GREENING OF SCHOOLYARDS

JANUARY 2017

Greening of Schoolyards Plan – Project Plan

Draft - 12/19/16

Contents

INTRODUCTION/OVERVIEW

Childhood obesity, attention deficit and hyperactivity disorder, mood disorders, diabetes and other chronic diseases are a gathering storm facing the health care sector. If we are to keep long term costs from rising to unsustainable levels we must address the health and wellbeing of our children now. Time spent in nature has been proven to address a wide range of chronic disorders. Children spend a large share of their waking hours at school, and greening of schoolyards programs have proven to be a cost-effective means to improve academic performance, increase levels of physical activity, deepen social connection, decrease disparities for low income and children of color, and keep kids healthier.

This project lays the foundation necessary to green schoolyards across the Portland-Vancouver region. The project:

- creates a long and short term plan for greening schoolyards region-wide
- makes the case and enlists school administrators and other key stakeholders in leading efforts to green schoolyards
- identifies barriers and recommends solutions
- identifies opportunities and recommends action
- develops and makes accessible resources and strategies to guide greening programs
- identifies funding opportunities
- catalyzes implementation

This plan is a blueprint for any school, school district or school stakeholder to better incorporate nature into the daily lives of students. The information gathered helps civic leaders to envision, promote,

develop, and implement projects that transform uninspired, unhealthy spaces and turn them into vibrant places where children learn and thrive.

This project evolved out of The Intertwine Alliance's Health and Nature Initiative, an effort that brought together the health care and environmental/recreation sectors to explore shared opportunities. The Intertwine Alliance, a coalition of 160 private, public, and non-profit agencies working to help nature thrive in the four-county metro region, began to explore these issues when more and more evidence showed a direct connection between health and nature. This project along with the region wide expansion of RxPlay, are the first two projects to move forward out of this initiative.

To create the most impactful and actionable plan possible, The Intertwine Alliance gathered local practitioners and stakeholders who have a broad range of collective knowledge and experience about "nature in schools" programs. Planning Team members included representatives of School Districts, School Boards, school gardens, landscape architecture, non-profit environmental education, nature play, conservation, public health, farm to school programs and university research. The Planning Team provided the vision and structure for our conversations and is responsible for much of the content of this plan.

This project was undertaken with the support of Family Care who saw the development of this plan and program as a strategic way to support healthy families.

WHAT WE DID

This plan was developed by the staff of The Intertwine Alliance with support and participation by Alliance partners and the broader community, who worked together as part of a planning team. The team's charge was to:

- Clarify context and scope for this project
- Identify the questions to guide the process
- Develop a vision statement that will guide this effort
- Clarify our work (focus) and process
- Development of Objectives/Strategies Chart
- Determine plan elements
- Review national activities as potential models
- Choose a model and develop relevant strategies

OUTCOMES TO DATE

- There is enormous enthusiasm from School garden, nature play and outdoor classroom advocates for both of these projects – this has already opened the doors to bring groups together who have previously not worked together
- Developed clear vision for this effort
- Recruited a team of leaders in the field willing to volunteer extensive time to complete this project
- Conducted an engaged process with these key stakeholders
- Bringing national expert to town to work with key stakeholder groups in early 2017
- Completion of asset mapping surveys of school green spaces (one complete with the second to be completed in January/February)
- Secured two additional funders for the project. The US Fish and Wildlife Service ($10,000 for the symposium and $7,500 for the asset survey) and PlayCore ($5,000 for the symposium). There is also potential support from the Portland Teachers Association for teacher substitute stipends

SUMMARY OF KEY ACTIONS/ACTIVITIES

- Created context for the project, where it fits within the needs of the community and The Alliance's efforts, and what is needed to scale it up and make school gardens, nature play areas and outdoor classrooms ubiquitous throughout the region.
- Identified the questions that we really wanted to use as a way to guide the process
- Develop a vision statement that will also assist us in guiding this effort, which continues to be updated and informed by ongoing discussions
- Clarified our work/process – the group looked at the goals/objectives for this project and spent time thinking about the various elements of a plan and what the components of those elements would be.
- Development of Objectives/Strategies Chart (see attached) – will act as a guide for structured conversations to flesh out key components of the plan. We still need to narrow down the groups' focus and make decisions on which elements to do a deeper dive.
- Elements of plan determined and were fleshed out during meetings with feedback and editing between meetings
- Arranged to bring into town in January national expert on green schoolyards, Sharon Danks. She will be working directly with our Planning Team to review our direction and strategies, and will connect with key stakeholders from the school districts during a special luncheon in Portland

and a second event in Clark County for schools across the river. This is a critical part of the planning process to get deeper buy-in from key decision makers.

- Will have an asset map in place of all managed school green spaces to be able to identify gaps and successful projects. The first survey covers schools in east Multnomah County. The second survey will cover the other three counties and west Multnomah County. That effort will be completed by February 2017.

Greening of Schoolyards Task Force – 8 meetings

- February 25, 2016
- March 31, 2016
- April 29, 2016
- May 19, 2016
- June 16, 2016
- August 17, 2016
- September 13, 2016
- January 12, 2017 (survey volunteer team)
- January 23, 2017

Greening of Schoolyards Task Force members

- Brendon Bassett, Metropolitan Family Group
- Gaylen Beatty, Metro
- Carol Maurey Bellows, Landscape Architect
- Nancy Bond, Portland Public Schools
- Erik Carr, EMSWCD
- Suzanne Easton, EMSWCD
- Anna Garwood, Growing Gardens
- Karen Goldburg, SOLVE
- Kasandra Griffin, Upstream Public Health
- Monica Gunderson, SOLVE
- Brett Hamilton, Family Care
- Kristen Harrison, Portland STEM Partnership
- Tia Henderson, Upstream Public Health
- Katia (Catherine) Jesson, architect
- Ben Johnson, Greenworks
- Sybil Kelley, Portland State University
- Steve Kennett, SOLVE
- Jane Tesner Kleiner, Clark County
- Michelle Mathis, Learning Landscape Design
- Katie Meckes, EMSWCD
- Laura Mooney, American Society Landscape Architects
- Kris Potter, Battleground School District

- Mara Reynolds, SUN Program
- Mike Rosen, Portland School Board
- Eric Rosewall, DePave
- Anne Samuel, Mayer Reed
- Jacob Sherman, Portland State University
- Rick Sherman, Oregon Farm to School Program, Salem
- Shannon Simms, Mayer Reed
- Laura Taylor, WMSWCD
- Bethany Thomas, ECO
- Nikkie West, Audubon
- Patrick Willis, Oregon State Extension Program
- Rod Wojtanik, Metro

PROBLEM STATEMENT

Children today are facing a wide array of negative health outcomes due to our changing physical and social environment. Over the past 30 to 40 years, there has been a steep decrease in the overall physical activity level of children (IOM, 2013). This has in turn led to an increase in obesity and obesity related disease including diabetes and cardiovascular disease (NIH, CDC). Moreover, they are experiencing other negative health outcomes associated with lack of outdoor physical activity including increase asthma rates and mental health outcomes (Journal of Epidemiology and Community Health, NIH). The medical community continues to seek new ways to combat these negatively trending statistics.

The social determinants of health remind us of the impact that our environment has on our ability to thrive. Children spend much of their waking lives in school, and the school environment has an enormous and multidimensional impact on them. Yet, for a variety of reasons, most schools and districts have not given much attention to school grounds and many of the properties are shaped much as they have been for decades. In addition, recess, a time for physical activity, creative play and social development, has all but disappeared creating a state of inactivity and isolation for our children. Rethinking school properties has an enormous untapped potential to turn these spaces into productive assets that help improve academic performance and children's wellbeing, thereby helping teachers and administrators reach many of their goals and objectives.

