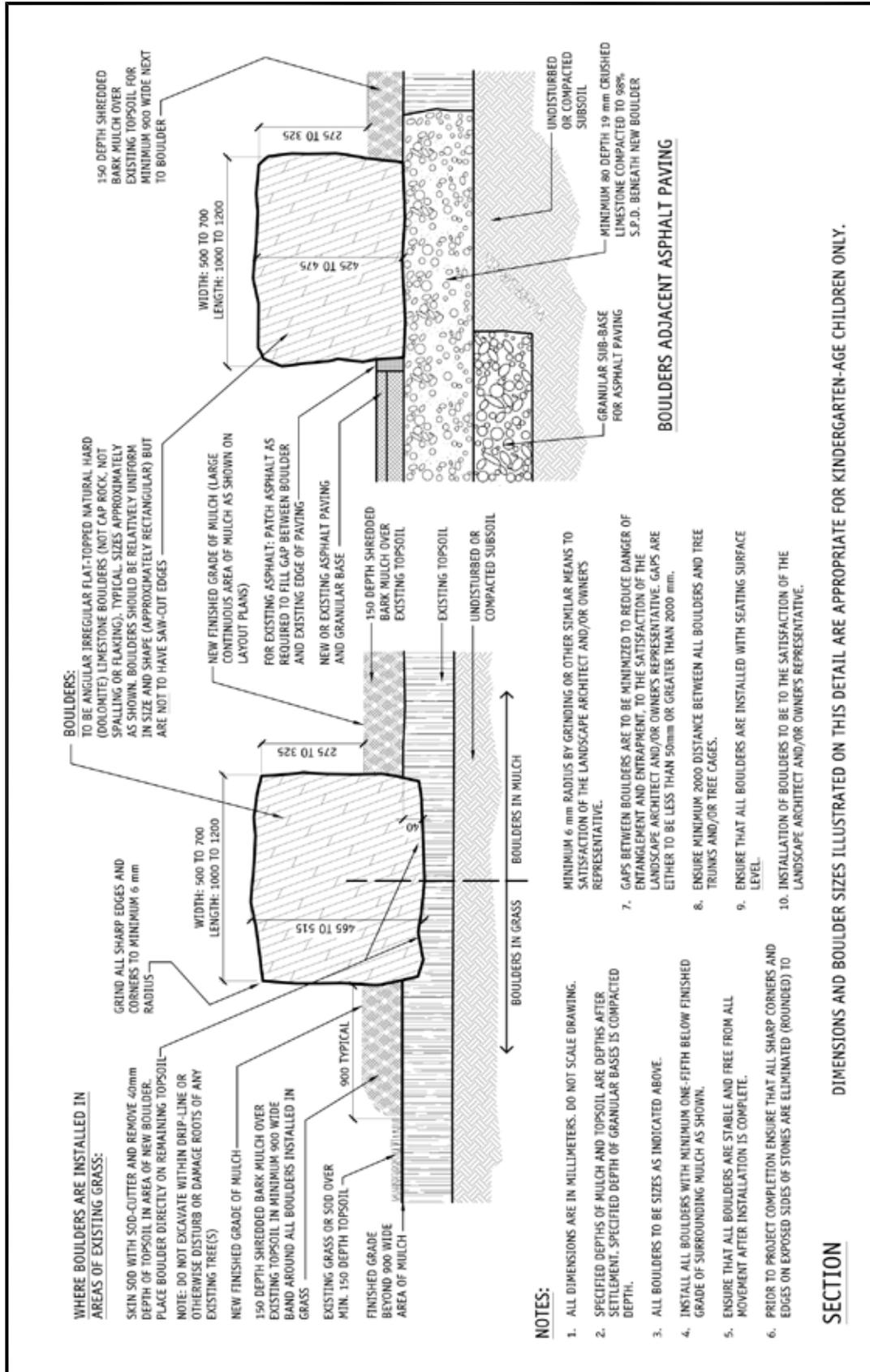
	Metric	Imperial	Metric	Imperial
1.5	15	3/16"	5.18	21/32"
2	20	1/8"	6.35	1/4"
3	30	1/4"	7.62	3/8"
4	40	1/2"	10.16	1/2"
5	50	3/4"	12.70	1/2"
6	60	1 1/8"	15.24	3/4"
7	70	1 1/4"	17.78	7/8"
8	80	1 1/2"	20.32	1"
9	90	1 3/4"	22.86	1 1/8"
10	100	2"	25.40	1 1/4"
15	150	3"	38.10	1 1/2"
20	200	4"	50.80	2"
25	250	5"	63.50	2 1/2"
30	300	6"	76.20	3"
35	350	7"	88.90	3 1/2"
40	400	8"	101.60	4"
45	450	9"	114.30	4 1/2"
50	500	10"	127.00	5"
55	550	11"	140.00	5 1/2"
60	600	12"	152.40	6"
65	650	13"	165.10	6 1/2"
70	700	14"	177.80	7"
75	750	15"	190.50	7 1/2"
80	800	16"	203.20	8"
85	850	17"	216.00	8 1/2"
90	900	18"	228.60	9"
95	950	19"	241.30	9 1/2"
100	1000	20"	254.00	10"

DETAIL #

2.01

SEATING
- SINGLE BOULDERS - STANDARD

NOT TO SCALE



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 EVERGREEN	 northwood	 WINNIPEG SCHOOL DIVISION	<table border="1"> <thead> <tr> <th>Metric</th> <th>Imperial</th> <th>Metric</th> <th>Imperial</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>3/4"</td> <td>465</td> <td>18 5/16"</td> </tr> <tr> <td>19</td> <td>3/4"</td> <td>475</td> <td>18 11/16"</td> </tr> <tr> <td>50</td> <td>1 9/16"</td> <td>515</td> <td>20 1/16"</td> </tr> <tr> <td>80</td> <td>3 1/8"</td> <td>700</td> <td>27 3/4"</td> </tr> <tr> <td>150</td> <td>6 15/16"</td> <td>900</td> <td>35 7/16"</td> </tr> <tr> <td>275</td> <td>10 13/16"</td> <td>1000</td> <td>39 3/8"</td> </tr> <tr> <td>325</td> <td>12 13/16"</td> <td>1200</td> <td>47 3/4"</td> </tr> <tr> <td>425</td> <td>16 3/4"</td> <td>2000</td> <td>78 3/4"</td> </tr> </tbody> </table>	Metric	Imperial	Metric	Imperial	6	3/4"	465	18 5/16"	19	3/4"	475	18 11/16"	50	1 9/16"	515	20 1/16"	80	3 1/8"	700	27 3/4"	150	6 15/16"	900	35 7/16"	275	10 13/16"	1000	39 3/8"	325	12 13/16"	1200	47 3/4"	425	16 3/4"	2000	78 3/4"	SCHOOL GROUND STANDARD CONSTRUCTION DETAILS	SEATING - SINGLE BOULDERS - KINDERGARTEN	DETAIL # 2.02 NOT TO SCALE
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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF MULCH AND TOPSOIL ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF GRANULAR BASES IS COMPACTED DEPTH.
3. ENSURE THAT ANY SHARP CORNERS AND EDGES ON EXPOSED SIDES OF 'STONES' ARE ELIMINATED (ROUND) TO MINIMUM 6 mm RADIUS BY GRINDING OR OTHER SIMILAR MEANS TO SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.
4. GAPS BETWEEN BOULDERS ARE TO BE MINIMIZED TO REDUCE DANGER OF ENTANGLEMENT AND ENTRAPMENT. TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE. GAPS GREATER THAN 50mm WILL NOT BE ACCEPTED. FILL GAPS BETWEEN BOULDERS WITH LIMESTONE SCREENINGS MIXED WITH 30 LBS OF STABILIZER PER TON OF SCREENINGS. STABILIZER TO BE NATURAL, PLANT-BASED ORGANIC BINDER. ALTERNATIVELY, FILL LARGE GAPS

BOULDERS:

TO BE ANGULAR, IRREGULAR FLAT-TOPPED NATURAL HARD (DOLOMITE) LIMESTONE BOULDERS (NOT CAP ROCK, NOT SPALLING OR FLAKING). TYPICAL BOULDERS SHOULD BE RELATIVELY UNIFORM IN SIZE AND SHAPE (APPROXIMATELY RECTANGULAR 1100 TO 1300 LONG) BUT ARE NOT TO HAVE SAW-CUT EDGES. INSTALL WITH MINIMUM 150 BELOW GRADE AS SHOWN

GRIND ALL SHARP EDGES AND CORNERS TO MINIMUM 6 mm RADIUS

150 DEPTH SHREDDED BARK MULCH

EXISTING TOPSOIL OVER SUBSOIL

MINIMUM 250 mm DEPTH 19mm CRUSHED LIMESTONE COMPACTED TO 100% S.P.D. BENEATH ALL BOULDERS AS SHOWN

SUBBASE COMPACTED TO 98% S.P.D. TYPICAL

EXISTING SUBSOIL/TOPSOIL

150 DEPTH SHREDDED BARK MULCH

700 TO 900

575 TO 625

425 TO 475

POINT 'A' AND POINT 'B' ARE TO BE AT THE SAME ELEVATION

150 SHREDDED BARK MULCH

250 TYP.

CONTINUOUS CLASS 1 (LIGHT DUTY) NON-WOVEN FOS 300 GEOTEXTILE SOIL FILTER

REMOVE ALL EXISTING GRAVEL, DEBRIS AND OTHER DELETERIOUS MATERIAL PRIOR TO INSTALLATION OF MULCH. TYPICAL

BOULDERS:

SAME AS PER NOTE AT LEFT. NOTE SIZE DIFFERENCES

700 TO 900

425 TO 475

575 TO 625

VARIES - 750 MIN.

150 MIN.

250 TYP.

CONTINUOUS SOIL FILTER, AS AT LEFT

MIN. 250 DEPTH 19mm DIA. CLEAR CRUSHED STONE

COMPACTED NATIVE SUBSOIL BACKFILL MATERIAL (100% S.P.D.)

MINIMUM 300 DEPTH 19mm CRUSHED LIMESTONE COMPACTED TO 100% S.P.D. BENEATH BOTTOM COURSE OF TIERED SEAT WALL

SECTION

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SCHOOL GROUND STANDARD CONSTRUCTION DETAILS



Metric	Imperial	Metric	Imperial
6	1/4"	425	16 3/4"
19	3/4"	475	18 11/16"
50	2"	575	22 5/8"
100	3 15/16"	625	24 5/8"
150	5 15/16"	700	27 9/16"
250	9 13/16"	750	29 1/2"
300	11 13/16"		

SEATING - TIERED - STANDARD

DETAIL #

2.03

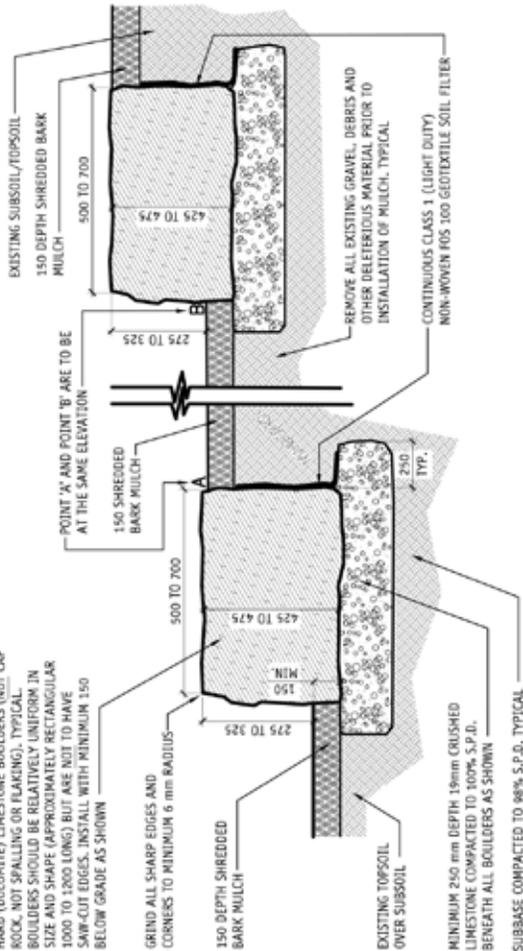
NOT TO SCALE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF MULCH AND TOPSOIL ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF GRANULAR BASES IS COMPACTED DEPTH.
3. ENSURE THAT ANY SHARP CORNERS AND EDGES ON EXPOSED SIDES OF STONES ARE ELIMINATED (ROUNDED) TO MINIMUM 6 mm RADIUS BY GRINDING OR OTHER SIMILAR MEANS TO SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE.
4. GAPS BETWEEN BOULDERS ARE TO BE MINIMIZED TO REDUCE DANGER OF ENTANGLEMENT AND ENTRAPMENT. TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE, GAPS GREATER THAN 50mm WILL NOT BE ACCEPTED. FILL GAPS BETWEEN BOULDERS WITH LIMESTONE SCREENINGS MIXED WITH 10 LBS OF 'STABILIZER' PER TON OF SCREENINGS. 'STABILIZER' TO BE NATURAL, PLANT-BASED ORGANIC BINDER. ALTERNATIVELY, FILL LARGE GAPS

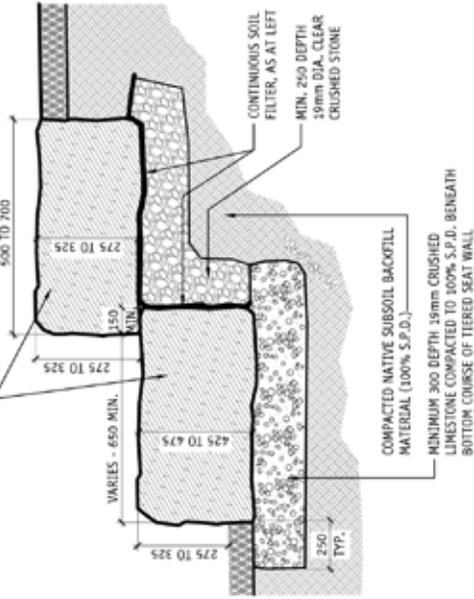
BOULDERS:

TO BE ANGULAR IRREGULAR FLAT-TOPPED NATURAL HARD (DILOMITE) LIMESTONE BOULDERS (NOT CAP ROCK, NOT SPALLING OR FLAKING). TYPICAL BOULDERS SHOULD BE RELATIVELY UNIFORM IN SIZE AND SHAPE (APPROXIMATELY RECTANGULAR 1000 TO 1200 LONG) BUT ARE NOT TO HAVE SAW-CUT EDGES. INSTALL WITH MINIMUM 150 BELOW GRADE AS SHOWN



BOULDERS:

SAME AS PER NOTE AT LEFT. NOTE SIZE DIFFERENCES



SECTION

DIMENSIONS AND BOULDER SIZES ILLUSTRATED ON THIS DETAIL ARE APPROPRIATE FOR KINDERGARTEN-AGE CHILDREN ONLY.

