



Washoe County School District

Every Child, By Name And Face, To Graduation

SCHOOL GARDEN HANDBOOK

WASHOE COUNTY SCHOOL DISTRICT

425 East 9th Street, Reno, Nevada 89520

Washoe County School District

School Garden Procedures

The mission of this handbook is to help your school:

- I. **Navigate the process to start a school garden in the Washoe County School District.**
- II. **Provide your school with the necessary resources to develop a school garden.**
- III. **Ensure that its garden remains viable and safe for years to come.**

This is an exciting opportunity for you and your school and we encourage you to use this handbook as your primary resource for successful planning and gardening.

Happy Growing!

Table of Contents

I. School Garden Guiding Principles	
1) Complete the Remodel Request	4
2) Form a Garden Team	4
3) Develop a Project Idea and Create the Proposal	5
A. Garden Scope	6
B. Project Timeline	6
C. Funding and Budget	
D. Garden Design	7-8
1. Location and Physical Layout	
2. Construction Materials	
E. Garden Implementation, Maintenance, & Management Plan	9-12
1. Soil Composition	
2. Water Sources	
3. Plant Selection	
4. Chemical and Fertilizer Use	
5. Compost	
6. Regular Up-Keep	
7. Long-Term Planning	
4) Installing the Garden	12
5) Celebration and Reflection	12
II. Appendix	14
1. School Garden Application	
2. School Garden Checklist	
3. School Garden Sample Drawings	

I. School Garden Guiding Principles

Planning a School Garden will take a lot of time and energy, but the outcome will outweigh all the hard work and efforts put forth. This handbook breaks down the *WCSD School Garden Guiding Principles* into 5 steps so that planning a garden is more achievable!

Step 1: Submit a Remodel Request Form and Meet with Remodel Project Manager

1. Submit a Work Order for a *Remodel Request*: <http://10.252.17.5> or <http://plantfac>
2. The Remodel Project Manager will contact the school principal and arrange a meeting time. The Remodel Project Manager will present the proposal to the various departments for review and approval. The Remodel Project Manager should have the review completed within 30 days.

Step 2: Form a Garden Team

Form a School Garden Team to ensure support for the project. For the garden to be viable in the long-term, it will need involvement from more than a few people. A successful school garden thrives when the larger part of a school, families, and community is engaged; so be sure to discuss the ideas of a school garden with school administration, parents, teachers, students, external partners, and groups. A Garden Team is led by an administrator and consists of staff members, parents, students, and volunteers (personnel and numbers will vary based upon each school). This Garden Team could be a standalone team, a sub-committee, or a sub-group of an environmental club. Be sure to consider partnering with an external organization or finding volunteers who have expertise in gardens.

Potential Partner Groups and Volunteers include:

- WCSD students and families
- Non-profits (e.g. *Urban Roots*)
- Master Gardeners
- Landscape Architects
- Food Bank of Northern Nevada
- Neighboring Schools
- Local churches, community centers or seniors' centers
- UNR Cooperative Extension

Looking Ahead...

Please contact:

Tim Riley, WCSD Nutrition Services Field Supervisor, at (775) 353-5232;

The WCSD Nutrition Services Department is critical in the success of the Harvest and Post-Harvest steps mentioned later in this handbook.

Prior to utilizing volunteers in the garden, please review and adhere to the following:

<http://www.washoe.k12.nv.us/district/departments/volunteering/overview/fag-faculty>

http://washoecountyschools.org/docs/volunteer/FINGERPRINTING_INSTRUCTIONS_07-27-11.doc

Step 3: Develop a Project Idea and Create the Proposal

Develop a project idea and create the Proposal. Work through the following 5 focus areas (*A through E*) with your Garden Team to generate your School Garden Proposal, which will be submitted and reviewed by the Remodel Project Manager, prior to beginning work on the project.

A. Garden Planning

The first focal area to a successful project is to define your School Garden's "Project Scope." The questions included below may help your School Garden Program outline its project scope.

The school garden form will require the following information:

- Who will be the liaison to Remodel Project Manager?
 - (e.g. the Principal or Assistant Principal)
 - What is the location, size and type of garden?
 - (e.g. pots with herbs, raised garden beds, fruit trees, butterflies, flowers, etc.)
 - Will the garden harvest be used for consumption or processing food?
(Please see Nevada School Garden Food Safety Guidelines web link:
<http://agri.nv.gov/uploadedFiles/agrinvgov/Content/Plant/FTS-FSP/BeforeBeginningWorkInTheGarden.pdf>)
 - How will summer maintenance be addressed?
 - (e.g. year-round use or during the school year)
 - Is there a composting plan?
 - Who will install the garden?
 - How will the garden be watered?*
- (e.g. water source, transportation methods, funds, etc.)
- What is the long-term plan for sustainability of the garden? **

*Water Rights: potential costs will be determined at the time of the Remodel Request.