Another contributing challenge is that nature-focused areas are not distributed equitably throughout our region. At high-resource schools (where there are identified champions or groups that have been able to fund program educators/coordinators) these types of assets have been sustained and integrated into the classroom and daily life of the school. However, at schools without well-organized or funded leadership, schools struggle to initiate or sustain these programs. To promote equity among schools, we need to overcome the many barriers and create a more coordinated system-wide approach to develop and sustain green spaces. In addition, natural school features allow for an integrated approach to

learning that fosters environmental stewardship and connects students to the many benefits of the natural world.

THE BENEFITS

What would it be like for children to access nature every day? Science, math, English and art is being taught in outdoor classrooms. Children enthusiastically choose to climb on logs instead of plastic or metal contrivances. They take responsibility for an emerging garden, learning self-esteem and cooperation while watching life grow and directly connecting to our relationship with the natural world. They have fresh air to breath, more opportunities to move their bodies, they are released from the confinement of their school desks – to see the beauty of the school grounds, which not only creates an alternative space to connect with but also creates a renewed and positive sense of place. School grounds that contain the beauty of nature make the school a place of pride.

Developing a deeper sense of place and social cohesion, enjoying the range of health benefits that nature nearby affords, using the natural world as a classroom to understand ourselves and our place in the world, and engaging with the systems that surround us while stimulating our imaginations are all outcomes we expect if we make the investment to "green" our schoolyards and creatively integrate nature back into the physical world of schools.

THE VISION

The following vision was created by our Planning Team to visualize what success looks like:

We envision school grounds as places where our children blossom. Through experiential learning they appreciate the diversity of life – human and non-human – around them; they discover the value of observation, play, exploring boundaries, getting dirty and a stronger connection to the food they eat; and they can have place to be reminded of the important role beauty plays in our daily life. We are motivated and provoked by the compelling research that cognitive abilities and academic performance show significant improvement with repeated exposure to the natural world and that these spaces help

students to become healthier. And we are committed to making sure the benefits of spaces such as this are accessible and utilized by all children in all neighborhoods throughout our region.

The Plan we create must address all these issues and provide a sustainable pathway for these types of projects to catalyze, develop and thrive. The work will be guided by the following principles:

- We imagine, plan, develop, and sustain these special spaces by committing appropriate resources and attention to their development and upkeep.
- We maintain these efforts through partnerships with nonprofit groups and the broader community as involved decision-makers, implementers, nurturers and stewards.
- We commit to making sure the benefits of these transformative efforts benefit all schools and communities in our region, especially underserved communities.

THE CASE

Research continues to mount supporting the benefits of natural spaces within the school property setting.

CHILDREN ARE INCREASINGLY AT-RISK

- Childhood obesity has more than doubled in children and quadrupled in adolescents in the past 30 years. The percentage of children aged 6–11 years in the United States who were obese increased from 7% in 1980 to nearly 18% in 2012. (Center for Disease Control)
- 60% of obese children (5-10 years of age) have at least one identifiable cardiovascular risk factor (Center for Disease Control)
- Childhood asthma is increasing significantly particularly in urban areas with high poverty (Journal of Epidemiology and Community Health)* should find a quantitative data point
- 1 in 5 children has, or has had, a serious mental health disorder at some point in their lives (National Institute of Health)

GREEN SCHOOLYARDS IMPROVE PHYSICAL, EMOTIONAL, COGNITIVE AND BEHAVIORAL HEALTH

Research on green schoolyards has shown nature, including any and all non-paved or built features in school environments to benefit student health. The findings show that these benefits are multidimensional and include:

- Lower stress and anxiety levels
- Improved sense of security and well being
- Improved social interactions
- Improved academic performance
- More imaginative play
- Higher levels of physical activity
- Feelings of calm, peace and relaxation
- Lower blood pressure

RELEVANT RESEARCH

Some of the research is summarized below:

- Children spending time in nature-filled play spaces receive benefits including richer and longer-lasting imaginative play, increases in their sense of security and stability, physical activity and physical confidence, an increase in and enhancement of small group interactions, and an increase in and more in-depth dramatic play. (Nedovic, S., Morrissey, A., 2013)
- After time spent in green spaces researchers observed several mental health benefits including an increase in calm and relaxation, slower and more concentrated play, and increased ability to deal with separation anxiety. (Nedovic, S., Morrissey, A., 2013)
- Young elementary school students overwhelmingly chose wooded areas over a playground for play during recess and were reported to receive benefits including physical independence, supportive social relationships, and an increase in imaginative play. Children learned physical and social competence, formed complex cultures and alliances, and developed autonomy. Teachers and parents also observed enhanced attention and decreased anxiety among the children. (Chawla, L., Keena, K., Pevec, I., Stanley, E., 2014)
- Older elementary school students used a varied natural areas for school assignments that included woods, a butterfly garden, hills, and a pond, finding these areas relaxing and stress-free when compared to their normal academic environment. One-quarter specifically described the setting as calm or peaceful, reporting feelings of safety, respite, freedom, and attention

stimulated by seasonal changes. Researchers observed a marked decrease in disrespectful behaviors among students and increased cooperation and accountability. (Chawla, L., Keena, K., Pevec, I., Stanley, E., 2014)

- Of the high school students who participated in gardening programs, 46% of interview keywords analyzed had to do with calm, peace, and relaxation, and cited four reasons for these feelings: being outdoors in fresh air in nature, feeling connected to a natural living system, caring for living things successfully, and having time for quiet self-reflection. Fifty-one students were specifically asked how gardening affected their attention, with 98% reporting positive effects. Several students mentioned positive effects on their psychiatric symptoms. (Chawla, L., Keena, K., Pevec, I., Stanley, E., 2014)

- Students in all age groups in all settings reported or displayed positive effects on stress and attention. Protective factors for resilience were also enhanced, including competence and supportive social relationships. The authors describe how competence results in feelings of mastery and self-efficacy, and supportive social relationships were related to students' freedom to choose activities and define their own roles. (Chawla, L., Keena, K., Pevec, I., Stanley, E., 2014)

- Views of green landscapes from classroom windows helped high school students recover more quickly from stressful events. (Li & Sullivan 2016)

- 85% of parents and educators said green schoolyards supported a wider range of play activities than other types of schoolyards. The addition of trees, logs, shrubs and rocks promoted running, jumping, climbing, lifting – demonstrating that a variety in landscaping increases variety in active play. (Dyment & Bell, 2008)

- The study by Dyment and Bell also showed that:

    - children demonstrated more cooperative play, civil behavior and positive social relationships in green schoolyards and that ultimately green schoolyards can reduce aggression and discipline problems

    - green spaces were an important place for physical activity – respondents reported that 66% of students use green areas for active play

    - green spaces tended to support more moderate and light activity as opposed to the more vigorous activity that generally takes place in traditional turf and asphalt areas

    - nearly 50% of the respondents reported that their school ground promotes more vigorous activity after greening, while about 70% reported more moderate and/or light physical activity taking place after greening

    - 90% of respondents reported that their school grounds appeal to a wider variety of student interests after greening

- 85% reported that their school ground now supports a wider variety of play activities
- 84% reported that since greening, their school ground encourages more exploration of the natural world.