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SCHOOL GROUND STANDARD CONSTRUCTION DETAILS



	Metric	Imperial	Metric	Imperial	Metric	Imperial
6	1/4"	325	12 13/16"	700	27 9/16"	700
19	3/4"	425	16 3/4"	1000	39 3/8"	1000
50	2"	475	18 11/16"	1200	47 1/4"	1200
100	3 15/16"	500	19 11/16"	2000	78 3/4"	2000
150	5 15/16"	650	25 9/16"			
250	9 13/16"	275	10 13/16"			
300	11 13/16"					

SEATING - TIERED - KINDERGARTEN

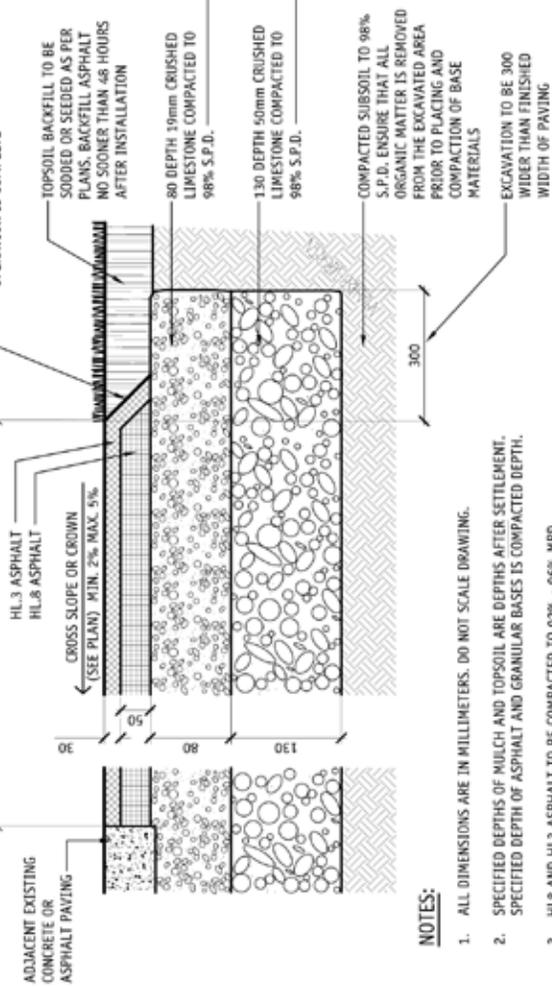
DETAIL # 2.04 NOT TO SCALE

RUMBLE STRIPS:

INCORPORATE 'RUMBLE' STRIPS INTO PAVING (WHERE INDICATED ON PROJECT DRAWINGS) DURING ASPHALT INSTALLATION AS FOLLOWS:

1. AFTER ROLLING OF PAVING AND WHILE ASPHALT IS STILL HOT, LAY OUT CHAIN LINK FENCE TOP RAIL (65 mm Ø SCHEDULE 40, LENGTHS AS REQUIRED) ON SURFACE OF ASPHALT AT 150 D.C. AND POUND INTO HOT ASPHALT TO APPROXIMATELY 25 mm DEPTH.
2. REMOVE RAILS AND ALLOW ASPHALT TO COMPLETELY COOL AND CURE PRIOR TO USE.

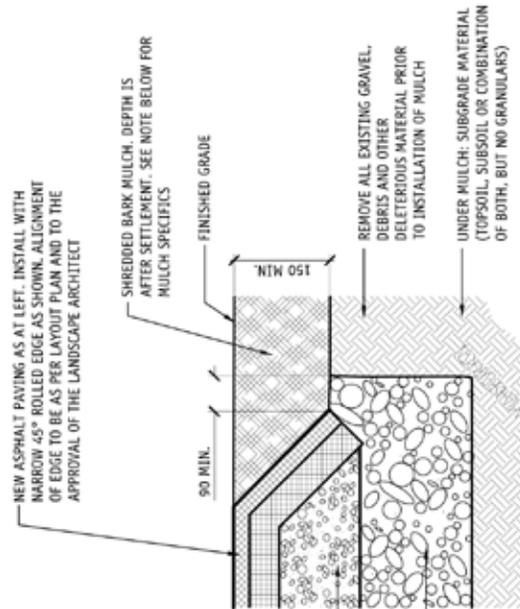
REFER TO DRAWINGS FOR WIDTH OF PAVING



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF MULCH AND TOPSOIL ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF ASPHALT AND GRANULAR BASES IS COMPACTED DEPTH.
3. HLB AND HLB ASPHALT TO BE COMPACTED TO 92% - 96% MRD.
4. ENSURE THAT THERE IS A SMOOTH TRANSITION BETWEEN HARD AND SOFT SURFACES (ASPHALT TO SOIL AND ASPHALT TO MJP¹).
5. EXISTING GRANULAR BASES ON SITE MAY BE REUSED FOR PAVING INSTALLATIONS, PROVIDED THEY ARE INSTALLED AS PER DETAIL(S).
6. ASPHALT PAVING AND EDGING TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

SECTION



ASPHALT/MULCH INTERFACE

NOTE: THIS DETAIL IS NOT TO BE USED FOR ASPHALT/PLAYGROUND PROTECTIVE SURFACING INTERFACE

SHREDDED BARK MULCH:

SHREDDED BARK MULCH SHALL BE SHREDDED AND FIBROUS AND NOT CONTAIN CHIPS OF WOOD OR BARK.

SHREDDED BARK MULCH - THE MATERIAL (BARK) PEELLED OFF OF HARDWOOD AT A SAWMILL. SHREDDED BARK MULCH TO BE COMPOSED OF 90% BARK AND 10% WOOD AND SHALL NOT CONTAIN CHIPS OF WOOD OR BARK.

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SCHOOL GROUND STANDARD CONSTRUCTION DETAILS



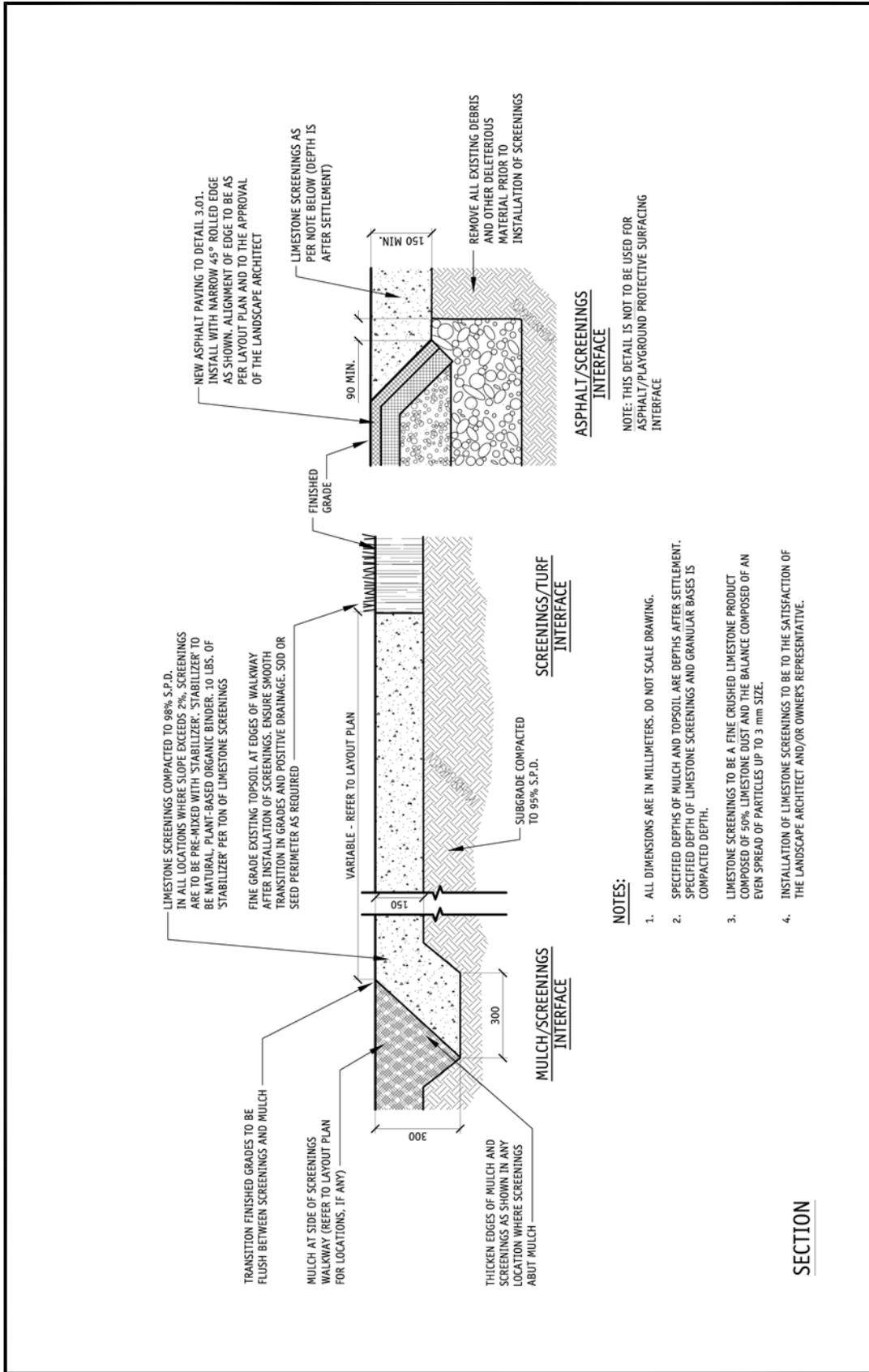
	Metric	Imperial	Metric	Imperial
	19	3/4"	80	3 1/8"
	25	1"	90	3 9/16"
	30	1 3/16"	130	5 1/8"
	45	1 3/4"	150	5 15/16"
	50	2"	300	11 13/16"

ASPHALT PAVING - MEDIUM DUTY

DETAIL #

3.01

NOT TO SCALE



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SCHOOL GROUND STANDARD CONSTRUCTION DETAILS	 EVERGREEN	 northwood	 WINNIPEG SCHOOL DIVISION	<table border="1"> <thead> <tr> <th>Metric</th> <th>Imperial</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>1/8"</td> </tr> <tr> <td>90</td> <td>3 9/16"</td> </tr> <tr> <td>150</td> <td>5 15/16"</td> </tr> <tr> <td>300</td> <td>11 13/16"</td> </tr> </tbody> </table>	Metric	Imperial	3	1/8"	90	3 9/16"	150	5 15/16"	300	11 13/16"	LIMESTONE SCREENINGS - WALKWAY	DETAIL # 3.02
				Metric	Imperial											
3	1/8"															
90	3 9/16"															
150	5 15/16"															
300	11 13/16"															
				NOT TO SCALE												

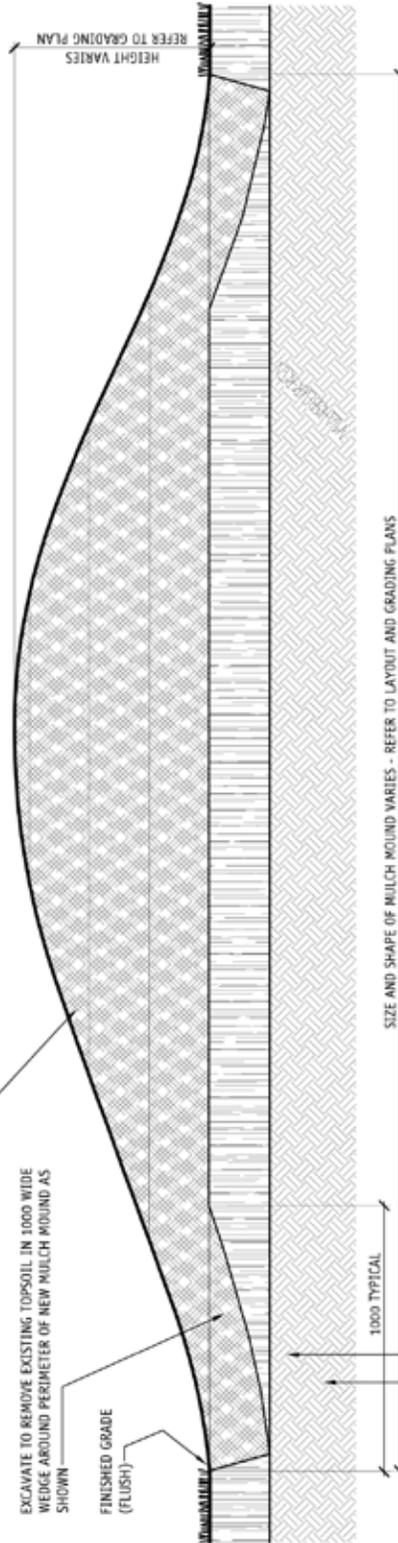
SHREDDED BARK MULCH:

SHREDDED BARK MULCH SHALL BE SHREDDED AND FIBROUS AND NOT CONTAIN CHIPS OF WOOD OR BARK.
 SHREDDED BARK MULCH - THE MATERIAL (BARK) PEELLED OFF OF HARDWOOD AT A SAWMILL. SHREDDED BARK MULCH TO BE COMPRISED OF 90% BARK AND 10% WOOD AND SHALL NOT CONTAIN CHIPS OF WOOD OR BARK.

INSTALL SHREDDED BARK MULCH IN 100 DEPTH LIFTS, PASS VIBRA-PLATE ROLLER OVER EACH LIFT TO COMPACT AND MIX MULCH FIBRES PRIOR TO INSTALLATION OF NEXT LIFT. ALTERNATELY (WITH APPROVAL OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE) RIN TRACTOR OR SKID LOADER IN TWO DIRECTIONS ACROSS EACH LIFT AS IT IS BEING INSTALLED

EXCAVATE TO REMOVE EXISTING TOPSOIL IN 1000 WIDE WEDGE AROUND PERIMETER OF NEW MULCH MOUND AS SHOWN

FINISHED GRADE (FLUSH)



SIZE AND SHAPE OF MULCH MOUND VARIES - REFER TO LAYOUT AND GRADING PLANS

SECTION

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF MULCH IS DEPTH AFTER COMPACTION AND SETTLEMENT.
3. ENSURE THAT THERE IS A SMOOTH TRANSITION BETWEEN MULCH MOUND AND ADJACENT SURFACES (TURF OR ASPHALT), WHERE MULCH MOUND IS ADJACENT ASPHALT PAVING INSTALL ROLLED ASPHALT EDGING AS PER DETAIL 3.01 (ASPHALT/MULCH INTERFACE).
4. MULCH MOUND TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

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SCHOOL GROUND
 STANDARD
 CONSTRUCTION
 DETAILS



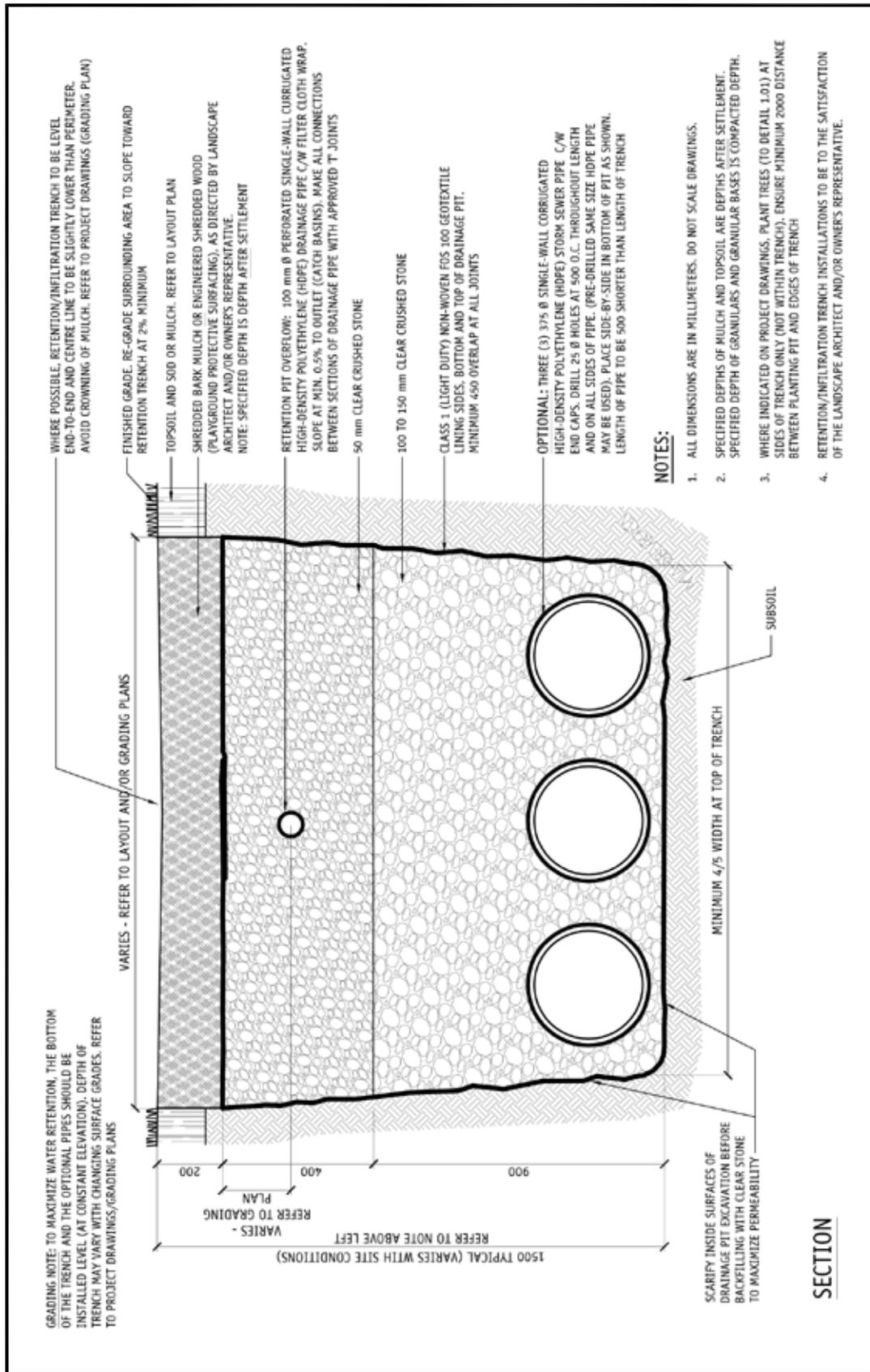
Metric	Imperial
100	3 15/16"
1000	39 3/8"

MULCH MOUND

DETAIL #

3.04

NOT TO SCALE



SECTION

DETAIL #
3.11
NOT TO SCALE

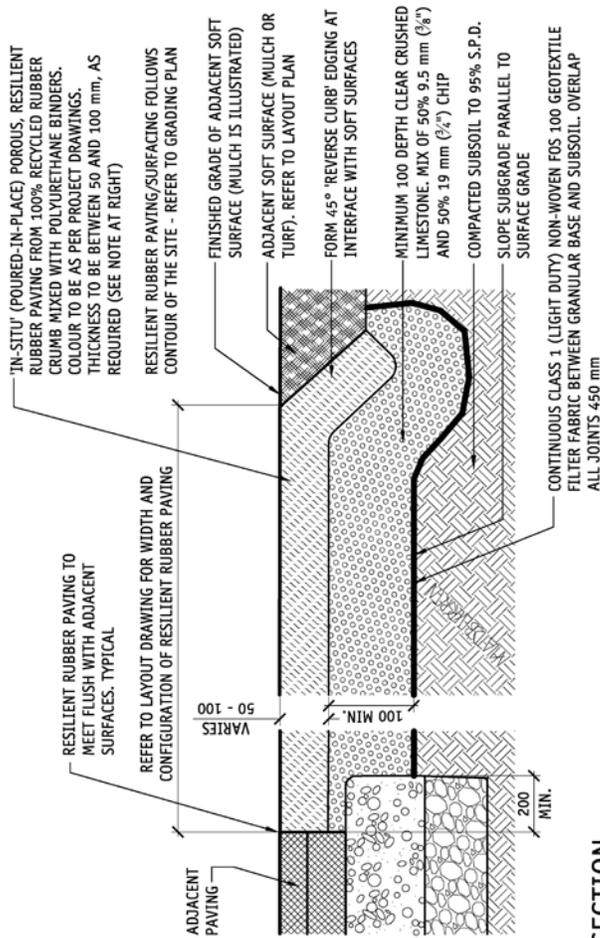
RETENTION INFILTRATION TRENCH
- MULCH SURFACE

Metric	Imperial	Metric	Imperial
25	1"	450	17 3/4"
50	2"	500	19 11/16"
100	3 15/16"	900	35 7/16"
200	7 7/8"	1500	59 1/16"
375	14 3/4"	2000	78 3/4"
400	15 3/4"		



SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS

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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. RESILIENT RUBBER PAVING TO BE MINIMUM 50 mm THICK WHERE INSTALLED AS A PATH OR WALKWAY SURFACE.
3. WHERE RESILIENT RUBBER PAVING FUNCTIONS AS PROTECTIVE SURFACING SURROUNDING PLAY COMPONENTS OR EQUIPMENT, THE DEPTH OF RESILIENT RUBBER PAVING IS TO BE AS REQUIRED TO MEET PERFORMANCE CRITERIA OF LESS THAN 200 GMAX AND 1000 HIC WHEN TESTED ACCORDING TO ASTM F1292 AND CEN EN 1177 AT 10 TO 25 DAYS FOR THE DEFINED CRITICAL FALL HEIGHT(S) OF THE SPECIFIED PLAY EQUIPMENT (AS STIPULATED IN CAN/CSA-Z614-14).
4. WHERE NEW RUBBER PAVING MEETS SAW-CUT EDGE OF EXISTING RUBBER SURFACING, APPLY SF138(22) BINDER TO SAW-CUT EDGE OF EXISTING RUBBER PRIOR TO INSTALLATION OF NEW IN-SITU RUBBER PAVING
5. ENSURE THAT THERE IS A SMOOTH TRANSITION BETWEEN ALL SURFACES (RESILIENT RUBBER TO SOD AND RESILIENT RUBBER PAVING TO MULCH, ETC.).
6. EXISTING GRANULAR BASES ON SITE MAY BE REUSED AS NEW GRANULAR BASE FOR NEW INSTALLATIONS THAT REQUIRE A GRANULAR BASE, PROVIDED THAT MATERIAL IS CLEAN AND THAT NEW BASE IS INSTALLED AS PER DETAILS(S).
7. ALL ASPECTS OF RESILIENT RUBBER PAVING ARE TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR SCHOOL DIVISION REPRESENTATIVE.

SECTION

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SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS



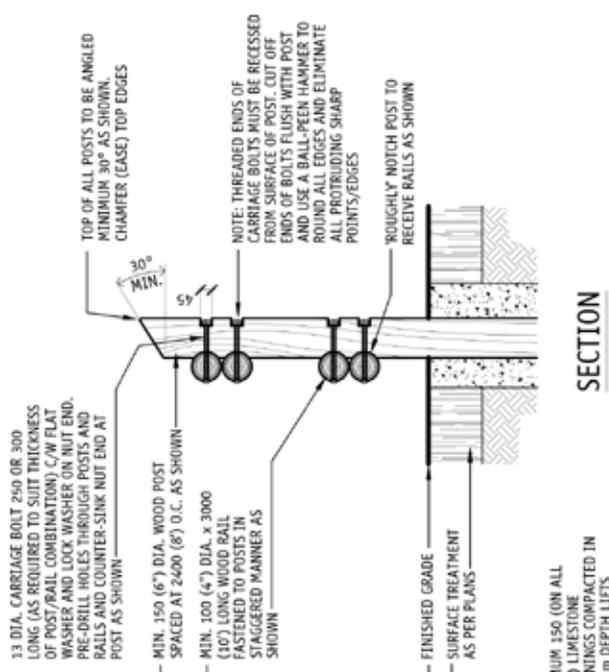
Metric	Imperial
9.5	3/8"
19	3/4"
50	2"
100	3.15/16"
200	7.7/8"
450	17.3/4"

RESILIENT RUBBER PAVING

3.21

DETAIL #

NOT TO SCALE



SECTION

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWINGS.
2. SPECIFIED DEPTHS OF TOPSOIL IS DEPTH AFTER SETTLEMENT. SPECIFIED DEPTH OF SCREENINGS AND GRANULAR BASES IS COMPACTED DEPTH.
3. ALL RAILS TO BE INSTALLED LEVEL. STEP FENCE AT POSTS, AS REQUIRED TO SUIT NEW FINISHED GRADES.
4. ALL WOOD TO BE ROUND POSTS AND RAILS. BARK REMOVED AND SKINNED/TURNED TO REMOVE IRREGULARITIES SUCH AS BRANCH STUBS), FREE FROM WARPS, CHECKS AND CRACKS.
5. ALL BOLTS, NAILS AND OTHER FASTENERS TO BE GALVANIZED.
6. WOOD RAIL FENCE INSTALLATIONS TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

SECTIONAL ELEVATION

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SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS



Metric	Imperial	Metric	Imperial
13	1/2"	340	13 3/8"
150	5 15/16"	1070	42 1/8"
250	9 13/16"	1200	47 1/4"
300	11 13/16"	1350	53 1/8"
		2550	100 3/8"

WOOD RAIL FENCE

DETAIL #
4.01

NOT TO SCALE

ENSURE THAT TOP OF FENCE COMPLETES WITH CAN/CSA-2614 LATEST EDITION IN ALL RESPECTS, INCLUDING BUT NOT LIMITED TO: INVERTED ANGLES, PARTIALLY BOUNDED OPENINGS (HEAD AND NECK ENTANGLEMENT) AND ANY ENTANGLEMENT HAZARDS

BEVEL TOP EDGES TO 10 mm RADIUS AND SAND SMOOTH

SPIKE POSTS TOGETHER WITH 300 LONG HOT-DIPPED GALVANIZED ARDUX/SPIRAL SPIKES INSTALLED ON AN ANGLE THROUGH EACH POST AND INTO THE ADJACENT POST. START IN MIDDLE AND WORK TO ENDS OF FENCE. COUNTER-SINK SPIKES ON END POST(S)

TREAT BELOW-GRADE PORTION OF ALL POSTS WITH TWO COATS APPROVED CLEAR AND PENETRATING WOOD PRESERVATIVE PRIOR TO INSTALLATION

LENGTH AS PER PLANS

ALIGNMENT OF FENCE MAY BE CURVED AND/OR POSTS OFFSET WHERE INDICATED

30° MIN.

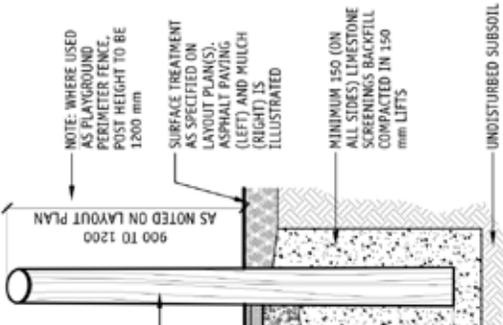
TOP OF ALL POSTS TO BE ANGLED MINIMUM 30° AS SHOWN

ROUND WOOD POSTS (PEELED) 200± DIA. PLACED VERTICALLY AND TIGHTLY BUTTED TOGETHER IN LAYOUT CONFIGURATION AS SHOWN ON PROJECT PLANS. ALTERNATE TAPERS 'ONE UP, ONE DOWN' TO ASSIST IN ACHIEVING TIGHT JOINTS. POSTS TO BE LIGHTLY SANGUED WITH BELT SANDER PRIOR TO INSTALLATION. ENSURE ALL POSTS ARE FREE OF SPLINTERS, STABLE AND FREE OF MOVEMENT AFTER INSTALLATION

FINISHED GRADE

1200 MIN.

1070 MIN.



SECTIONAL ELEVATION

SECTION

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWINGS.
2. SPECIFIED DEPTHS OF MULCH AND TOPSOIL IS DEPTH AFTER SETTLEMENT. SPECIFIED DEPTH OF SCREENINGS AND GRANULAR BASES IS COMPACTED DEPTH.
3. ALL POSTS TO BE INSTALLED VERTICAL. STEP TOP OF FENCE AS REQUIRED TO SUIT NEW FINISHED GRADES.
4. ALL WOOD TO BE ROUND POSTS. BARK REMOVED AND SKINNED/TURNED TO REMOVE IRREGULARITIES SUCH AS BRANCH STUBS, FREE FROM WARPS, CHECKS AND CRACKS.
5. ALL BOLTS, NAILS AND OTHER FASTENERS TO BE GALVANIZED.
6. PALISADE POST FENCE INSTALLATIONS TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

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SCHOOL GROUND STANDARD CONSTRUCTION DETAILS



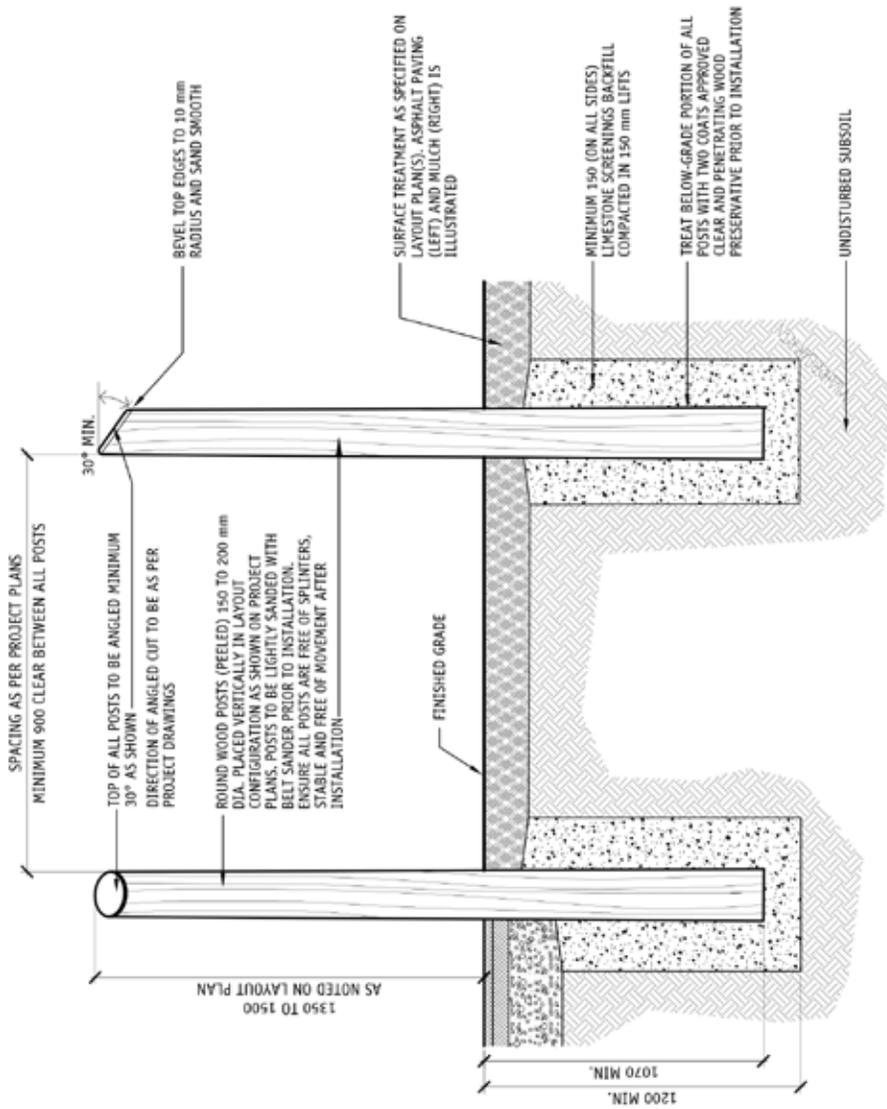
Metric	Imperial	Metric	Imperial
10	3/8"	300	11 13/16"
150	5 15/16"	900	35 7/16"
200	7 7/8"	1070	42 1/8"
		1200	47 1/4"

PALISADE POST FENCE

DETAIL #

4.02

NOT TO SCALE



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWINGS.
2. SPECIFIED DEPTHS OF MULCH IS DEPTH AFTER SETTLEMENT. SPECIFIED DEPTH OF SCREENINGS AND GRANULAR BASES IS COMPACTED DEPTH.
3. ALL POSTS TO BE INSTALLED VERTICAL. VARY HEIGHTS AS INDICATED ON LAYOUT PLAN(S).
4. NUMBER OF POSTS VARIES. REFER TO PROJECT DRAWINGS FOR TOTAL QUANTITY.
5. ALL WOOD TO BE ROUND POSTS, BARK REMOVED AND SKINNED/TURNED TO REMOVE IRREGULARITIES SUCH AS BRANCH STUBS, FREE FROM WARPS, CHECKS AND CRACKS.
6. PLAY POST INSTALLATIONS TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

SECTION

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Metric	Imperial
10	3/8"
150	5 15/16"
200	7 7/8"
900	35 7/16"
1070	42 1/8"
1200	47 1/4"
1350	53 1/8"
1500	59 1/16"



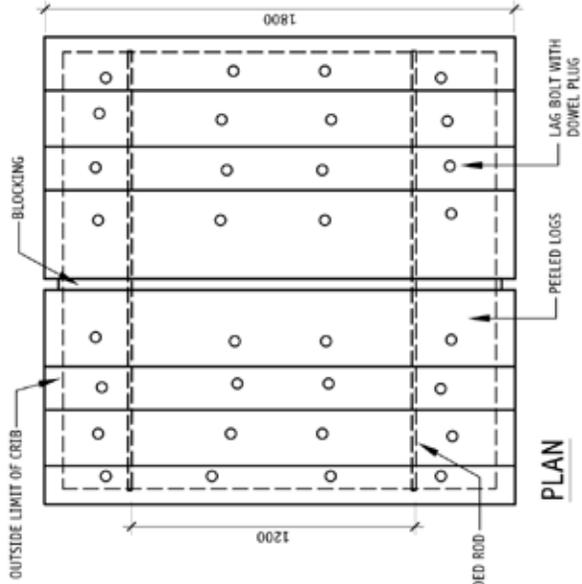
SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS

PLAY POSTS

DETAIL #

5.11

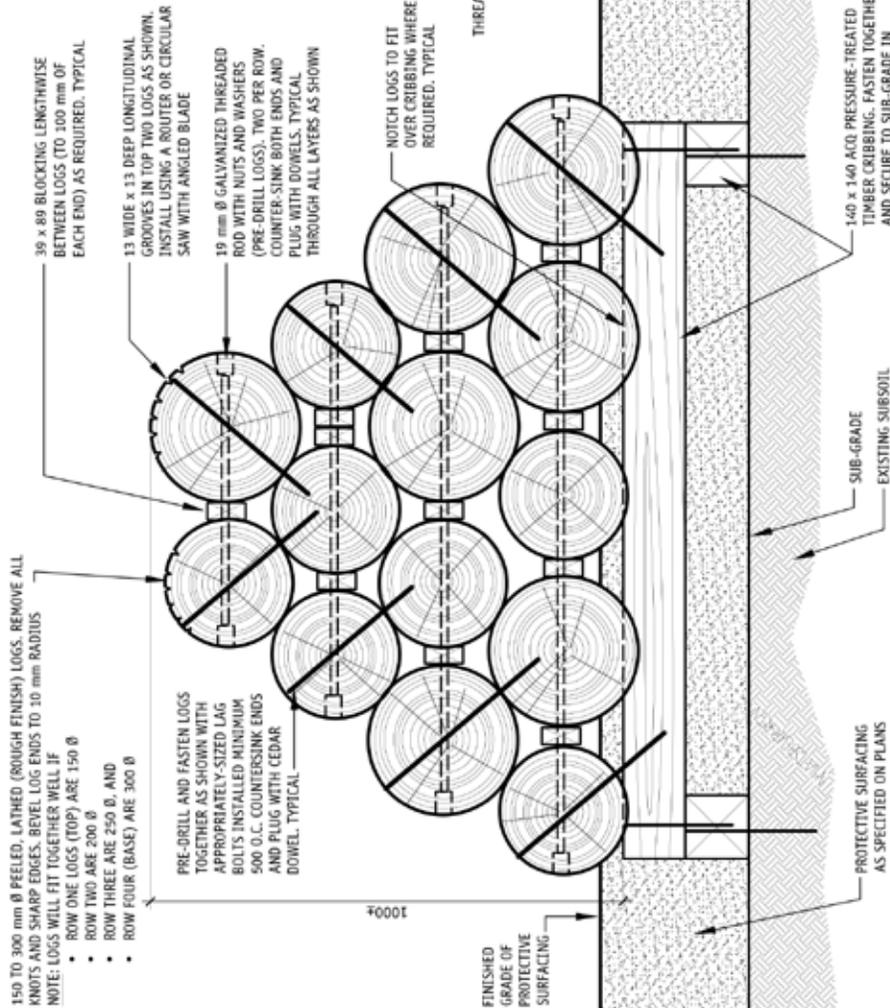
NOT TO SCALE



PLAN

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTH OF SAND IS DEPTH AFTER SETTLEMENT.
3. ALL LOGS TO BE INSTALLED LEVEL END-TO-END.
4. ALL LOGS TO BE PEELED (BARK REMOVED) AND SKINNED/TURNED TO REMOVE IRREGULARITIES SUCH AS BRANCH STUBS. ALL LOGS TO BE FREE FROM WARPS, CHECKS AND CRACKS.
5. ALL TIMBER AND LUMBER IS TO BE A/CQ. PRESSURE-TREATED SPRUCE OR PINE FREE OF WARPS, CHECKS AND CRACKS.
6. ALL FASTENERS TO BE HOT-DIPPED GALVANIZED.
7. LOG PILE INSTALLATION TO COMPLY WITH CAN/CSA-2614, LATEST EDITION.
8. LOG PILE INSTALLATION TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.



SECTION

BASED ON 'LOG PILE CLIMBER' BY KASTER & COMPANY, OTTAWA. USED WITH PERMISSION

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SCHOOL GROUND STANDARD CONSTRUCTION DETAILS

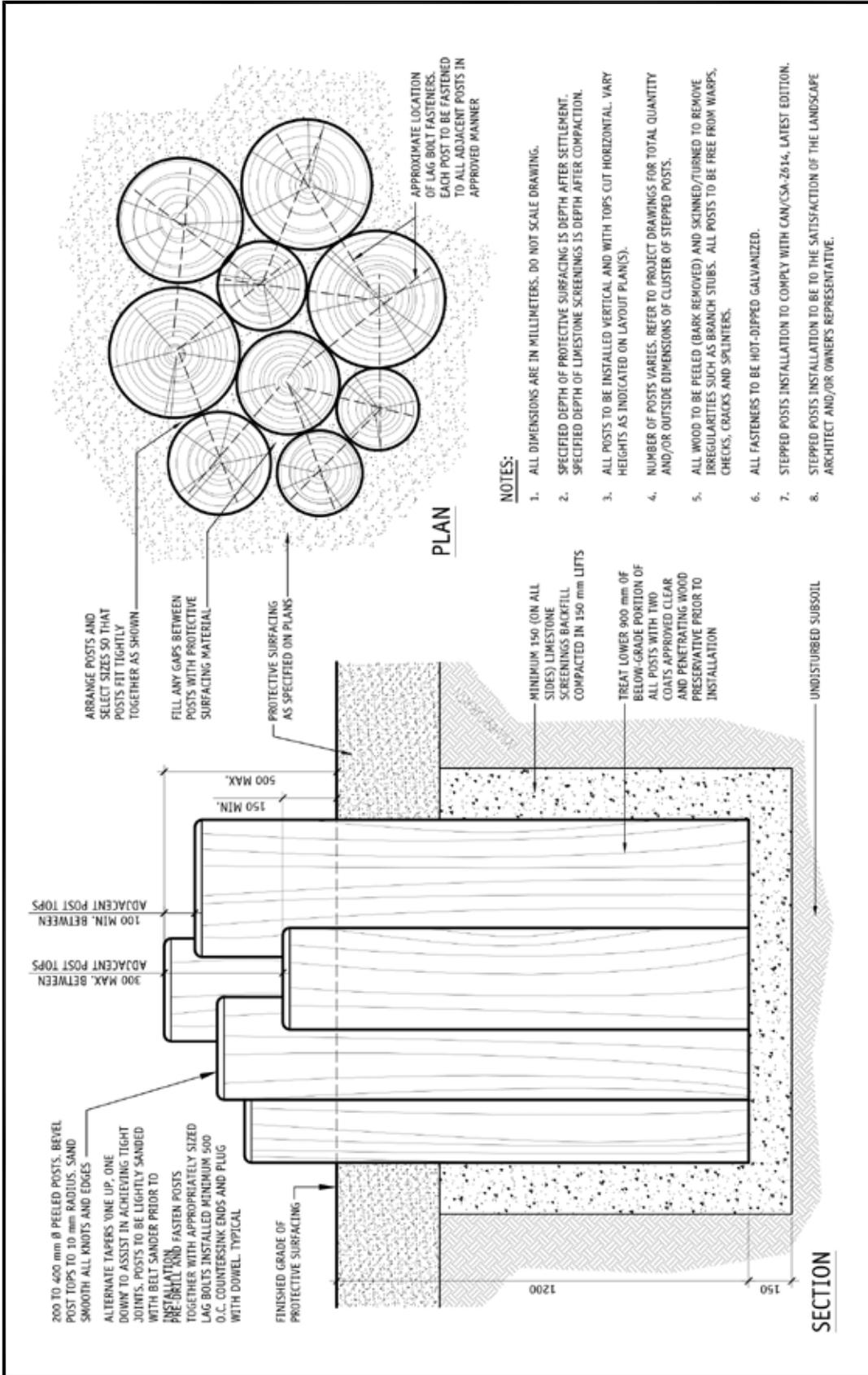
	Metric	Imperial	Metric	Imperial
10	3/8"	100	3 15/16"	300
13	1/2"	140	5 1/2"	500
19	3/4"	150	5 15/16"	1000
39	1 9/16"	200	7 7/8"	1200
89	3 1/2"	250	9 13/16"	1800



LOG PILE CLIMBER

DETAIL # 5.13

NOT TO SCALE



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SCHOOL
STANDARD
CONSTRUCTION
DETAILS



Metric	Imperial
120	3/16"
150	3/16"
300	3/16"
500	7/16"
800	1 1/16"
1200	12"
1500	12"

STEPPED POSTS

5.14

DETAIL #

NOT TO SCALE

ENSURE THAT POSTS, INCLUDING TOPS OF POSTS, COMPLY WITH CAN/CSA-2614 LATEST EDITION IN ALL RESPECTS, INCLUDING BUT NOT LIMITED TO INVERTED ANGLES, PARTIALLY BOUNDED OPENINGS (HEAD AND NECK ENTRAPMENT), AND ANY ENTANGLEMENT HAZARDS

BEVEL TOP EDGES TO 10 mm RADIUS AND SAND SMOOTH

HANDHOLDS AS PER NOTE AT RIGHT

SPIKE POSTS TOGETHER WITH 300 LONG HOT-DIPPED GALVANIZED ARDUX/SPIRAL SPIRES INSTALLED ON AN ANGLE THROUGH EACH POST AND INTO THE ADJACENT POST AS SHOWN. START IN MIDDLE AND WORK TO ENDS OF FENCE. COUNTER-SINK SPIRES ON END POST(S)

PROTECTIVE SURFACING

TREAT BELOW-GRADE PORTION OF ALL POSTS WITH TWO COATS APPROVED CLEAR AND PENETRATING WOOD PRESERVATIVE PRIOR TO INSTALLATION

LENGTH AS PER PLANS ALIGNMENT TO BE CURVED AND EACH POST OFFSET AS INDICATED

30° MIN.

TOP OF ALL POSTS TO BE ANGLED MINIMUM 30° AS SHOWN

ROUND WOOD POSTS (PEELED) 200± DIA. PLACED VERTICALLY AND TIGHTLY BUTTED TOGETHER IN LAYOUT CONFIGURATION AS SHOWN ON PROJECT PLANS. ALTERNATE TAPERS ONE UP, ONE DOWN TO ASSIST IN ACHIEVING TIGHT JOINTS. POSTS TO BE LIGHTLY SANDED WITH BELT SANDER PRIOR TO INSTALLATION. ENSURE ALL POSTS ARE FREE OF SPLINTERS, STABLE AND FREE OF MOVEMENT AFTER INSTALLATION

100 HIGH x 50 DEEP NOTCH CUT INTO POST AS SHOWN. SAND SMOOTH ALL EDGES

FINISHED GRADE

1200 MIN.
1070 MIN.

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWINGS.
2. SPECIFIED DEPTHS OF MULCH AND TOPSOIL IS DEPTH AFTER SETTLEMENT. SPECIFIED DEPTH OF SCREENINGS AND GRANULAR BASES IS COMPACTED DEPTH.
3. ALL POSTS TO BE INSTALLED VERTICAL. VARY HEIGHTS OF POSTS AS INDICATED ON LAYOUT PLANS(S).
4. ALL WOOD TO BE ROUND POSTS. BARK REMOVE AND SKINNED/TURNED TO REMOVE IRREGULARITIES SUCH AS BRANCH STUBS, FREE FROM WARPS, CHECKS AND CRACKS.
5. ALL BOLTS, NAILS AND OTHER FASTENERS TO BE GALVANIZED.
6. PALISADE POSTS WITH NOTCHES AND HANDHOLDS TO BE INSTALLED TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.
7. FINAL INSTALLATION TO BE INSPECTED BY A CANADIAN CERTIFIED PLAYGROUND INSPECTOR AND REGISTERED PLAYGROUND PRACTITIONER FOR FULL COMPLIANCE WITH CAN/CSA-2614 LATEST EDITION.

APPROVED STANDARD HAND-HOLDS INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. ENSURE THAT HANDHOLDS ARE INSTALLED SO THAT STANDING SURFACES ARE NOT CREATED ON TOP SIDE OF HANDHOLD

AS NOTED ON LAYOUT PLAN
1200 TO 1500

VARIES - 850 TO 1050

200 TO 300

VARIES

PROTECTIVE SURFACING AS SPECIFIED ON LAYOUT PLANS(S)

MINIMUM 150 (ON ALL SIDES) LIMESTONE SCREENINGS BACKFILL COMPACTED IN 150 mm LIFTS

UNDISTURBED SUBSOIL

SECTIONAL ELEVATION

SECTION

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SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS



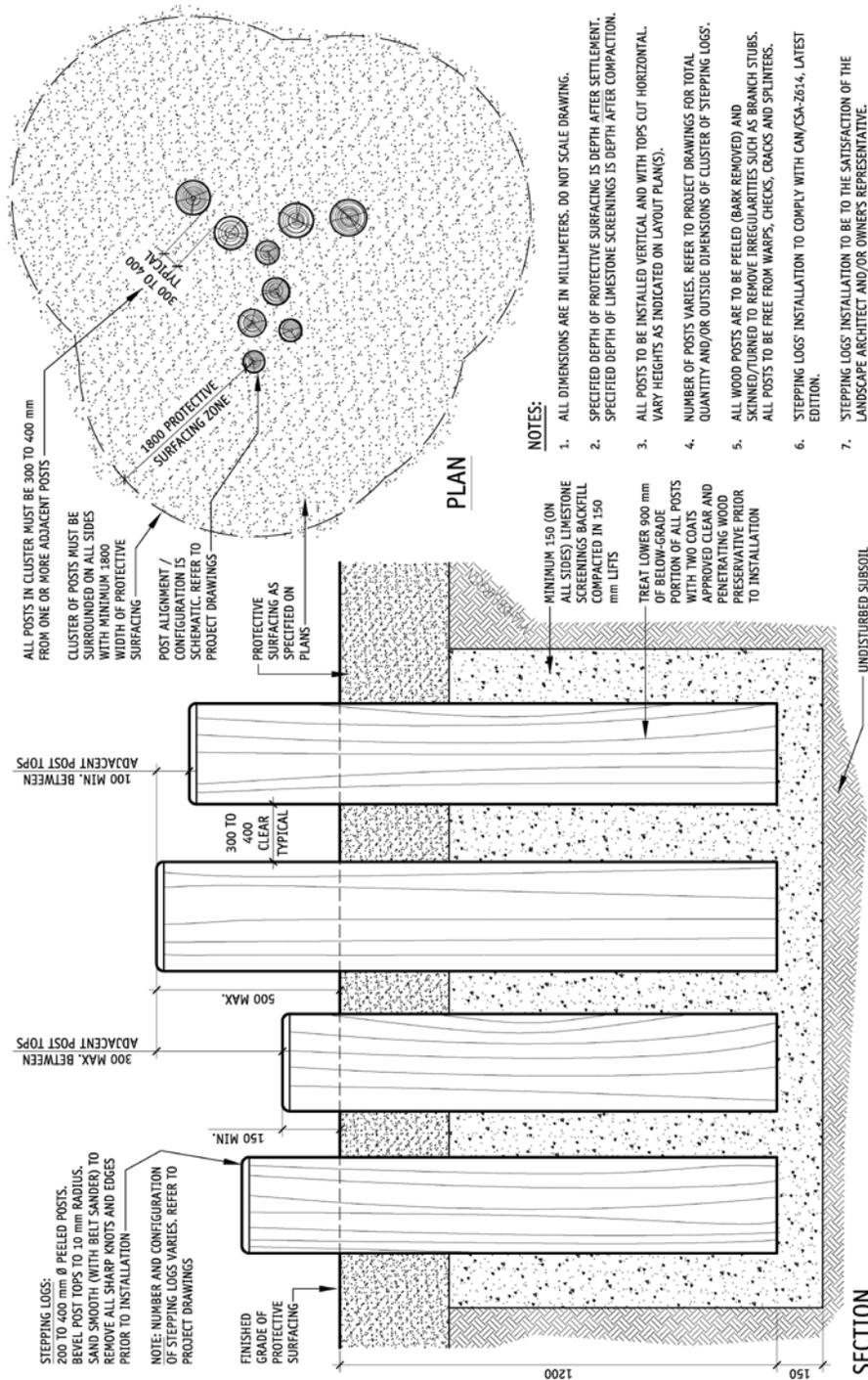
	Metric	Imperial	Metric	Imperial
10	10	3/8"	300	11 13/16"
50	50	2"	850	33 7/16"
100	100	3 15/16"	1050	41 5/16"
150	150	5 15/16"	1070	42 1/8"
200	200	7 7/8"	1200	47 1/4"
			1500	59 1/16"