- Green schoolyards can contribute to girls' physical fitness – physical activity decreases as children grow especially for girls. Green schoolyards sustain activity as children age and preferences change. (Brink et al., 2010)
- Blood pressure decreased among students at the school with natural play areas vs. traditional playgrounds. Well-being improved significantly according to the Basler Well-Being Questionnaire. Students at the intervention school perceived increased restorativeness on the compatibility scale. (Kelz, C., Evans, G. W., Röderer, K., 2013)

CURRENT STATE OF THE SCHOOLS AND NATURE CONNECTION

Two asset mapping surveys were completed (results will be included in the final report) that show the locations of gardens and green schoolyards across the region and identifies gaps. While there has been an increase in the number of green schoolyards over the past decade, green schools are still uncommon and are typically not being developed in low-income and underserved neighborhoods.

SUCCESSES

This section of the plan will also share a sampling of regional success stories (a short synopsis here with longer descriptions in the Appendix)

Gardens

- Lent School garden
- Battleground School Gardens
- Hosford School Rani Garden

Nature Play

- Lewis Elementary School
- Clatskanie Elementary School
- Sabin Nature Play Area

Outdoor Classroom

- Hood River Middle School
- Gaiser School water monitoring project

- Humboldt School Learning Garden
- Corbett Grade School

Community Involvement/Non-profit partnership

- Candy Lane Elementary School/Schoolyard Farms

BARRIERS

Access to information

Information about gardens and nature play areas is scattered – there is no singular home for ideas, local resources or tools. There are also no mentoring relationships where those groups who have been successful can be paired with those just starting out to share information and best practices.

Ongoing maintenance

Funding that comes from limited duration grants or with an outside organization is often not sustained. More reliable sources of ongoing maintenance funding are needed.

Transition planning

The children and their parents that start greening projects "graduate" to other schools and teachers transfer. Embedded and institutionalized programming can ensure smooth transitions, but this is often not in place.

Liability issues

Especially around play spaces, schools are worried that green spaces can become insurance liabilities and open them to potential lawsuits.

Lack of centralized support

There is no local central source of support, information and advocacy for greening programs. This leaves greening programs isolated and vulnerable.

OPPORTUNITIES

The tools and best practices exist

Much work has been done nationally and regionally to develop toolkits and best practices. This project organizes this information and makes it accessible.

We have many local success stories

We have not done a good job of leveraging the successes that are happening right here in our region. We have some of the best landscape architects and garden experts in the US and they have already created a positive track record working with schools.

Playground replacement

Antiquated, tired, sterile play equipment is being systematically replaced. Instead of replacing it with more of the same, we have the opportunity to take creative approaches to playground design.

Bond money for school upgrades

Many school districts have facilities that are currently or are in process of being overhauled and redeveloped with the assistance of construction bonds passed by area residents. The time could not be better to insert these ideas into this planning process.

Leveraging student "wellness"

There is much emphasis now on social determinants of health and student health disparities. Since green space directly addresses many of these health challenges they can become a key element in student health.

Skill development/career training

Exposure to nature and environmental education, along with involvement with outside partner organizations, are ideal settings to show students new career opportunities and begin training them for a range of STEM-related and environmental jobs.

Equity

Greening projects are often found in schools where there are greater community resources, which creates a disparity. That, combined with the fact that parks and natural areas are often clustered in the wealthier neighborhoods, leaves disadvantaged neighborhoods without access to the benefits that nature provides. Greening programs present an enormous opportunity to improve the health and well-being of disadvantaged communities and improve environmental justice.

PROGRAM DIRECTIONS AND STRATEGIES

POTENTIAL MODEL: MARYLAND GREEN SCHOOLS PROGRAM

Our research points to a Maryland-based program that could serve as an excellent model for our adoption in region. As Maryland Association of Environmental & Outdoor Education's (MAEOE) signature program, the Maryland Green Schools Program is nationally recognized for its significant impact with students and schools. The program provides educational opportunities for preK-12 schools that promote responsible environmental stewardship practices and increase awareness of how our relationship with the environment ultimately impacts public health and society. As part of its **Green Center Award Program** , Maryland Green Schools has created physical hubs that provide support and assistance to those schools wanting to improve their school grounds and create healthier spaces.

There are currently 560 **Green Schools** or **25%** of approximately 2200 public and independent schools with 1 million Pre K-12 students. The Green Centers program supports schools in their efforts to become Maryland Green Schools by:

- Providing information about the MD Green Schools program
- Working closely with schools to guide the MD Green School application process
- Contributing to schools' MD Green School award application
- Providing programmatic support for School Environmental activities
- Provides focused In-service or professional development for teachers
- Provides direct instruction that is related to MD Green School projects at a school/community
- Partners with the school for solutions to environmental issues in the community
- Provides Schools with contacts and connections to the appropriate resources

The Intertwine Alliance's Greening of Schoolyards Planning team is specifically interested in a program that has been developed as part of the Baltimore Green Center which has 40 Green Schools participating. Working with The Baltimore Office of Sustainability, Baltimore Community Foundation, and Baltimore City Public Schools, with support from Constellation, an Exelon Company, they offer **Green, Healthy, Smart Challenge grants** to support environmental projects and programs at Baltimore City Public Schools. This is the type of incentivized program the planning team would like to create in the Portland metro region.

All Baltimore City Public Schools may apply for up to $1,000 to support a project on their grounds. Schools that have successfully completed at least one Green, Healthy, Smart Challenge grant project in the past and are actively working on applying for Maryland Green School status may apply for up to $1,500. Schools that are currently certified as Maryland Green Schools may apply for up to $2,500. Please see Appendix for more detailed information on the Maryland/Baltimore program.

The Alliance's Planning Team envision this effort taking the form of a leadership committee rather than something housed at a single school, so there would be no model school per se. There would, however, be a group in place to serve the support, resource access and incentivizing functions of the Maryland/Baltimore model.

STRATEGIES, WORKPLAN AND TIMELINE

The overall work of launching a regionwide Greening of Schoolyards initiative is organized into three phases:

1. **Planning**. The planning phase began in earnest in January 2016 and continued through the completion of this report and plan in January 2017. This phase completed the research, organization, strategies and work plan development needed to lay a foundation for a regionwide program.

2. **Development**. The development phase involves actually putting in place the institutional, programmatic, informational and funding elements that are necessary to operate a program of the scale outlined in this report. While some development work was begun prior to 2017, this phase began in earnest in January 2017.

3. **Implementation**. The implementation phase is expected to begin in 2018. During this phase the program becomes operational and schools begin accessing resources, developing green schoolyards, and accessing programming.

Implementation is a phased effort. While the goal is to ultimately reach across four counties, the group will focus on areas of greatest need first, developing capacity and support in those schools with the greatest disparities. Funds will support schools for three years upon reaching certain benchmarks.

- Phase 1 (2018) – 20 new school projects initiated and seed money dispersed
- Phase 2 (2019-20) – 25 new school projects initiated with original 20 provided with year 2 support
- Phase 3 (2021-22) – 20 new school projects initiated with 45 first and second year projects supported

This document reports on and has resulted from the phase 1 planning stage, lays out a detailed action plan and timeline primarily focused on the program development phase, and provides an initial projection of the implementation phase.