**PALISADE POSTS
- WITH NOTCHES AND HANDHOLDS**

DETAIL #

5.15

NOT TO SCALE



ALL POSTS IN CLUSTER MUST BE 300 TO 400 mm FROM ONE OR MORE ADJACENT POSTS

CLUSTER OF POSTS MUST BE SURROUNDED ON ALL SIDES WITH MINIMUM 1800 mm WIDTH OF PROTECTIVE SURFACING

POST ALIGNMENT / CONFIGURATION IS SCHEMATIC. REFER TO PROJECT DRAWINGS

PROTECTIVE SURFACING AS SPECIFIED ON PLANS

ADJACENT POST TOPS 100 MIN. BETWEEN

ADJACENT POST TOPS 300 MAX. BETWEEN

300 TO 400 CLEAR TYPICAL

500 MAX.

150 MIN.

FINISHED GRADE OF PROTECTIVE SURFACING

1200

150

UNDISTURBED SUBSOIL

PLAN

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTH OF PROTECTIVE SURFACING IS DEPTH AFTER SETTLEMENT. SPECIFIED DEPTH OF LIMESTONE SCREENINGS IS DEPTH AFTER COMPACTION.
3. ALL POSTS TO BE INSTALLED VERTICAL AND WITH TOPS CUT HORIZONTAL. VARY HEIGHTS AS INDICATED ON LAYOUT PLAN(S).
4. NUMBER OF POSTS VARIES. REFER TO PROJECT DRAWINGS FOR TOTAL QUANTITY AND/OR OUTSIDE DIMENSIONS OF CLUSTER OF STEPPING LOGS.
5. ALL WOOD POSTS ARE TO BE PEELED (BARK REMOVED) AND SKINNED/TURNED TO REMOVE IRREGULARITIES SUCH AS BRANCH STUBS. ALL POSTS TO BE FREE FROM WARPS, CHECKS, CRACKS AND SPLINTERS.
6. STEPPING LOGS' INSTALLATION TO COMPLY WITH CAN/CSA-2634, LATEST EDITION.
7. STEPPING LOGS' INSTALLATION TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE.

MINIMUM 150 (ON ALL SIDES) LIMESTONE SCREENINGS BACKFILL COMPACTION IN 150 mm LIFTS

TREAT LOWER 600 mm OF BELOW GRADE PORTION OF ALL POSTS WITH TWO COATS OF APPROVED CLEAR AND PRESERVATIVE WOOD PRESERVATIVE PRIOR TO INSTALLATION

SECTION

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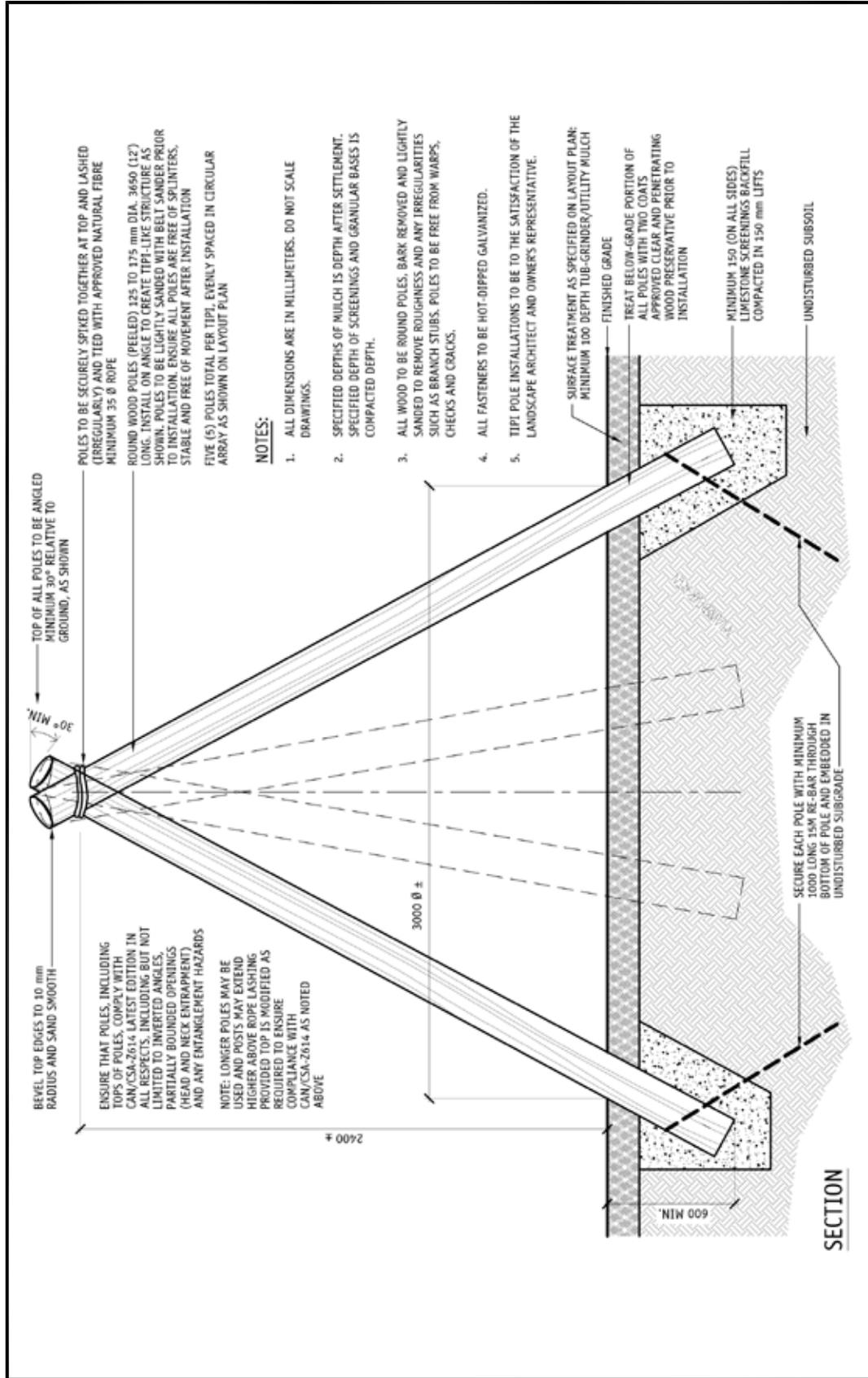
SCHOOL GROUND STANDARD CONSTRUCTION DETAILS



Metric	Imperial
10	3/8"
150	5 15/16"
200	7 7/8"
300	11 3/4"
400	15 3/4"
600	23 11/16"
1000	39 11/16"
1800	70 7/8"

DETAIL #
5.16
NOT TO SCALE

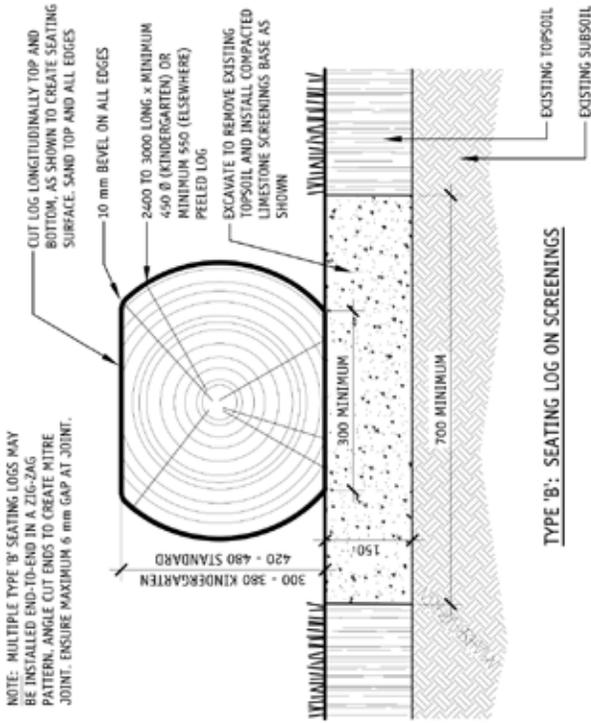
STEPPING LOGS



- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWINGS.
 2. SPECIFIED DEPTHS OF MULCH IS DEPTH AFTER SETTLEMENT. SPECIFIED DEPTH OF SCREENINGS AND GRANULAR BASES IS COMPACTED DEPTH.
 3. ALL WOOD TO BE ROUND POLES. BARK REMOVED AND LIGHTLY SANDED TO REMOVE ROUGHNESS AND ANY IRREGULARITIES SUCH AS BRANCH STUBS. POLES TO BE FREE FROM WARPS, CHECKS AND CRACKS.
 4. ALL FASTENERS TO BE HOT-DIPPED GALVANIZED.
 5. TIPI POLE INSTALLATIONS TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE.

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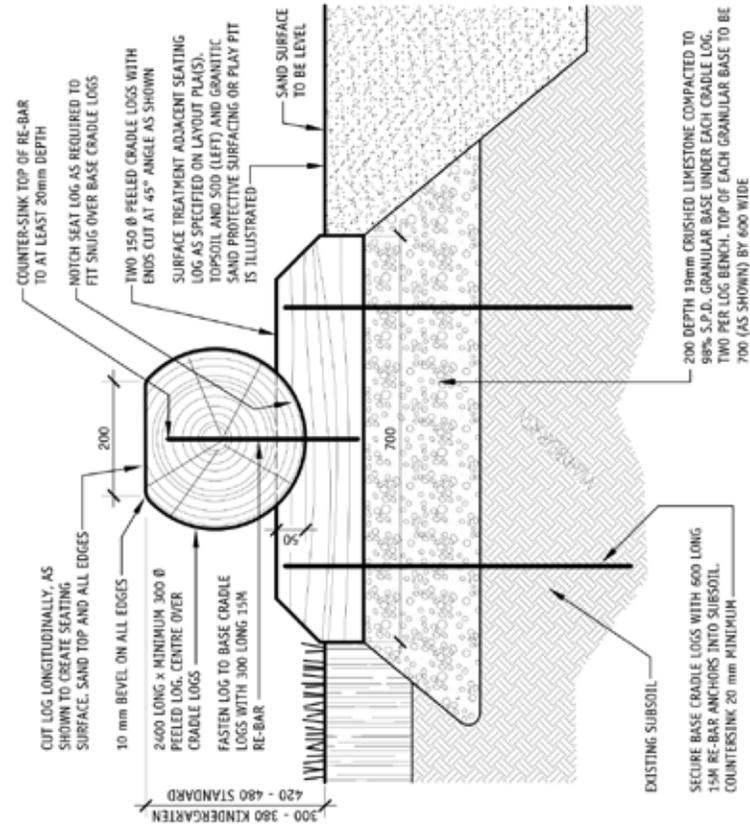
<p>SCHOOL GROUND STANDARD CONSTRUCTION DETAILS</p>   	<p>SKY POLES</p>	<p>DETAIL #</p> <p>5.18</p> <p>NOT TO SCALE</p>																												
		<table border="1"> <thead> <tr> <th>Metric</th> <th>Imperial</th> <th>Metric</th> <th>Imperial</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>3/8"</td> <td>175</td> <td>6 7/8"</td> </tr> <tr> <td>35</td> <td>1 3/8"</td> <td>600</td> <td>23 5/8"</td> </tr> <tr> <td>100</td> <td>3 15/16"</td> <td>1000</td> <td>39 3/8"</td> </tr> <tr> <td>125</td> <td>4 15/16"</td> <td>2400</td> <td>94 1/2"</td> </tr> <tr> <td>150</td> <td>5 15/16"</td> <td>3000</td> <td>118 1/8"</td> </tr> <tr> <td></td> <td></td> <td>15M</td> <td>590 9/16"</td> </tr> </tbody> </table>	Metric	Imperial	Metric	Imperial	10	3/8"	175	6 7/8"	35	1 3/8"	600	23 5/8"	100	3 15/16"	1000	39 3/8"	125	4 15/16"	2400	94 1/2"	150	5 15/16"	3000	118 1/8"			15M	590 9/16"
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125	4 15/16"	2400	94 1/2"																											
150	5 15/16"	3000	118 1/8"																											
		15M	590 9/16"																											



TYPE 'B': SEATING LOG ON SCREENINGS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF SAND AND TOPSOIL IS DEPTH AFTER SETTLEMENT. SPECIFIED DEPTH OF LIMESTONE SCREENINGS AND GRANULARS IS COMPACTED DEPTH.
3. ALL LOGS TO BE INSTALLED WITH SEATING SURFACE LEVEL END-TO-END.
4. ALL SEATING LOGS TO BE SOLID HARDWOOD (OAK, ASH OR MAPLE) WITH BARK REMOVED AND SKINNED/TURNED TO REMOVE IRREGULARITIES SUCH AS BRANCH STUBS.
5. ALL TIMBER, LUMBER AND LOGS TO BE FREE FROM WARPS, CHECKS AND CRACKS.
6. LOG BENCH INSTALLATION TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.



TYPE 'A': SEATING LOG ON CRADLES

SECTION

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SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS



WINNIPEG SCHOOL DIVISION

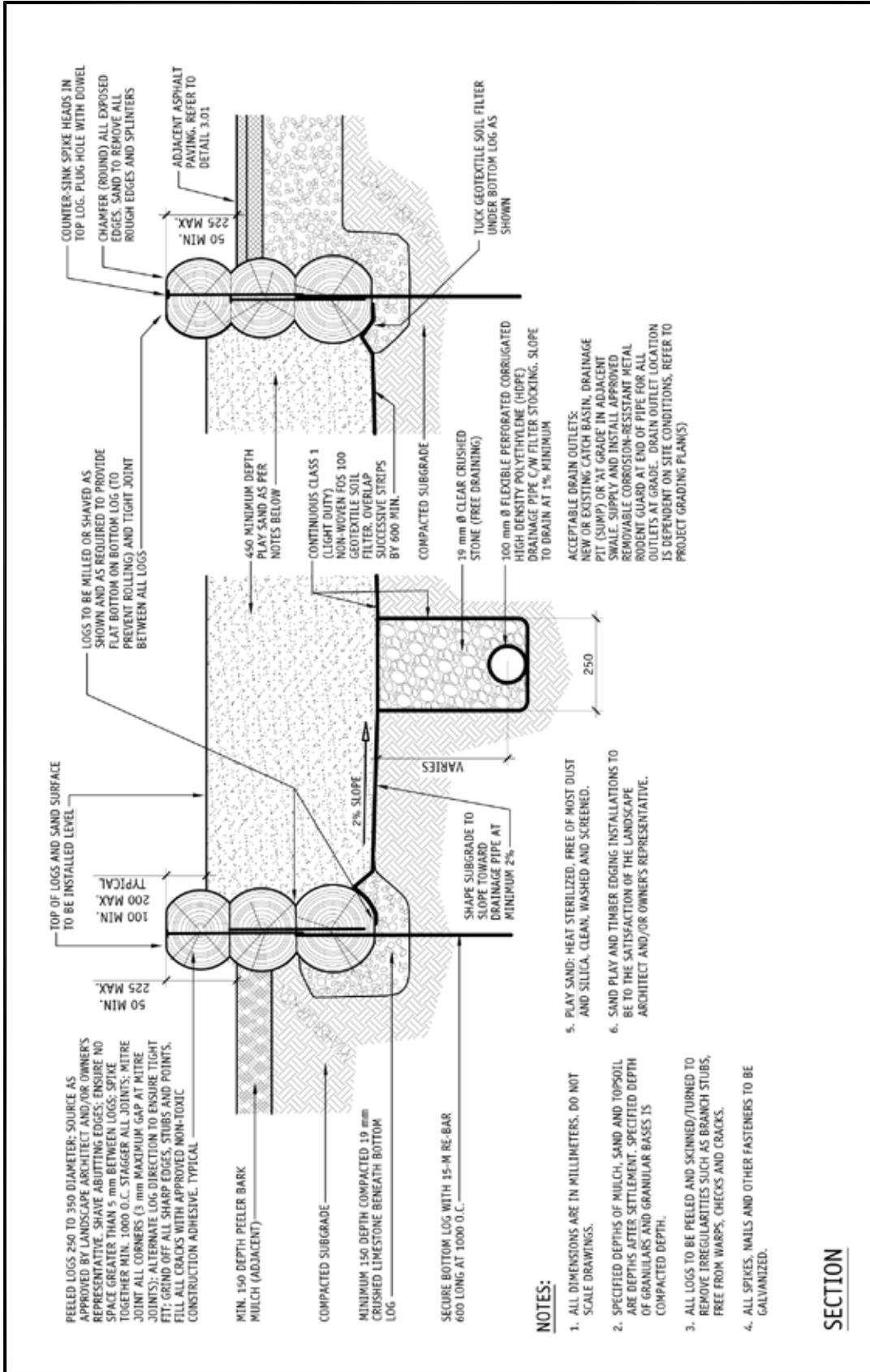
Material	Temperature	Material	Temperature
15	1.37"	4205	14.7815"
20	1.57"	4205	15.7815"
25	1.77"	4862	16.7815"
30	1.97"	4862	17.7815"
35	2.17"	5005	18.7815"
40	2.37"	5005	19.7815"
45	2.57"	5005	20.7815"
50	2.77"	5005	21.7815"
55	2.97"	5005	22.7815"
60	3.17"	5005	23.7815"
65	3.37"	5005	24.7815"
70	3.57"	5005	25.7815"
75	3.77"	5005	26.7815"
80	3.97"	5005	27.7815"
85	4.17"	5005	28.7815"
90	4.37"	5005	29.7815"
95	4.57"	5005	30.7815"
100	4.77"	5005	31.7815"