LEADERSHIP DEVELOPMENT

Portland Metro Green Schools Leadership Collective (GSLC) – Key to the success of this project will be to develop a Leadership Collective that would function similar to a Green Center within the Maryland Green Schools Program Model (see Appendix). Ongoing leadership and direction for the program, and the movement behind it, will rest here. The lack of a central leadership body has led to haphazard, non-strategic and unsustained efforts in the Portland region that have fallen well short of potential. The Leadership Collective will carry the mantel for the greening program, provide direction and support for interested schools and nonprofit groups, and provide ongoing advocacy for new and continued funding. While the Leadership Collective will provide the coordination and leadership function provided by Maryland's Green Center, it will not provide an on-site green schoolyard model like Green Center does. The Intertwine Alliance is now seeking administrative funding for the Collective's first year of operation.

Teachers and Students – The involvement of teachers and students is critical to the effort. Teachers and students need to be major drivers of teams in each school to provide leadership and continuity. Systems for leadership transition and student mentoring of younger students will be in place to support this effort.

Nonprofit/Community partners – Partnerships will play a key role in the success of these projects. GSLC will develop a standard Memorandum of Understanding (MOU) form so schools can easily develop

alliances with community groups. These will clearly spell out roles and responsibilities of the parties. GSLC will leverage existing relationships with community groups and work to develop new relationships to assist schools with developing these alliances.

The Intertwine Alliance – The Intertwine Alliance (TIA) will continue to support this work as it fits directly within its current priorities (Health, Equity and Engagement).

Emphasis on Underserved – This project is an equity project – it is meant to serve those schools and neighborhoods that experience disparities around health and academic achievement. This will be the main focus of the work of the GSLC.

Year 1 Strategic Actions: Leadership

- **Establish Green Schools Leadership Collective** TIA staff is securing commitments from existing advisory team members, as well as expanding to key groups such as school district staff and health care professionals who are vital to success.

- **Sharon Danks Visit.** The Intertwine Alliance is organizing a forum featuring nationally recognized green schoolyards expert Sharon Danks.

- **Complete presentation package.** Create a presentation package, including hard copy documents, that can be used to present to potential contributors and participants.

- **Complete asset map.** TIA has begun work on a survey of as many as 500 schools to identify gaps and needs. An asset map will be developed from the survey.

- **Identify high-need schools** This plan puts a high priority on neighborhoods and schools with the greatest health disparities and academic challenges. TIA and GSLC will work directly with schools in underserved neighborhoods, working closely with N/NE and East Metro STEAM (Science/Technology/ Engineering/Art/Technology) Partnership which works directly and has deep relationships with these schools. We will also work with Eco in the Schools, East Multnomah Soil and Water Conservation District. GSLC will meet with schools to assess readiness/interest levels and provide support as needed.

- **Host Children and Nature Symposium.** GSLC will connect with teachers who have attended events tied to the planning process. GSLC will develop a forum for teachers to learn about ways to better support their work, provide peer learning opportunities and connect teachers to experts with continuing education efforts. Following the symposium, we will do **symposium follow-up with interested schools.**

- **Hold community forums.** TIA will hold forums to build community understanding and awareness of issues as well as helping to resolve program barriers. We will begin **GOSY Forum planning** in the first half of 2017.

- **Drive advocacy**. GSLC will follow up on potential funding leads and follow through with broader requests that will support the larger movement as well as individual projects. They will act as an advocacy team for the overall movement and build relationships with other effort and seek alignment with other big picture funding efforts. With the support of The Intertwine Alliance staff, the Collective will oversee efforts to leverage the health angle of this work by involving groups like school based health clinics and other health care providers to seek mutually beneficial outcomes.

OPERATIONS AND ORGANIZATION

Green spaces and programs need internal school leadership and support in order to be successful. The ideal scenario is to have internal an advisory team led by school administrative and facilities staff and a space coordinator or other internal champions. Depending upon the complexity and leadership needs required by the project scope and scale contracted coordinators may be required in order to provide leadership, continuity and ongoing maintenance support. Critical, though, to these projects success is having administrative staff on board and supportive as they play a key role in the leadership and support of green schoolyards. In addition, systems need to be in place and resources available to schools so they understand best practices, don't spend time reinventing the wheel and are most efficient and effective with their efforts.

The ownership of these programs by school administrative staff is critical to their success. They must see this as a way to achieve their short and long term objectives and the projects must be able to show quantitative and qualitative results. They must have confidence in the system and structure and understand the ROI on investment in these projects. Our Plan attempts to mitigate concern around the sustainability of these projects, following proven methods and pathways towards successful outcomes. Resources and tools available to all groups should also help staff and stakeholders feel more comfortable proceeding with these projects understanding best practices. Having formal mentors in place will also create a supportive network that can ease concerns about initiating and implementing these efforts.

The creation of teams involving school administrative staff, teachers, students and community stakeholders is a structure that has proven successful for many of these projects

Operationalizing the Green Schools Leadership Collective. Situating the GSLC within an existing framework will provide broader and sustainable support for this program. There are a number of efforts that our program ties directly to so it seems clear to us that there may be synergies of attaching this program to some of these larger regional or statewide efforts. We are currently in discussion with these groups to see what is possible in the near and long term.

Regional Collective/Oregon Green Schools and National Wildlife Federation's Eco-Schools USA – Oregon Green Schools (OGS) is a statewide network that has previously focused specifically on school sustainability practices (including recycling efforts, energy savings and resource usage) and is now interested in expanding the vision of their effort to include nature in the schools

efforts. OGS has a co-certification partnership with National Wildlife Federation, meaning they have aligned both programs so that participating OGS schools can receive reciprocal status as an Eco-School.

The National Wildlife Federation's Eco-Schools USA program provides a holistic framework to green schools with comprehensive resources. Through eco-action teams of students, administrators, educators, parents, and community volunteers, Eco-Schools USA combines effective "green" management of school grounds, facilities, curricula, and student experience through Pathways of Sustainability that include: Energy, Water, Sustainable Food, Climate, Biodiversity, Transportation, Schoolyard Habitats, Consumption & Waste, Healthy Living, Healthy Schools, and (*Coming Spring 2017)* WOW – Watersheds, Oceans, & Wetlands and LEAF/Learning About Forests. The Eco-Schools USA program provides a framework for environmental-based STEM, is connected to curriculum, displays an interactive map, provides schools with certification (including signage for Schoolyard Habitats) and recognition through award levels, and provides a dashboard (mini-webpage) platform for participating schools.

Our goal would be to develop a pool of funds to incentivize this program that would be tiered (based on the state of Maryland's Green School Program). We would see how we might be able to tie into the national Green Ribbon School certification. The discussion at this time is to use this Leadership Collective as a model of regional hubs that could be created throughout the state but would be a localized branch of this statewide program.

Regional Collective/Oregon Farm to Schools Program – Oregon has a robust and well-funded Farm to Schools Program and a new non-profit Oregon Farms to Schools and School Gardens Network which is an epicenter for school garden programs throughout the state. They organize an annual School Gardens Conference and provide funds ($2 million annually) to support school garden development. Our discussions are around whether we can tie the Leadership Collective into a more formal, regional branch of this effort and utilize their infrastructure and receive funding potentially.