DETAIL #

5.21

SEATING LOG
- KINDERGARTEN AND
STANDARD

NOT TO SCALE



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWINGS.
2. SPECIFIED DEPTHS OF MULCH, SAND AND TOPSOIL ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF GRANULARS AND GRANULAR BASES IS COMPACTED DEPTH.
3. ALL LOGS TO BE PEELED AND SKINNED/TURNED TO REMOVE IRREGULARITIES SUCH AS BRANCH STUBS, FREE FROM WARPS, CHECKS AND CRACKS.
4. ALL SPIKES, NAILS AND OTHER FASTENERS TO BE GALVANIZED.
5. PLAY SAND: HEAT STERILIZED, FREE OF MOST DUST AND SILICA, CLEAN, WASHED AND SCREENED.
6. SAND PLAY AND TIMBER EDGING INSTALLATIONS TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

SECTION

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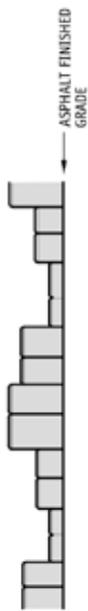
SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS



	Metric	Imperial	Metric	Imperial
3	1/8"	200	7 7/8"	
5	3/16"	225	8 7/8"	
19	3/4"	250	9 13/16"	
50	2"	450	17 3/4"	
100	3 15/16"	600	23 5/8"	
150	5 15/16"	1000	39 3/8"	
		15M	590 9/16"	

**SAND PLAY
- ROUGH TIMBER EDGING**

DETAIL #
6.01
NOT TO SCALE



ELEVATION

HEIGHT OF POSTS VARIES. STAGGER HEIGHTS RANDOMLY AND IN STEPS OF MINIMUM 50 mm. ALWAYS MAINTAINING TWO POSTS SIDE-BY-SIDE AT SAME HEIGHT (AS PER ELEVATION AT LEFT). OBTAIN LANDSCAPE ARCHITECTS AND/OR OWNERS REPRESENTATIVE APPROVAL OF PROPOSED LAYOUT/HEIGHT CONFIGURATION PRIOR TO INSTALLATION. PROVIDE 600 mm WIDE SECTION WITH TOP OF POSTS 5 mm ABOVE GRADE OF ADJACENT SURFACING TO PROVIDE BARRIER-FREE ACCESS WHERE INDICATED ON LAYOUT PLAN OR AS DIRECTED BY LANDSCAPE ARCHITECT

ROUND WOOD POSTS (PEELED) 200x Ø PLACED VERTICALLY AND TIGHTLY BUTTED TOGETHER AS SHOWN ON PLANS. ALTERNATE TAPERS 'ONE UP - ONE DOWN' TO ASSIST IN ACHIEVING TIGHT JOINTS. POSTS TO BE LIGHTLY SANDED WITH BELT SANDER PRIOR TO INSTALLATION. ENSURE ALL POSTS ARE FREE OF SPLINTERS, STABLE AND FREE OF MOVEMENT AFTER INSTALLATION.

SPIKE POSTS TOGETHER WITH 300 LONG GALVANIZED ARDOX/SPIRAL SPIKES INSTALLED ON AN ANGLE THROUGH EACH POST AND INTO THE ADJACENT POST

450 MINIMUM DEPTH GRANITIC SAND AS PER NOTES BELOW. INSTALLED LEVEL

CONTINUOUS CLASS 1 (LIGHT DUTY) NON-WOVEN FIBRE 100 GEOTEXTILE SOIL FILTER. OVERLAP SUCCESSIVE STRIPS BY 600 MIN.

19 mm Ø CLEAR CRUSHED STONE (FREE DRAINING)

100 mm Ø FLEXIBLE PERFORATED CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) DRAINAGE PIPE C/W FILTER STOCKING. SLOPE TO DRAIN AT 1% MINIMUM

ACCEPTABLE DRAIN OUTLETS: NEW OR EXISTING CATCH BASIN, DRAINAGE PIT (SUMP) OR AT GRADE IN ADJACENT SWALE. SUPPLY AND INSTALL APPROVED REMOVABLE CORROSION-RESISTANT METAL RODENT GUARD AT END OF PIPE FOR ALL OUTLETS AT GRADE. DRAIN OUTLET LOCATION IS DEPENDENT ON SITE CONDITIONS. REFER TO GRADING PLANS(S)

CHAMFER TOP EDGES AS SHOWN

VARIES 105 TO 325
MAXIMUM

VARIES 5 TO 225
MAX.

ADJACENT ASPHALT PAVING. REFER TO DETAIL 3.01

2% SLOPE

VARIES

1200 MIN.

SHAPE SUBGRADE TO SLOPE TOWARD DRAINAGE PIPE AT MINIMUM 2%

COMPACTED SUBGRADE

SECTION

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWINGS.
2. SPECIFIED DEPTHS OF MULCH, SAND AND TOPSOIL ARE DEPTHS AFTER SETTLEMENT. SPECIFIED DEPTH OF SCREENINGS, GRANULARS AND GRANULAR BASES IS COMPACTED DEPTH.
3. ALL LOGS TO BE PEELED AND SKINNED/TURNED TO REMOVE IRREGULARITIES SUCH AS BRANCH STUBS, FREE FROM WARPS, CHECKS AND CRACKS.
4. ALL SPIKES, NAILS AND OTHER FASTENERS TO BE GALVANIZED.
5. PLAY SAND: HEAT STERILIZED, FREE OF MOST DUST AND SILICA, CLEAN, WASHED AND SCREENED.
6. SAND PLAY AND POST EDGING INSTALLATIONS TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE.

Metric	Imperial	Metric	Imperial
5	3/16"	250	9 13/16"
19	3/4"	300	11 13/16"
50	2"	325	12 13/16"
100	3 15/16"	400	15 3/4"
105	4 1/8"	450	17 3/4"
200	7 7/8"	600	23 5/8"
225	8 7/8"	1200	47 1/4"



SCHOOL GROUND STANDARD CONSTRUCTION DETAILS

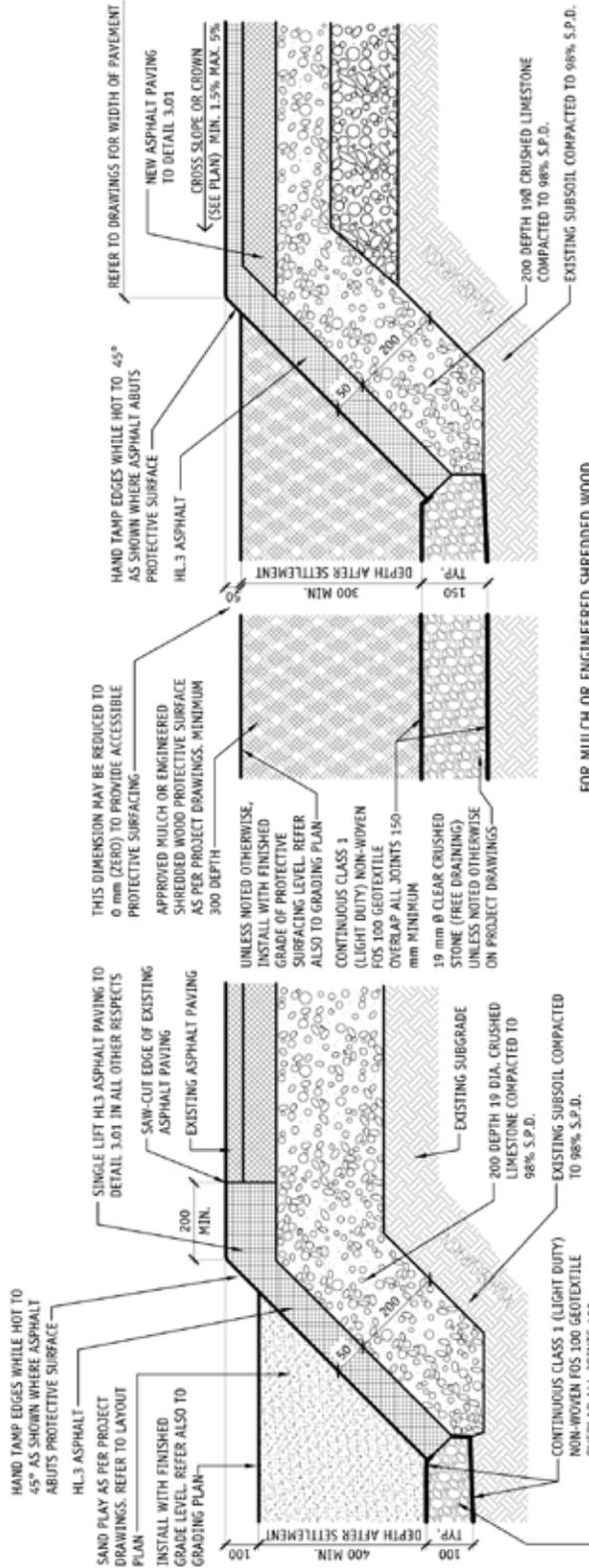
SAND PLAY - CEDAR POST EDGING

DETAIL #

6.02

NOT TO SCALE

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REFER TO DRAWINGS FOR WIDTH OF PAVEMENT AS SHOWN WHERE ASPHALT ABUTS

HAND TAMP EDGES WHILE HOT TO 45° AS SHOWN WHERE ASPHALT ABUTS

THIS DIMENSION MAY BE REDUCED TO 0 mm (ZERO) TO PROVIDE ACCESSIBLE PROTECTIVE SURFACING

UNLESS NOTED OTHERWISE, INSTALL WITH FINISHED GRADE OF PROTECTIVE SURFACING LEVEL. REFER ALSO TO GRADING PLAN

CONTINUOUS CLASS 1 (LIGHT DUTY) NON-WOVEN FOS 100 GEOTEXTILE OVERLAP ALL JOINTS 150 mm MINIMUM

NEW ASPHALT PAVING

FOR MULCH OR ENGINEERED SHREDDED WOOD PROTECTIVE SURFACING

EXISTING ASPHALT PAVING

FOR EDGING SAND

SECTION

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWING.
2. SPECIFIED DEPTHS OF MULCH AND SAND ARE DEPTHS AFTER SETTLEMENT.
3. HL8 AND HL3 ASPHALT TO BE COMPACTED TO 92% - 96% MRD.
4. EXISTING GRANULAR BASES ON SITE MAY BE REUSED AS NEW GRANULAR BASE FOR NEW PAVING INSTALLATIONS, PROVIDED THAT MATERIAL IS CLEAN AND THAT NEW BASE IS INSTALLED AS PER DETAILS).
5. ASPHALT PAVING AND EDGING TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

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Metric	Imperial
19	3/4"
50	2"
100	3 15/16"
150	5 15/16"
200	7 7/8"
300	11 13/16"
400	15 3/4"

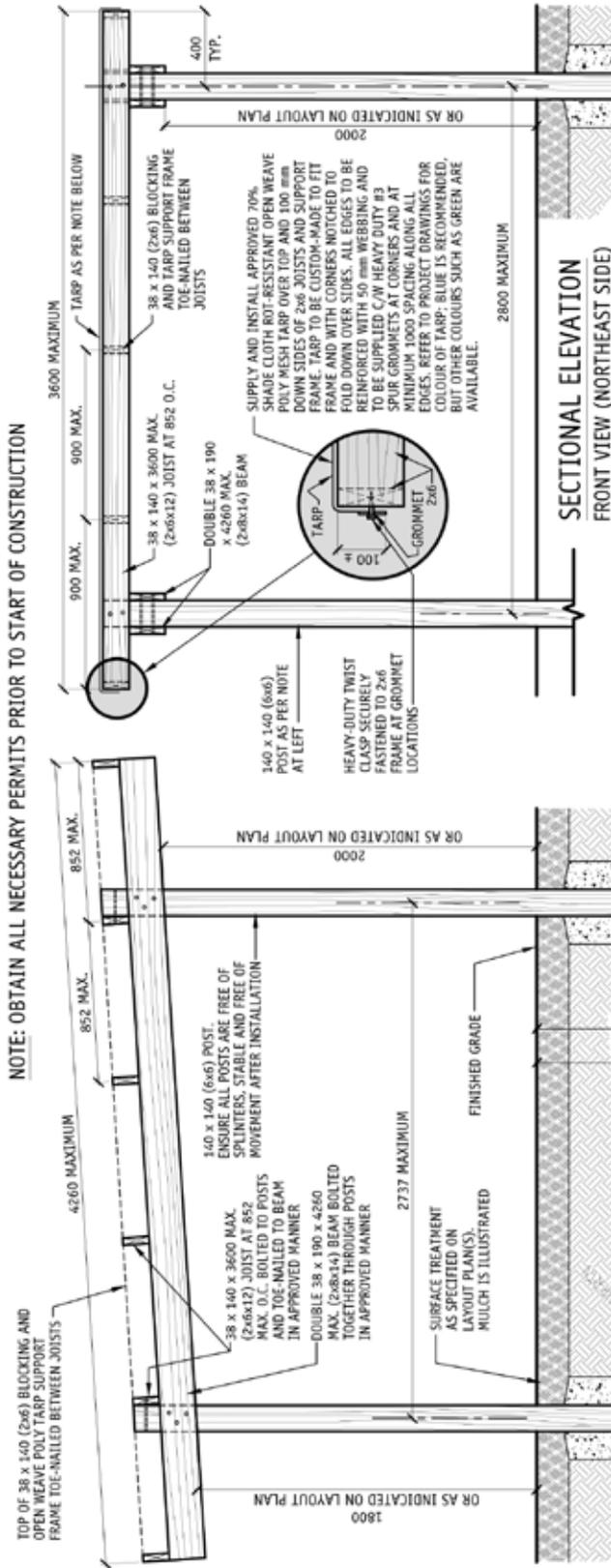


SCHOOL GROUND STANDARD CONSTRUCTION DETAILS

DETAIL #
6.03
NOT TO SCALE

ROLLED ASPHALT EDGING
- FOR PROTECTIVE SURFACING AND SAND PLAY

NOTE: OBTAIN ALL NECESSARY PERMITS PRIOR TO START OF CONSTRUCTION



**SECTIONAL ELEVATION
FRONT VIEW (NORTHEAST SIDE)**

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWINGS.
2. SPECIFIED DEPTHS OF MULCH IS DEPTH AFTER SETTLEMENT. SPECIFIED DEPTH OF SCREENINGS AND GRANULAR BASES AND BACKFILL IS COMPACTED DEPTH.
3. ALL POSTS TO BE INSTALLED VERTICAL LAYOUT AS PER PROJECT DRAWINGS.
4. ALL POSTS AND LUMBER TO BE FREE FROM WARPS, CHECKS AND CRACKS.
5. ALL BOLTS, NAILS AND OTHER FASTENERS TO BE HOT-DIPPED GALVANIZED. FASTENER SIZES TO BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
6. SUN SHELTER INSTALLATIONS TO BE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE.