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Regional Collective/STEM-STEAM – The Oregon STEM/STEAM (Science, Technology, Engineering, Art and Mathematics) program is another well-funded and successful effort that his huge interest in using these types of spaces to teach science and environmental education. They have significant state funding and many regional hubs – our conversation with them entails

considering this a project of Portland's regional STEM work, and specifically work in N/NE Portland and East County, as a way to develop on the ground teaching opportunities

Regional Collective/Oregon Environmental Literacy Program – The Oregon Environmental Literacy Program (OELP) was created to implement Oregon's Environmental Literacy Plan signed into state law (2011) by creating intentional connections with the natural world through education and engagement of young people. Their goals align directly with the GOSY program: contribute to establishing healthy lifestyles; increase students' awareness, understanding, and knowledge of the environment and their relationship to it; participate as citizens in the stewardship of the environment; prepare them to engage in actions that ensure a sustainable future. We are discussing how this work could be connected to the regional hubs they are developing and state funding that they may be able to attract for their overall efforts

Regional Collective/The Intertwine Alliance – The GOSY Leadership Collective could situate itself as part of the Intertwine Alliance's Project Network, receiving support and a home for the hub. Projects in the Network are able to request ongoing support in different infrastructure areas as long as leadership is in place. This positioning would support the health angle of this project as a major focus since an advantage of being part of the network would be to stay connected to other interested partners, many of whom are in the health arena (Kaiser Permanente, Legacy, Oregon Public Health Institute, etc.). The Alliance would continue to work on leveraging the connection to health

Spaces Maintenance/ Sustainability. Maintaining the space will be a team effort although ultimate responsibility will be with the schools who are the property owners. The green school project team will oversee and support ongoing maintenance with the possibility that community support can help with some gaps and capacity issues. Ideally, strategic partnerships with community groups, the presence of paid coordinators, students who take on responsibility for upkeep and their ongoing mentoring of younger students will be key to sustaining these spaces. This also is a funding related issue which is dealt with in the subsequent section.

Project Development Model. The Project Development Model will be a framework schools will need to utilize to receive continued funding as well as assure best practices are being incorporated. The model will be finalized by the Green Schools Leadership Collective. That group will then help guide the creation of these school plans by offering mentorship, resources and tools. These include:

- Property and capacity assessment – understanding both what is possible given the existing spaces and how to best leverage the current property assets
- Project team – the details for putting this team together
- Project Plan – developing a plan with goals and objectives to move the project forward including a fundraising and maintenance plan

- Community Design – exploring the opportunity to involve the community (and students) in the design of the project
- Operational Plan – defining space function and roles and responsibilities of different team members and stakeholder groups
- Assessment Plan – evaluating the effectiveness of the effort to achieve its goals

Resources – The compiling of resources in one portal is one of the most important aspects of this project. This information does not exist in one place and would be difficult for schools to locate. The resource effort will include the following:

- Web Portal – A website which will serve a range of purposes besides being the place that resources can be accessed, it will also help build community and support, advocate for these programs, highlight successes and support stakeholder communication
- Grant funding to schools – the site will promote funding opportunities both through this granting program as well as other regional and national sources.
- Mentoring – a list of groups and contractors available to support this work
- Professional development – ongoing education and support programs to build organizational and school capacity and knowledge
- Certification – sharing information about our certification program and ways we hope to incentivize these projects
- Nonprofit partners – a list of groups in the community and roles they play in providing support for schools
- Toolkits/guides – resources to develop ideas and support processes and program development
- Research – articles that help articulate the case to support these efforts
- Communications – tools to help better communicate the need and benefits of these types of projects

Year 1 Actions: Operations and Organization

- **Embed the Green Schools Leadership Collective.** Establish a "home" for the Green Schools Leadership Collective with financial, administrative and operational support, preferably within an existing organization or program. We will **begin discussions w/ OGSN, OFS, STEM and NWF** for operations support in early 2017.

- **Develop green project teams.** GSLC will assist schools in developing green schools project teams including assisting in connecting schools to community and professional groups, and support of the Project Development Model.

- **Enlist school-based health clinics.** TIA and GSLC will approach school health clinics as potential partners.

- **Develop mentoring protocol**. GSLC will create a formal mentoring program matching professionals who can provide technical support with green school teams. This will include an accessible contact list of contracting professionals who are willing to share their knowledge and expertise.

- **Develop certification program**. GSLC will form, implement and provide guidance for the certification program as a way to catalyze and launch green school projects.

- **Establish incentives.** An incentive and grant program will be established to assist schools in starting and growing their projects

- **Develop a communications hub** The GSLC will oversee and keep up to date a web portal for information about the movement and its successes as well as resources for the community to use. This hub will help keep the momentum going, create access to toolkits, share developed curriculum and current research which will help make the case. The hub will include curriculum access through the work of groups such as Eco in the Classrooms, the Oregon Environmental Literacy Program (developing grade level/age-appropriate curriculum from K-12). A first step will be to **establish a web portal** at theintertwine.org in early 2017.

- **Create a Project Development Model.** GSLC will create a model for supporting project development.

- **Establish evaluation protocol.** GSLC will finish evaluation an protocol to create a format that can be adapted for muse in multiple settings

- **Create professional development opportunities**. GSLC will create and promote training opportunities for participants, particularly leveraging existing trainings including:

    - Center for Earth Leadership trainings
    - Lower Columbia Estuary Partnership teacher trainings
    - Dig In/East Multnomah Soil & Water Conservation District Schoolyard Assessment Project (direct assistance to schools to develop projects)
    - The annual Farm to School/School Gardens Conference

- **Establish community connections.** GSLC will create both a protocol to allow schools to develop working relationship with community non-profits and neighborhood groups as well as augment ongoing relationships with key partners such as Ecology in the Classroom, Audubon, Growing Gardens, and Center for Earth Leadership. Some of these will be formalized through MOU's.

FUNDING

Funding will be required for multiple pieces of this program although some projects require very little financial support to get started. Funding needs fall into the following areas:

Leadership Collective funding the backbone. There will be seed money needed to provide administrative support for the overall movement and the ongoing work of the GSLC which includes website support, administrative coordination and possibly paying a fiscal sponsor to handle granting efforts. The goal for administrative support is $50,000 annually.

Project Initiation. Funds to initiate projects could come from the incentivized grant program if funds are developed to support this source. Funds will be needed for materials required for construction although this can be a small amount or large depending on project scale. Fund raising by individual schools is a pathway many use to fund the start and ongoing work of these projects; this plan will have tool kits that include "how-to's" for various fundraising efforts and help build fundraising capacity. Schools will be supported to seek donations as many businesses see these types of projects as superficial to their business outcomes. Projects can range in size significantly with costs from $500 to $500,000.

Project Incentivizing. Incentivizing the development of these spaces over time is key for initiating new projects and continuing to build momentum for them. We are considering a three year incentive based grant program cycle which would provide $1500 grants in year one and $2500 grants in year 2-3. Year 2-3 grants will be given upon successfully meeting project goals the previous year. Funding for project support and incentivizing might go through third party like the Oregon Community Foundation so that a fair, politically neutral grant program can be sustained. A pool of $100,000 annually would be ideal to launch this effort ($50,000 in year one since we wouldn't be granting year 2 dollars)

Project Maintenance. Funds could be allocated from ongoing maintenance budgets depending upon the scale of the project. This funding could become available if other maintenance costs are offset because of this project (rain water mitigation, lawn mowing costs, etc.) Labor for maintenance would principally be assumed by stakeholders and green school team members while providing stewardship opportunities for students and partner groups. Hard maintenance costs will vary but it's not unreasonable to pay somewhere in the neighborhood of $500-5,000 dollars annually for materials

Project Leadership. If space coordinators are needed depending on program type or scale hiring a permanent green space coordinator is the ideal. A $40,000 commitment could support a full time coordinator who could oversee spaces in 3-4 schools. Part time coordinators are also a potential pathway but may not help with continuity goals

Funding Pathways

The Planning team has begun to investigate future funding pathways to support ongoing work and help fund the development and incentivizing of these projects. It is worth stating that this report, in and of itself, will be a critical tool in future fundraising effort as it will describe our vision, goals, objectives and structure we envision as well as the trajectory of the work we are hoping to accomplish. All conversations are at the early stages and will be followed up by the Leadership Collective. The following are the avenues that we are currently pursuing:

Health Care support – we are speaking to a range of health care providers with an interest in children's health and school environments to see if there can be some committed funding to support this work from a health perspective.