**SECTIONAL ELEVATION
SIDE VIEW (SOUTHEAST SIDE)**

NOTE: TREAT BELOW-GRADE PORTION OF ALL POSTS AND 2x6 ANCHORS WITH TWO COATS APPROVED CLEAR AND PENETRATING WOOD PRESERVATIVE PRIOR TO INSTALLATION.
DOUBLE 38 x 140 (2x6) ANCHORS BOLTED TO BASE OF EACH POST IN APPROVED MANNER

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SCHOOL GROUND
STANDARD
CONSTRUCTION
DETAILS



WINNIPEG SCHOOL DIVISION

Metric	Imperial	Metric	Imperial
19	3/4"	1000	39 3/8"
50	2"	1200	47 1/4"
100	3 15/16"	1400	55 1/8"
150	5 15/16"	1800	70 7/8"
400	15 3/4"	2000	78 3/4"
852	33 9/16"	2737	107 3/4"
900	35 7/16"	2800	110 1/4"

Sun Shelter

7.01

DETAIL #

NOT TO SCALE

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- Gaining Ground: The Power and Potential of School Grounds in The Toronto District School Board
- Revisiting Children’s Outdoor Environments: a focus on design, play and safety, Anne Gillain Mauffette
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Background Reading

- Get a copy of Natural Curiosity: Building Children’s Understanding of the World through Environmental Inquiry at <http://www.naturalcuriosity.ca>
- Evergreen’s Native Plant Database at <http://nativeplants.evergreen.ca>
- All Abilities Welcome. http://lin.ca/collections/active-living-resources-canadians-disability?utm_source=ala.ca
- A c c e s s i b l e P l a y s p a c e s in Canada A Guidebook for Children’s Play-spaces that are Accessible to Persons with Disabilities based on CAN/CSA-Z614 Annex H, 2014 <http://lin.ca/sites/default/files/attachments/AnnexHGuide2014final.pdf>

APPENDIX A

Protect Existing Trees

Consider the following tree-protection goals in the early stages of planning and design to ensure existing trees are properly protected and cared for in the short and long term:

- Protect trees rather than repair injury.
- Limit tree root injury to a tolerable level.
- Eliminate the use of chemical fertilizers, pesticides or insecticides and anti-desiccants.

Evaluation of Existing Trees

Each existing tree is to be evaluated by a certified arborist or landscape architect according to species, age, health, vigour, size, form, structure, drainage patterns, location, and surrounding features. The landscape architect is required to provide accurate canopy dimensions and grades of trees on base plans.

Protecting Existing Trees Throughout Design and Construction

Throughout the planning, design, and construction phases of the project take every measure to protect existing natural areas and significant healthy trees. Damage can occur during site servicing and utilities trenching, parking lot expansion, and the creation of access lanes, drainage systems, and hard-surface play areas.

Protect all existing trees within or adjacent to the construction area before construction starts by creating a Tree Protection Zone (TPZ) with a Tree Protection Barrier (TPB) erected around its perimeter. The minimum tree protection zone will be the drip line* of the tree.

The exception to the rule would be for columnar or pyramidal trees, in which case the tree protection zone will be determined on site. This is why it is so important that the designer shows accurate canopy dimensions on the drawings for all existing trees, as well as adjacent neighbouring trees whose canopies (and underground root systems) will also affect construction plans.

Within the tree protection zone, there can be:

- No root cutting
- No alteration or disturbance to existing grades of any kind
- No changes to the grade by adding fill, excavating or scraping
- No grading, trenching, excavating, or soil compaction
- No storage of construction materials or equipment
- No stockpiling of soil, debris, or construction waste
- No movement or storage of heavy vehicles or equipment

What is a Drip Line?

*Drip line is a "line" on the ground corresponding to the outermost reaches of the branch tips and generally corresponds to approximately half of the root zone of most trees. Pyramidal and columnar form trees have root zones larger than their drip-line and the TPZ and TPB should be adjusted outward accordingly.

Protecting Roots

To ensure that existing trees are properly protected and cared for in the short and long term, follow these tree-protection best practices in the early stages of planning and design:

- Be mindful that ninety percent of a tree's roots are within the top 30 cm (12 inches) of the surface. Specify directional boring for installation of all site servicing (utilities) within the TPZ of existing trees. Do not allow excavation or trenching within the TPZ of existing trees. Tree roots should not be cut off to accommodate curbs, playgrounds, hard surface walkways, or other landscape features. Cutting roots affects the safety, stability, and health of the tree.
- Limit root damage when working in a TPZ by using specialized construction techniques such as low pressure hydro-vacuuming, air knifing, directional boring or tunneling, and arboricultural techniques such as root pruning, hand digging, shoot pruning, mulching, irrigating, and fertilizing.
- Protect tree roots using 1.2 metres (4 feet) x 2.4 metres (8 feet) high-density polyethylene mats such as Durabase composite mats or AlturnaMats.
- If it is necessary for heavy equipment to travel over root zones during construction, a minimum 23 cm (9 inches) layer of tub-ground mulch is to be spread over roots (to be maintained over the duration of the job) and recycled or reused on site upon completion of the work.

Tree protection barriers must be erected before the construction project starts, maintained throughout the project, and removed when final inspection and sign-offs are complete. They are to be included and priced as part of the project.

- Short-term projects (2 months or less): use plastic safety fence and standard T-bars.
- Longer-term projects: use 10-gauge chain-link fence and standard T-bars spaced approximately 2 m (6.5 feet) apart (see Fig. 1.02, Protective Tree Cage).

Grading

Do not change the grade (finished elevation) within the TPZ of existing trees.

Transplanting Trees

Transplant trees up to 15 cm (6 inch) caliper rather than cutting them down if this is an option (depends on the species and time of transplanting).

Removal of Trees from City of Winnipeg Property

Where removal of existing trees is unavoidable, have the trees appraised by a certified arborist and obtain the necessary tree removal permits from the city of Winnipeg (see: http://www.winnipeg.ca/publicworks/parksOpenSpace/UrbanForestry/PDF/2014_Tree_Removal_Guidelines.pdf for further information). Replace the removed trees with trees of equal value. The assessed value of the replacement trees must equal the assessed value of the trees removed.

APPENDIX B

Watering Guidelines for Newly Planted Trees

The Bucket Method

Trees love water! So much so that from May to August each tree needs 30 gallons of water every week. From September to mid-October, each tree needs 30 gallons of water every two weeks.

Why the Bucket Method?

- It conserves water.
- It offers an easy way to measure how much water trees are receiving.
- It is efficient for trees that are within reach of a garden hose and planted fairly close together—the way we like them! (See sidebar.)
- It reuses your school's five-gallon buckets from floor cleaners etc.
- There is no cost to the green team since the pails are readily available.
- The technology is simple.
- Students can adopt this practice as part of their tree stewardship program.
- The system is simple, fun for students and can easily be taken on by clubs or classes.
- It offers a teachable opportunity to discuss water conservation and tree stewardship.

Where Can You Get Your Buckets?

Ask your school's caretaker to save empty five-gallon containers from cleaning products. Be sure to clean the containers thoroughly before you use them. You will need one five-gallon pail for each tree. Have someone drill two quarter-inch holes in the bottom of the pails to allow for slow flow.

About the Watering Guidelines

Trees must be watered throughout the summer. When students come back to school in September, continue this practice through to mid-October. This will ensure the trees have enough water going into the harsh winter months.

How Does the Bucket Method Work?

1. For a grove of six trees, start with six buckets.
2. Place one bucket at the drip line of each tree.
3. Fill each pail with water using a hose. It will take about two minutes to fill the pail with a regular garden hose (water will leak out the bottom as the pail is filling up).
4. It takes five minutes for the pail to empty, so over the course of six minutes (four minutes to fill plus two to empty) ten to eleven gallons of water percolates slowly into the soil (there should be very little runoff).
5. Continue to fill all the buckets one at a time.
6. When you have finished filling the last bucket, return to the first tree and move the first pail one-third of the way around the same tree and fill it up again. Repeat with the other buckets and the other trees.
7. Repeat the process for a third time, moving the pails another one-third of the way around the trees and filling them up one final time. You should fill each tree's pail three times in total so that the tree will receive approximately 30 gallons of water.
8. If water starts to run all over the ground rather than sinking in, be patient. The soil may not be accepting water due to extreme drought.
9. Do this weekly from May to August and every two weeks from September to mid-October.

APPENDIX C

Criteria for Acceptable Nursery Stock

(a) Trees shall be the size and variety noted on the Plant List. Plant material that does not have the specified root ball diameter as mentioned in plant list will be rejected.

(b) All nursery stock supplied shall be Canadian nursery grown, of the species and sizes indicated on the drawings. Quality shall be in accordance with the latest "Guide Specification for Nursery Stock" of the Canadian Nursery Landscape Association.

(c) Any nursery stock dug from native stands, wood lots, orchards or neglected nurseries and which have not received proper cultural maintenance as advocated by the Canadian Nursery Landscape Association shall be designated as "collected plants." The use of "collected plants" will not be permitted unless approved by the Contract Administrator.

(d) The Contract Administrator reserves the right to inspect the plant material at their original source, and to instruct the supplier on root and branch pruning requirements.

(e) Nomenclature of specified nursery stock shall conform to the International Code of Nomenclature for Cultivated Plants and shall be in accordance with the approved scientific names given in the latest edition of Standardized Plant Names. The names of varieties not named therein are generally in conformity with the names accepted in the nursery trades.

(f) Plants larger than specified may be used if approved by the Contract Administrator. The use of such plants shall not increase the Contract price.

(g) All nursery stock shall be measured when the branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip.

(h) Where trees are measured by calliper (cal.), reference is made to the diameter of the trunk measured 300 mm above ground as the tree stands in the nursery.

(i) All nursery stock shall be well branched, true to type, structurally sound, possess a well-developed, undamaged root system and shall be free of disease, insect infestations, rodent damage, sunscald, frost cracks and other abrasion or scare to the bark. All parts of the nursery stock shall be moist and show live, green cambium when cut.

(j) All trees shall have one only, sturdy, reasonably straight and vertical trunk and a well-balanced crown with fully developed leader. All evergreens shall be symmetrically grown and branched from ground level up, and must be balled and burlapped unless noted otherwise on the plant list. At least one plant of each variety supplied shall bear a tag showing both the botanical and common name of the plant

(k) Protection of Stock

(i) All nursery stock shall be well protected from damage and drying out from the time of digging until the time of planting on site. All roots shall be cleanly cut; split roots are not acceptable.

(ii) Nursery stock shall be transplanted with care to prevent damage. Points of contact with equipment shall be padded. All nursery stock, which cannot be planted immediately upon arrival at the site, shall be well protected to prevent drying out and shall be kept moist until commencement of planting.

APPENDIX D

The Importance of Mulch

How Does Mulch Help Our Trees, Shrubs and Plants?

- Keeps roots cool
- Retains moisture
- Protects roots from foot traffic
- Protects trunk from lawn care equipment
- Reduces erosion and soil compaction
- Prevents water runoff
- Improves the organic content of the soil
- Absorbs excess moisture in spring and fall and extends the mud-free pavement zone, giving students more room to play
- Keeps weeds down

How Much Mulch Do I Need?

Use the side table to calculate how much mulch you need.

Mulch is ordered in cubic yards. (Note: the landscape and construction industry does not use metric).

The formula for volume is: $V = \text{Length} \times \text{Width} \times \text{Depth}$.

If you measure and calculate volume in feet, divide your result by 27 to determine the number of cubic yards, since there are 27 cubic feet in one cubic yard ($27 \text{ ft}^3 = 1 \text{ yd}^3$).

If you measure and calculate volume in metres, multiply your result by 1.3 to determine the number of cubic yards, since there are 1.3 cubic yards in 1 cubic metre ($1 \text{ m}^3 = 1.3 \text{ yd}^3$).

Why do we mulch?

Spreading mulch around the base of trees and in gardens offers students a hands-on opportunity to learn about, and participate in, caring for trees, shrubs and other plants.

Students and stewardship

For many years, students have been planting gardens on their school grounds and in local parks. While new projects are exciting, students can learn a lot about environmental stewardship by caring for existing trees and gardens.

Allergy Alert!

Make sure that parents of students allergic to dust and mould are aware of the activity and take the precautions they recommend. Multiply your result by 1.3 to determine the number of cubic yards, since there are 1.3 cubic yards in 1 cubic metre ($1 \text{ m}^3 = 1.3 \text{ yd}^3$).

TREES AND SHRUBS: RECOMMENDED DEPTH
(spread mulch 15cm (6 inches) deep).

	Volume of Mulch	NOTES
Newly planted trees	½ cubic yard (about 13 milk crates)	Spread approximately 1m out from the base in a circle
Existing trees	1–4 cubic yards (depending on size and # of trees)	Spread to the drip line to ensure you are protecting the tree's root system (see diagram on reverse)
Trees in planter boxes	½ -1 cubic yard	Depending on depth of box (mulch to the top edge of box)
Shrubs	¼ cubic yard each (about 6.5 milk crates)	Spread approximately 1m out from the base
Pathways, outdoor classrooms, muddy areas	1 cubic yard	This will cover about 54 square feet of area (3 ft x 18 ft, or 2 ft x 27 ft)

APPENDIX E

Evergreen's Rationale for Avoiding ACQ Lumber

Summary

Alkaline copper quaternary (ACQ) is a chemical compound for pressure treating wood which has replaced chromated copper arsenate (CCA) in Canada. CCA wood is dangerous because it contains inorganic arsenic, among other toxins, which can be transferred to children's skin and mouths. Although ACQ treated lumber is a chromium- and arsenic-free alternative to CCA, concerns are still raised about the chemicals that will leach from it into surrounding soil, groundwater and air. Alternatives should be considered when building picnic tables, playground equipment fences, and school ground gardens.

Concerns

When ACQ pressure treated lumber is freshly processed, emissions of ammonia will escape into the environment. Subjected to rain, unprotected wood will leach small amounts of chemicals into the soil. Its very high copper content acts as a fungicide.

Studies have shown that ACQ leaches slightly greater quantities of chemical preservatives than CCA treated wood. Most notably it leaches roughly three times more copper than CCA lumber, counteracting the benefit of containing no chromium or arsenic. Although copper is not very toxic to mammals, it is to fungi (thus its fungicidal properties) and aquatic life. The damage to aquatic habitats is a notable concern.

Because of its chemical content, ACQ lumber should never be burnt, or chipped up and used for mulch. Proper disposal for this wood is in a lined, non-hazardous material landfill. However, this is not an ideal solution. It will continue to contaminate nearby soil and water unless perfectly contained.

Alternatives

Evergreen recommends using untreated heartwood, such as cedar for use in school ground equipment. Cedar and redwood are naturally rot-resistant, but will have to be replaced approximately every 20 years.

The heartwood of many local tree species contains rot-resistant compounds (e.g. oak). Do not use sapwood, because this will only last a few years outdoors. Also, check out your local re-use centre for materials.

Plastic lumber is also a good alternative. Be careful to choose an environmentally friendly type of plastic lumber.

Policy Statements

Because limited information is available, Evergreen is taking a precautionary approach on this issue. We will not fund the use of ACQ lumber in school ground projects. When more is understood about the environmental impact of this chemical treating process, Evergreen may revise its position.

APPENDIX F

Loose Parts Play

Here are some ideas for loose parts play components that will animate your outdoor space and inspire creativity:

- Containers: milk crates, buckets, tubs, baskets
- Gardening equipment: Wheelbarrows, carts, gloves, tools, watering cans
- Natural materials: twigs, leaves, grass, pine cones, seeds, beans, bark, feathers, moss, driftwood, flowers, straw, mulch
- Cardboard boxes and tubes
- Pieces of rain gutter, bamboo troughs
- Construction materials: building blocks, log rounds, sand, stones, small pieces of lumber, shells, cedar poles
- Plastic ABS pipe with numerous connector pieces
- Dirt, mud, cob, sand and water
- Sisal or coconut mats, sheets, blankets, canvas, tarps
- Traffic cones
- Rocks (too big to throw but not too big to roll)
- Ropes, hoops, tubes, balls
- Fabrics for temporary partition or covering
- Plastic or metal plates, cups, bowls, funnels, sponges, spoons, pots and pans
- Brooms, rakes, shovels
- The following list is a sample of design elements that you can incorporate into the design of your outdoor space:
- Sand pit with lift and/or ramp for universal access
- Puppet show wall
- Living wall
- Musical features; chimes, drums,
- Boardwalk; varying widths, raised
- Animal tracks throughout
- Labyrinth
- Outdoor classroom
- Shelters of varying sizes
- Murals; permanent and temporary (chalkboard walls)
- Sun dials
- Entrance arbours; willow, rounded, child-sized
- Mazes; temporary, permanent
- Stage
- Bridges
- Benches; logs, rocks, sculptures
- Outdoor easels – permanent or mobile
- Shade sails
- Tennis wall (one player)

APPENDIX G

Recommended Plant List

DECIDUOUS TREES IN HARD SURFACES

[80mm (3 inch) caliper]

- Silver Maple (*Acer saccharinum*)
- Hackberry (*Celtis occidentalis*)

CONIFEROUS TREES IN HARD SURFACES

[250—300cm (8-10 feet) tall]

- White Spruce (*Picea glauca*)
- Austrian Pine (*Pinus nigra*) – (an acceptable non-native species)

DECIDUOUS TREES IN SOFT SURFACES

[80mm (3 inch) caliper]

- Silver Maple* (*Acer saccharinum*)
- Manitoba Maple* (*Acer negundo*)
- Sugar Maple* (*Acer saccharum*)
- Green Ash (*Fraxinus pennsylvanica*)
- Hackberry (*Celtis occidentalis*)
- Basswood (*Tilia americana*)

DECIDUOUS TREES IN GROVES IN SOFT SURFACES

Use a variety of trees to improve biodiversity and to integrate with curriculum goals. For example, you can plant 8 trees in a circle with limestone blocks seating to form a shaded outdoor classroom. Same list as Deciduous Trees in Soft Surfaces [80mm (3 inch) caliper] (See above).

CONIFEROUS TREES IN GROVES IN SOFT SURFACES

[250—300cm(8-10 feet) tall] (plant 3, 6, or 8 of the same species—space them at 3–4m (10-13 feet) apart)

- White Spruce (*Picea glauca*)
- White Cedar (*Thuja occidentalis*)
- White Pine (*Pinus strobus*)
- Larch (*Larix laricina*)

LARGE SHRUBS PLANTED AS SINGLES OR IN GROVES

[200—250cm tall(6.5 - 8 feet)]

- Saskatoon Serviceberry (*Amelanchier alnifolia*)
- Nannyberry (*Viburnum lentago*)
- Alternate-leaved Dogwood (*Cornus alternifolia*)
- Red Osier Dogwood (*Cornus stolonifera*)
- Ninebark (*Physocarpus opulifolius*)
- Pincherry (*Prunus pensylvanica*)
- Highbush Cranberry (*Viburnum trilobum*)

*Best Shade Trees – refers to sun-blocking ability of the tree

APPENDIX H

Additional Funding Opportunities

Application Process:

Many factors can influence the success of fundraising initiatives, such as the following:

- Ensure your school principal and school division is aware of your project.
- Contact your local city councillor for financial support as funds are often available for community improvements projects.
- It is beneficial to encourage community engagement, develop a steering committee, and establish long term planning goals.
- As part of the application process for grants, a funding proposal will sometimes be required (this written request for funding provides information on the type of project that is being fundraised for, the community needs, project budget, etc.).
- Graphic layout plans depicting the layout of the space and proposed changes are often very useful support material to a funding application. Evergreen associates may be able to assist with this.
- The funding organizations that are being applied to often have specific requirements, funding policies, deadlines and specific forms to complete. The applicant will want to adhere to the stated guidelines and application procedures to ensure that their grant application is taken seriously.

Grants:

1. The Winnipeg Foundation offers support for a wide range of projects in the areas of community service, education, health, environment, heritage, arts and culture and recreation. They also offer funding for organizations working to encourage recreation activities related to Manitoba Housing communities.
 - <http://www.wpgfdn.org/Granting/360DegreeGranting/CommunityGrants.aspx>
 - <http://www.wpgfdn.org/Granting/360DegreeGranting/GrowingActiveKidsGrants.aspx>
2. Canadian Wildlife Federation's WILD Grants offer up to \$250 for projects designed to help Canadians connect with and support nature.
 - <http://cwf-fcf.org/en/about-cwf/funding-awards/grants/>
3. Random Acts of Play Grants offer sports equipment to organizations in need that promote healthy, active lifestyles.
 - <http://www.canadadrymotts.ca/values/lets-play/>
4. Canada Post provides grants to organizations with projects that promote community, education and health.
 - https://www.canadapost.ca/cpo/mc/about-us/cpfoundation/areas_of_concentration.jsf

5. Let Them Be Kids provides 50/50 funding for organizations for the purchase of equipment, as well as planning advice and mentorship opportunities to help the project succeed.

- <http://www.ltbk.ca/kids/index.php/how-we-help#.VbpryvlViko>

6. Kaboom offers up to \$15,000 towards the purchase of playground equipment. Grant recipients gain access to a project manager for the duration of the planning process to facilitate community engagement

- http://kaboom.org/grants/build_it_with_kaboom
- http://kaboom.org/grants/build_it_yourself

7. Community Incentive Grant Program from the City of Winnipeg offers funding for Non-profit community organizations that contribute to the health and well-being of the community within the boundaries of the City of Winnipeg.

- <http://winnipeg.ca/cms/recreation/cigp.stm#1>

8. Subway restaurants provide funding for education institutions for various school and community fundraising events.

- http://www.subway.com/subwayroot/about_us/Social_Responsibility/

9. Special Conservation Fund - PH: 945-6662 Fax: 945-4552; Contact: Blair McTavish - Karen McRobbie his assistant. Has provided funding towards outdoor classrooms.

10. Eco Action: Community Funding Program provides grants for outdoor classrooms and grounds beautification projects that positively impact the environment

- <http://www.ec.gc.ca/ecoaction/>

11. MB Community Services Council provides grants in the form of funds, bingos or a combination of the two (decided when application is approved.)

- <http://www.mbcsc.ca/grants>

12. Urban Green Team provides funding for employment opportunities for youth in the community for enhancement/maintenance of grounds re: grass cutting, watering, garden up-keep

- <http://www.gov.mb.ca/cyo/youth/employers/greenteam.html>

13. Manitoba Hydro provides support for a variety of community based initiatives and activities, as well as forest enhancement and tree planting initiatives.

- https://www.hydro.mb.ca/community/donation_sponsorship.shtml
- https://www.hydro.mb.ca/environment/forest_enhancement/

14. Manitoba Public Insurance provides funding contributions that aim to improve the quality of life in Manitoba communities by supporting programs and events

- <http://www.mpi.mb.ca/en/About-Us/Community/Pages/communitycontributions.aspx>

15. Assiniboine Credit Union provides sustainable community grants to support short-term projects and on-going programs with community investment goals. Contact: Lorie-Anne Bretecher, Manager, Marketing & Communication. Email lbretecher@assiniboine.mb.ca.

- <http://www.assiniboine.mb.ca/My-Community/Sponsorships---Grants/About-Sustainable-Community-Gr.aspx>

16. S'Cool Life Fund provides financial support for projects that aim to benefit the lives of elementary school age children.

- <http://www.scoollifefund.ca/index2.php?id=3>

17. TD Friends of the Environment Foundation provides funding for a variety of projects, including community gardens, outdoor classrooms, and tree planting and urban naturalization projects, etc.

- <https://fef.td.com/funding/>

18. Shaw Community Involvement funding.

- <http://www.shaw.ca/corporate/about-shaw/community-involvement/>

19. Royal Bank of Canada Community and Sustainability Funding provides various grants, as well as donations to community based organizations.

- <http://www.rbc.com/community-sustainability/apply-for-funding/>

20. Manitoba Education for Sustainable Development Grants provides useful links to a variety of grants available to schools/educators, school divisions, and school community organizations.

- <http://www.edu.gov.mb.ca/k12/esd/grant/>

21. Manitoba Community Services Council Inc. (MCSC) provides grants to non-profit, volunteer, community service organizations. www.mbcsc.ca

Also, look into applying to other local service organizations such as Boy's and Girl's Clubs of Canada, Kiwanis, Kinsmen, Knights of Columbus, Lions, Shriners, Legions, Masons, Optimists, Rotary Club, Salvation Army, etc. as additional grants may be available.

Self-Directed Fundraising Programs:

Many businesses and organizations are active in the community, providing opportunities to fundraise for school greening projects and other community enhancement initiatives. Contact the following for more information regarding fundraising, sponsorship and granting opportunities.

<http://www.fundscrip.com/> - Fundraising initiatives through the sale of gift cards to a variety of companies such as Safeway, Superstore, M&M Meat Shops, Sobey's, IGA, Extra Foods, etc.

<http://www.mbl.ca/node/1031> - Manitoba Liquor and Lotteries' Bingo Volunteer Program.

www.mgcc.mb.ca; Manitoba Gaming Commission; PH: 954-9400; - Contact: Becky Adams; Licensing Department - Grants licenses to non-profit organizations. Require minutes of meetings and election of members. Amounts over \$3k. Bingo's, raffles, break-opens, calcutta's, sports drafts, etc. Parent committee must apply. Decision made to license school or parent committee. Fee of 1.5% of gross revenue payable 60 days after final draw.

www.fundraising.entertainment.com - Entertainment Book; fill in the internet form to have a representative contact your group. Profit %s are based on volume. Call 1-888-231-SAVE (7283)

<http://www.showandsavecard.com/index.cfm?id=8&title=Fundraising> - SHOW AND SAVE CARD; Winnipeg MB - Contact: Herbert Grosney-PH: 477-4216 - Books sell for \$15.00. Sell over 100 and realize \$650.00 profit!

Safeway - Contact your local store for fundraising opportunities.

IGA - School is Cool Program - Register your program with the nearest store. \$200 = 200 points. 100,000 points = \$250.00. Consumers are asked to choose their charity at checkout.

Sobey's - Contact your local store for fundraising opportunities.

Morden's Chocolates - Contact: Fred or Kara @ Ph: 784-4551 Fx: 783-4217; Specials at Christmas, Valentines & Easter - Buy and sell with return of 100%!

<https://www.avivacommunityfund.org/> - Site provides a platform for setting up an online self-directed funding campaign.

To-Le-Do Foodservice - Contact 1-800-250-6606 or 204-487-3340

Alantra Foods (Alantra Donelli Fundraising) - Contact 1-877-337-4992 / 204-957-0712 / email alantra@mts.net.

Components of a Funding Proposal:

Needs to be adapted

1. Provide the organization name, members/participants, and background information such as date of establishment, geographic areas of focus, and goals/guiding principles, etc.
2. Explain how your organization operates. Is it a registered charity? What is its number? Is it incorporated? What is its number? Who is eligible for membership? What is the procedure for becoming a member? Is the organization democratically run? Are elections held annually? What groups are affiliated with your organization?
3. Provide the name, title, address and telephone number of the project leader/contact person(s) to whom correspondence should be directed along with the overall distribution of responsibility of the other members of the organization (with names and titles).
4. Describe what your project will do. Outline the project, how it meets a demonstrated need and what it hopes to accomplish. Explain your objectives in concrete rather than general terms. Explain the methods for evaluating the project's progress. State the objectives in such a way so observers can see that you have accomplished what you set out to do. Define the scope: local community, provincial or national.
5. Explain why your project will succeed. Explain how your project is different. How does the project avoid duplicating similar projects or programs run by other organizations? Give the qualifications and experience of key people involved with the project to provide reasonable assurance your organization is capable of undertaking the project.
6. Describe what additional resources you will require. Name people outside of the organization who will act as references. List other individuals or organizations supporting this or similar projects. Name others whose support has been requested. State any previous contact with the funding bodies being approached, including previous financial assistance.
7. Provide a budget. Provide a detailed operating budget for the project showing how the money will be spent and the amount coming from all sources. Explain where you will get funding if your project continues beyond the proposed grant period.

APPENDIX I

City of Winnipeg Processes and Permits

Building, Construction Permits:

<http://winnipeg.ca/ppd/phone.stm> - Provides contact information for zoning and permit inquiries, commercial permits and inspections, etc.

<http://www.winnipeg.ca/ppd/permits/contractor.stm> - Detailed information for professionals regarding permits.

Process:

1. A development permit will need to be applied for when there is playground/landscaping being done. Development permit application form: http://winnipeg.ca/ppd/permits/pdf/c_devpermit.pdf
2. You will need to provide a letter of authorization from the school division giving you authorization to apply for permits on their behalf for the corresponding project.
3. A status of title dated within 6 months will also need to be provided. This can be received from Land Titles located at 276 Portage Ave.
4. Six (6) sets of the drawings will need to be submitted along with development permit.

APPENDIX I

School Ground Greening and Planning Process

WINNIPEG SCHOOL DIVISION SCHOOL GROUND GREENING + PLANNING PROCESS

1 | STARTING

- **GREENING COMMITTEE** RECRUIT VOLUNTEERS (STUDENTS, TEACHERS AND/OR PARENTS), ESTABLISH ROLES, INFORM PRINCIPAL
- **DEFINE THE VISION** ENTIRE SCHOOL GROUND MASTER PLAN OR SITE SPECIFIC PROJECT?
- **SITE PLAN** GATHER BASE INFORMATION (DRAWING OF THE ENTIRE SCHOOL GROUNDS, INCLUDING PROPERTY LINES, UTILITIES, LAND USE)
- **RESEARCH POTENTIAL FUNDING** GRANTS, FUNDRAISING, DONATIONS

2 | PLANNING

- **APPROVALS** INFORM SUPERINTENDENT AND DIRECTOR OF BUILDINGS OF GREENING PLANS
- **GATHER DATA** INVENTORY OF SCHOOL GROUNDS, INCLUDING CURRENT USES, ISSUES, EXISTING VEGETATION, CLIMATE, SHELTER, WATERING SOURCES, MAINTENANCE NEEDS, SURVEY SCHOOL AND LOCAL COMMUNITY
- **CONTACT WSD EVERGREEN CONSULTANT** WORK COLLABORATIVELY WITH AN EVERGREEN CONSULTANT TO REALIZE YOUR VISION
- **DESIGN CONCEPT PLAN** ALONG WITH STAKEHOLDER INPUT, CREATE A DESIGN CONCEPT PLAN WITH YOUR EVERGREEN CONSULTANT. FINAL DESIGN TO BE SUBMITTED FOR APPROVALS
- **BUDGET** PROJECTED FUNDING SOURCES, SUPPLIERS PRICING, PRELIMINARY COST ESTIMATE
- **TIMELINE** PLANNING + INSTALLATION: WHO, WHAT, WHEN, WHERE?

3 | IMPLEMENTING

- **FINAL APPROVALS** ENSURE THAT ALL REQUIRED APPROVALS FROM SCHOOL PRINCIPAL AND SCHOOL DISTRICT ARE RECEIVED
- **DEPOSIT FUNDS** DEPOSIT FUNDS INTO WSD ACCOUNT
- **TENDER + CONSTRUCTION** CONSTRUCTION DOCUMENTS, REQUEST MINIMUM 3 QUOTES, SELECT WSD APPROVED CONTRACTOR, OBTAIN MATERIALS + SUPPLIES, INSTALLATION

4 | MAINTAINING

- **5-YEAR MAINTENANCE PLAN** REFER TO WSD GROUNDS MAINTENANCE GUIDELINES, OUTLINE RESPONSIBILITIES
- **VOLUNTEER MAINTENANCE** RECRUIT VOLUNTEERS (GREENING COMMITTEE) FOR CERTAIN PRACTICES SUCH AS WATERING, PLANTING + WEEDING TO ENSURE PROJECT SUCCESS



VISIT www.evergreen.ca FOR FURTHER RESOURCES

- MILESTONE



WINNIPEG SCHOOL DIVISION

MAKING CHILD DEVELOPMENT AND LEARNING CONNECTIONS ON OUR OUTDOOR SCHOOL GROUNDS