ESSA – Every Student Succeeds Act is a reworking of the No Child Left Inside Act that helps students achievement and with a commitment to support and grow local innovations—including evidence-based and place-based interventions developed by local leaders and educators. We are working with a local collaborative effort – Health Kids Learn Better to see if we can fold this work into their agenda and generate some funding.

Oregon Environmental Literacy Program – As mentioned above, the Oregon Environmental Literacy Program (OELP) was created to implement Oregon's Environmental Literacy Plan signed into state law as an unfunded mandate. It is hopeful that there will soon be funding for this effort (a first step being the funding of the Outdoor School Program across the state) which could support these types of programs.

STEM/ODE – Oregon STEM is committed to improving key educational outcomes and get students more connected to the sciences, engineering and math learning and careers. There are regional hubs which could act as a home for this program and there is potential that a portion of committed state funding for our effort might be available.

Foundation Support – Foundation such as the Gray Family Foundation (GFF), the Jubitz Foundation, the Oregon Community Foundation and many others regionally and nationally are committed to improving a range of childhood challenges. We have begun conversations with GFF and have made inquiries to the Robert Wood Johnson Foundation, a national leader in innovative nature and health efforts.

Ballot Measure (future) – similar to this November's Outdoor School effort and perhaps tied to the rollout of the Oregon Environmental Literacy Program, there may be an opportunity at some point in the near future to find dedicated statewide (or regional) funding for that mandated effort for which funds to develop these assets could be integrated.

Year 1 Strategic Actions: Funding

- **Apply for phase II funding.** The Intertwine Alliance will apply to local philanthropic, corporate and government foundations for support for the development phase of this project.

(applications to US Fish & Wildlife, Playworks and Collins Foundation were complete as of January 15, 2017. USFWS and Playworks have committed funding)

- **Initial contacts on admin funding.** The Intertwine Alliance will approach the sources identified in this plan to secure funding for the Green Schoolyards Leadership Collective. Support for the GSLC is a priority because it supports all other elements of the plan.

- **Strategic funding discussions.** Once the GSLC is fully operational, we will deepen the discussions about long term funding. Overall strategy must be refined as conversations with potential funders evolve. Typically, some become more promising and some less as time goes on. Funding will be an ongoing thread in the work of the GSLC.

- **Establish long term funding.** Our goal is to establish project initiation funding, project incentives funding and project maintenance funding somewhat concurrently, as these elements are all important to long term success.

INTERTWINE ALLIANCE GREENING OF SCHOOLYARDS WORK PLAN OVERVIEW

	Planning Phase	Program Development: Quarter 1			Program Development: Quarter 2		
	Pre-Jan 17	**Jan 17**	**Feb 17**	**Mar 17**	**Apr 17**	**May 17**	**Jun 17**
Leadership	Form steering committee (TIA) Develop plan (TIA) Design schools survey (TIA) Sharon Danks visit planning (TIA) Symposium planning (TIA)	Sharon Danks Visit Establish Green Schools Leadership Collective	Drive advocacy (ongoing) Finalize Leadership Collective commitments (TIA)	Complete presentation package (GSLC, TIA) Children and Nature Symposium (TIA) Complete asset map (GSLC)	Symposium follow-up w/ interested schools (TIA) Identify high-need schools (GSLC)	Begin GOSY Forum planning (GSLC, TIA)	
Operations		Establish web portal (TIA)	Embed the Green Schools Leadership Collective (TIA) Develop green project teams (ongoing)	Develop mentoring protocol (GSLC) Start establishing community connections (GSLC) Enlist school-based health clinics (TIA)	Develop a communications hub (GSLC) Begin discussions w/ OGSN, OFS, STEM and NWF for operations support (GSLC, TIA)		Establish community connections (GSLC)
Funding	Apply for phase II funding (TIA)	Initial contacts on admin funding (TIA)		Strategic funding discussions (GSLC, TIA)			

	Program Development Phase		Implementation Phase			
	Q3 17	**Q4 17**	**Q1 18**	**Q2 18**	**Q3 18**	**Q4 18**
Leadership	Approach other program sectors (GSLC)	Establish incentives (GSLC)				
Operations		Establish evaluation protocol (GSLC) Create a Project Development Model (GSLC)	Create professional development opportunities (GSLC)	Develop certification program (GSLC)		
Funding	Strategic funding discussions (GSLC, TIA)				Finalize grant program structure and process (GSLC)	Establish long term funding (GSLC)

TIA – Intertwine Alliance staff
GSLC – Green Schools Leadership Collective
CNSPC – Children and Nature Symposium Planning Committee
STEAM – Science/Technology/Engineering/Art/Mathematics
OGSN – Oregon Green Schools Network
OFS p Oregon Farms to Schools Program
NWF – National Wildlife Federation

APPENDIX

CURRENT GREEN SCHOOLYARDS PROGRAMS/ACTIVITIES/ASSETS – ASSET MAP

Oregon School Garden Map – Oregon Farm to Schools Program & School Gardens
http://www.ode.state.or.us/search/page/?id=2647

Growing Gardens School Garden Assessment and Mapping Project
http://www.growing-gardens.org/wp-content/uploads/2017/01/SchoolGardenSurveyReportFinal.pdf

Portland Metro Asset Mapping – to be completed 3/1/17

RELATED LOCAL/REGIONAL/STATEWIDE PROGRAM AND NETWORKS

NATIONAL

Baltimore Office of Sustainability Green Schools Program
http://www.baltimoresustainability.org/projects/green-schools-initiative/green-schools/

Center for Ecoliteracy
https://www.ecoliteracy.org/

Center for Green Schools
http://centerforgreenschools.org/

Evergreen – Greening School Grounds
https://www.evergreen.ca/our-impact/children/greening-school-grounds/

Evergreen – Outdoor Learning and Play
https://www.evergreen.ca/our-impact/children/outdoor-learning-play/

Evergreen – School Ground Greening
https://www.evergreen.ca/get-involved/resources/school-ground-greening/

Green Schools Alliance
http://www.greenschoolsalliance.org/home

Green Schoolyards America
http://www.greenschoolyards.org/

Maryland Association for Environmental & Outdoor Education – Green Schools Program
http://www.pps.net/cms/lib8/OR01913224/Centricity/Domain/62/pdfs/community/BAC%20charter/Issue_Paper_6_3_Sustainability.pdf

National Wildlife Federation – Eco-Schools Program (Portland office)
http://www.nwf.org/Eco-Schools-USA.aspx
https://www.nwf.org/Garden-For-Wildlife.aspx

Playworks (Portland base)
http://www.playworks.org/

US Fish and Wildlife Service
https://www.fws.gov/cno/conservation/schoolyard.html

STATE

American Society of Landscape Architects: Oregon Chapter
http://aslaoregon.org/

Oregon ASK
https://oregonask.org/

Oregon Department of Education Farm to Schools Program and School Gardens
http://www.ode.state.or.us/search/results/?id=379

Oregon Environmental Literacy Program
http://oelp.oregonstate.edu/

Oregon Farms to Schools Program & School Gardens
Getting Started with School Gardens
http://www.ode.state.or.us/search/page/?id=4211

Oregon Green Schools Network
http://oregongreenschools.org/

Oregon Nature Play Initiative
https://oregonplay.wordpress.com/

Oregon State Extension
http://extension.oregonstate.edu/

Upstream Public Health/Healthy Kids Learn Better
http://www.upstreampublichealth.org/issues/healthy-schools

LOCAL

AIA Portland – Green Schools Committee
http://aiaportland.org/committees/committee-on-architecture-for-education

Audubon Society of Portland – Backyard Habitat Program
http://audubonportland.org/issues/backyardhabitat

Center for Agriculture, Science and Environmental Education
http://casee.battlegroundps.org/

Center for Earth Leadership
http://earthleaders.org/

DePave
http://depave.org/

Dig In
http://www.digincommunity.org/

East Multnomah Soil and Water Conservation District
http://emswcd.org/

Earth/Art/Ag
http://earthartag.blogspot.com/

Ecology in the Classroom
http://www.ecologyoutdoors.org/

Ecotrust Farms to School
https://ecotrust.org/project/farm-to-school/

Garden Education Professional Learning Community
http://weblink.donorperfect.com/gardeneducationPLC

Green Schoolhouse
http://greenschoolhousepdx.com/

Growing Gardens
http://www.growing-gardens.org/

Harper's Playground
http://harpersplayground.org/

Lower Columbia Estuary Partnership
http://www.estuarypartnership.org/

Outgrowing Hunger
http://outgrowinghunger.org/

Portland Farm and Garden Educators Network
https://groups.google.com/forum/#!forum/pfgen

Portland Metro Stem Partnership
http://pdxstem.org/

Portland State University Learning Gardens Laboratory
http://www.pdx.edu/elp/learning-gardens-laboratory

Schoolyard Farms
http://schoolyardfarms.org/
West Multnomah Soil and Water Conservation District
https://wmswcd.org/

Portland Children's Museum
http://www.portlandcm.org/

RESOURCES

BOOKS, REPORTS AND PLANS

Center for Green Schools
2013 McGraw Hill New and Retrofit Green Schools Report
http://centerforgreenschools.org/sites/default/files/resource-files/New%2Band%2BRetrofit%2BGreen%2BSchools%2BSMR%2B2013.pdf

Children & Nature Network
Building a National Movement for Green Schoolyards in Every Community
http://www.childrenandnature.org/wp-content/uploads/2015/03/CNN_GSY_Report2016_Final.pdf

Green Schoolyards America
Living Schoolyards: Cost/Benefit Research
http://nebula.wsimg.com/1dfd1ff9aaa11f3ba3a976e6616aa0ed?AccessKeyId=065718B828D697FE7ED3&disposition=0&alloworigin=1

Green schoolyards America
Asphalt to Ecosystems by Sharon Danks
http://www.greenschoolyards.org/asphalt-to-ecosystems.html (preview)

Healthy Schools Campaign
Green Schoolyards: A Growing Movement Supporting Health, Education and Connection with Nature
https://healthyschoolscampaign.org/green-schoolyards/

Maryland Association for Environmental & Outdoor Education – Green Schools Program
Study of Green Schools and Academic Achievement Report
http://maeoe.org/wp-content/uploads/2014/06/GSreport_bw.pdf

National Collaborative for Childhood Obesity Research and the National Academy of Environmental Design
Green Health: Building Sustainable Schools for Healthy Kids
https://drive.google.com/drive/u/1/folders/0Bwq5YlcSlgj8c25FSEhCd0M2aVE

Oregon Environmental Literacy Plan
http://www.ode.state.or.us/gradelevel/hs/oregon-environmental-literacy-plan.pdf

Portland Public Schools
Sustainability Principles of Design
http://www.pps.net/cms/lib8/OR01913224/Centricity/Domain/62/pdfs/community/BAC%20charter/Issue_Paper_6_3_Sustainability.pdf

TOOLKITS AND GUIDES

All Hands in the Dirt: A Guide to Designing and Creating Natural School Grounds
https://www.evergreen.ca/downloads/html/all-hands/

Every School can be a Green School: Getting Started Checklist (Center for Green Schools)
http://centerforgreenschools.org/sites/default/files/resource-files/Green-Schools-Getting-Started-Checklist.pdf

The Green Schools Investment Guide for Healthy, Efficient and Inspiring Learning Spaces (Center for Green Schools)
http://centerforgreenschools.org/sites/default/files/resource-files/Green%2BSchools%2BInvestment%2BGuide_Final%2BWeb%2BCopy_29April2013.pdf

Learn in the Garden (School Garden Wizard}
http://www.schoolgardenwizard.org/wizard/pdf/make_guide.pdf

Learning Grounds Guide for Schools (Evergreen)
https://www.evergreen.ca/downloads/pdfs/Guide-for-Schools.pdf

Living Schoolyard Activity Guide – California Edition (Green Schoolyards America)
http://nebula.wsimg.com/45f16df752e22c3e22b52a7f49124d29?AccessKeyId=065718B828D697FE7ED3&disposition=0&alloworigin=1

Resource Guide for Going Green in City Schools (Baltimore Office of Sustainability)
http://www.baltimorecityschools.org/cms/lib/MD01001351/Centricity/Domain/9104/ResourceGuideForGoingGreen_CitySchools_2014.pdf

CURRICULA RESOURCES

Growing Gardens – School Garden Curricula
http://www.growing-gardens.org/portland-gardening-resources/school-gardens/

Oregon Farm to School and School Garden Curricula
http://www.ode.state.or.us/wma/nutrition/snp/oregon-farm-to-school-and-school-garden-curriculum_5-15-14.pdf

National Wildlife Federation
https://www.nwf.org/What-We-Do/Kids-and-Nature/Educators/Lesson-Plans.aspx

CONTRACTING RESOURCES

Greenworks Landscape Architects
http://greenworkspc.com/

Learning Landscapes Design
http://www.learninglandscapesdesign.com/

Mayer Reed Landscape Architects
http://www.mayerreed.com/

MIG
http://www.migcom.com/services/view/2

Nature Play Designs
natureplaydesigns@gmail.com

Nature Play Washington
http://www.natureplaywa.org.au/programs/nature-playgrounds/landscape-designers

MARYLAND GREEN SCHOOLS PROGRAM – A SUCCESSFUL MODEL

After having completed our research we feel strongly that there is a model program that we could reshape to our specific region that would support this project and create a successful ongoing and sustainable effort.

Maryland Green Schools Program (MDGS)/Baltimore Green Center Project

As Maryland Association of Environmental & Outdoor Education's (MAEOE) signature program, MDGS is nationally recognized as having significant impact with students and schools. The program provides educational opportunities for preK-12 schools that promote responsible environmental stewardship practices and increase awareness of how our relationship with the environment ultimately impacts public health and society. As part of their Green Center Award Program they have created physical hubs that provide support and assistance to those schools wanting to improve their school grounds and create healthier spaces.

The Green Centers program supports schools in their efforts to become Maryland Green Schools by:

- Providing information about the MD Green Schools program
- Working closely with schools to guide the MD Green School application process
- Contributing to schools' MD Green School award application
- Providing programmatic support for School Environmental activities
- Provides focused In-service or *professional development for teachers*
- Provides direct instruction that is related to MD Green School projects at a school/community
- Partners with the school for solutions to environmental issues in the community
- Provides Schools with contacts and connections to the appropriate resources

There are currently 560 **Green Schools** or **25%** of approximately 2200 public and independent schools with 1 million Pre K-12 students. More information can be found at: http://maeoe.org/green-schools-green-centers/. There is an expanded description of this program in the Appendix.

Our Greening of Schoolyards Planning team is specifically interested in a program that has been developed as part of the Baltimore Green Center which has 40 Green Schools as part of this program. Working with The Baltimore Office of Sustainability, Baltimore Community Foundation, and Baltimore City Public Schools, with support from Constellation, an Exelon Company, they offer **Green, Healthy, Smart Challenge grants** to support environmental projects and programs at Baltimore City Public Schools. This is the type of incentivized program we would like to create in the Portland metro region.

All Baltimore City Public Schools may apply for up to $1,000 to support a project on their grounds. Schools that have successfully completed at least one Green, Healthy, Smart Challenge grant project in the past and are actively working on applying for Maryland Green School status may apply for up to $1,500. Schools that are currently certified as Maryland Green Schools may apply for up to $2,500. Please see Appendix for more detailed information on the Maryland/Baltimore program.

> **We envision a this type of effort here taking the form of a leadership committee vs. being housed at a single school, the main divergence being that there would be no model school per se but a group in place to serve the support, resource access and incentivizing functions of the Maryland/ Baltimore model.**

LOCAL SUCCESSFUL SCHOOL-BASED PROJECTS

Abernathy Garden of Wonders
http://gardenofwonders.org/

Atkinson Elementary School Garden
http://www.atkinsonelementarypta.org/programs/olg/

Candy Lane Elementary School/Schoolyard Farms
http://www.jennings-candyschool.org/schoolyard-farms

CASEE/Battle Ground School Garden
http://casee.battlegroundps.org/campus/garden

Clatskanie Elementary School

Corbett Grade School

Gaiser School Water Monitoring Project
http://vansd.org/gaiser-gets-even-greener/

Harrison Park School Garden Project
http://watchstudentsgrow.blogspot.com/

Hood River Middle School
https://www.youtube.com/watch?v=7AinARlpbhA

Hosford School Rain Garden

Humboldt School Learning Garden
http://www.estuarypartnership.org/stewardshipsite/497

Lent School Garden
http://www.pps.net/cms/lib8/OR01913224/Centricity/Domain/853/Ecotone_DesignPlan1.pdf

Merriweather Lewis Elementary School

Raleigh Park Elementary School Garden
https://www.beaverton.k12.or.us/schools/raleigh-park/Pages/Back%20to%20School%20Slide%20Show.pdf

Sabin K-8 Garden and Nature Play Area

RESEARCH

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COMMUNICATION TOOLS

The following is a two page communication piece we've developed as an introduction to the plan and an opportunity to begin to make the case for support/involvement:

Greening of Schoolyards Plan – Bringing Nature Play, School Gardens and Outdoor Classrooms to the Broader Metro Region

What is the Need?

In addition to battling absenteeism and other academic achievements, schools are facing an increasing array of challenges associated with changing physical and social environments, many of which lead to negative health outcomes.

- Over the past 30 to 40 years, there has been a steep decrease in the overall physical activity level of children, leading to an increase in obesity and obesity related disease, including diabetes and cardiovascular disease.
- Children are experiencing other negative health outcomes associated with lack of outdoor physical activity, including increased asthma rates and mental health outcomes.
- Recess, a time for physical activity, creative play and social development, has all but disappeared, creating a state of inactivity and isolation for students.
- Schools continue to battle with graduation rates, absenteeism and general disengagement, which is especially high in schools in low income areas.
- These underserved schools also miss out on many of the benefits that institutions located in higher income communities.
- Demanding lifestyles have allowed little time for families to access nature that is often outside their neighborhoods.

Why Schools and Nature?

Social determinants of health remind us of the impact that our social and physical environments have on our ability to thrive.

- Children spend much of their waking lives in school, and the school environment has an enormous and multidimensional impact on them.
- Most schools and districts have not given much attention to school grounds, and many of the properties are shaped much as they have been for decades.
- Nature-focused spaces are not distributed equitably throughout the schools in our region.
- When schools have well-organized or funded leadership or champions they are more easily able to initiate or sustain these types of nature-focused programs.

Rethinking school properties has enormous untapped potential to turn school grounds into productive assets that improve academic performance and children's wellbeing, thereby helping teachers and administrators reach many of their goals and objectives.

Why Now?

At a time when we are seeing an intersection between growing health epidemics and academic challenges, now is the moment for innovative thinking and seizing the opportunities that exist in our region. School bond measures for new construction and remodeling projects have been passed; old, worn out playgrounds are slated for replacement; with the upsurge in the green schools movement, there are amazing local, regional and national green schoolyard models to learn from; and, our voters passed a levy to fund Outdoor School for the entire state – a message that our residents understand and value the importance of nature in our children's lives.

What are the benefits?

What would it be like for children to access nature every day?

- Being outdoors engages children with the natural systems that surround them while stimulating their imaginations and creative development in unique ways.
- Students have fresh air to breath and more opportunities for physical activity when they are released from the confinement of their school desks.
- Science, math, English and art can be taught in exciting new ways using outdoor classrooms.
- Children enthusiastically choose to climb on logs instead of plastic or metal contrivances, leading to increases in physical activity levels.
- Students take responsibility for an emerging garden, learning self-esteem and cooperation while watching life grow and directly connecting to our relationship with the natural world.
- Children connect and interact with one another in new ways, building a stronger sense of social cohesion
- Students begin to look at their school grounds with a renewed and positive sense of place.

Developing a deeper sense of place and social cohesion, enjoying the range of health benefits that nature nearby affords, using the natural world as a classroom to understand ourselves and our place in the world, are all outcomes we expect to see if we make the investment to "green" our schoolyards and creatively integrate nature back into the physical world of schools.

How do we get there?

This Project Plan lays the foundation and offers a pathway to support the development of green schoolyards across the Portland-Vancouver region. The plan:

- Creates a long and short term plan for greening schoolyards region-wide
- Makes the case and enlists school administrators and other key stakeholders and partner organizations in leading efforts to green schoolyards
- Identifies barriers and recommends solutions
- Highlights opportunities and recommends action
- Develops and makes accessible resources and strategies to guide the planning of greening programs
- Identifies funding opportunities and pathways
- Catalyzes implementation of new projects for underserved schools.

This plan is a blueprint for any school, school district or school stakeholder to better incorporate nature into the daily lives of students. The information gathered helps civic leaders to envision, promote, develop, and implement projects that transform uninspired, unhealthy spaces and turn them into vibrant places where children learn and thrive.

What will the expanded program look like?

The model and system we've developed focus on the following:

- Creating an internal management model which would include school administrative staff, green space coordinators, teachers, students and community advocates.

- Developing a Portland Metro Green Schools Leadership Collective, a regional team of green schools leaders who commit to providing mentoring and resource support as well as advocacy.
- Identifying potential funding opportunities to support initiating and maintaining these spaces depending on the scope and scale of each. Funding sources explored are state, regional, and local government and school district sources, foundation support and individual school fundraising opportunities.
- Identifying planning models, resources and tools to provide assessment support, a web portal for information sharing and program promotion, links to contractors, curriculum materials, access to research, evaluation protocols as well as toolkits usable by all.

For more information please contact David Cohen at: david@theintertwine.org