**The WCSD *may request a long-term maintenance agreement* with the administrator and school garden team.
(Draft document in process.)

B. Project Timeline

It is very important for the School Garden Project to include a “Project Timeline” which documents the allotted time for all the following:

- Time for the Remodel Project Manager and WCSD staff to review the garden design to ensure that standards and codes are met.
- Time for garden design and drawings.
- Time for revision of the design (if necessary).
- Time for gathering supplies and construction.
- Time for planting and determining when plants could be ready.

Additional Planning Tips...

- Think about when the School Garden is hoped to be completed and then work backwards.
- Be realistic; planning, and implementation always takes longer than expected and may cost more than anticipated.
- Be cognizant of school schedules, holidays, student/staff timetables and other limitations.

C. Funding and Budget

Identify your possible funding source(s). You need to identify current or potential funding sources for the garden.

Ideas for fundraising:

- Apply for grants (please contact Lauren Ohlin lohlin@washoeschools.net or Kendall Inskip kinskip@washoeschools.net) for guidance on **all** grant requests and applications.
- Partner with non-profits
- Seek community involvement, pro bono, and other donations
- Fundraising initiatives
- PTA

Costs to consider:

- Water hook up and irrigation (if needed)
- Soil and amendments
- Garden tools
- Seeds, plants
- Shed/tool area
- Wood (only if raised beds are to be built)
- Fencing; vinyl, chain link (if needed)
- Composter (if needed)
- Signage

D. Garden design

A garden design must be included in the proposal and is critical to the success of the project. For this area, you will need to identify where specific elements of the garden will be located and what materials will be used for planters, walkways, edges, fencing, etc. A successful garden project will utilize materials that are safe for the school and students; rugged, drought/rain-tolerant and low-maintenance. A good process would be participatory, collaborative, creative and inclusive. Think about who needs to be engaged in the process. It is important to bring in expertise and to provide opportunities for school-wide contribution and feedback. For smaller projects, a simple, clear drawing may do (*See appendix, page 17*). For larger projects or projects involving large structures; formal building plans will need to be submitted. It's important to have a long-term vision of the garden, but remember to start with a small project in your first year. A larger garden project can be developed in phases over a few years. Phasing allows the committee to evaluate how the garden is working and make alterations in future phases.

Additional Planning Tips...

- When designing a garden it is important to begin by imagining how the garden will be used, the activities the students imagine themselves doing, and the specific garden features needed to do so.
- Student input can give the students a sense of contribution and “buy-in” to the project.

D1. Location and Physical Layout

Safety first! Avoid trip, slip, or splinter hazards. Take into consideration environmental factors such as effluent water systems and overspray, etc. Avoid vandalism opportunities (including rocks that could be tossed, skateboarding edges, easily broken sculptures, elements that give access to school building roofs). **Water features are not permitted due to safety concerns.** Covered features such as arbors will be reviewed on a case by case basis. These structures also require permitting from the appropriate municipality.

Garden site selection is important and can be challenging. Engage "experts" to flesh out the design. Work with the Remodel Project Manager and possibly a master gardener, landscape architect or designer. They can help with designing "hardscape" areas such as constructed paths or courtyards. A master gardener is particularly knowledgeable about plant selection and placement. You may have garden designers or architects in your school community are willing to volunteer.

Consider the following when developing the garden design:

- Make garden beds accessible to all students. The 36” pathway must be accessible for children with limited mobility (e.g. height, surface material, and width of pathway).

- Include a secured place to store tools/hoses and materials nearby with a strategy for access to these tools over the summer months (e.g. a simple chest or bench that can be locked with a combination lock).
- Drip irrigation or soaker hoses are permitted. **Timers are permissible**, watering early in the morning is encouraged.
- Ensure that items will be checked on for operation and vandalism on a daily basis.
- Ensuring the site has access to **approved** water sources and good soil composition can help establish a successful school garden.
- Ensure the project is well located...
 - Near the school building
 - Close to a water supply for plant watering as well as hand washing
 - Accessible to parking or a driveway for delivery, including ADA accessibility.
 - Visible to surrounding community
 - Receives ample sunlight (at least 6 hrs. per day) and is manageable in size
 - Away from dumpsters/ garbage bins
 - Does not border a green space due to the presence of higher numbers of rodents

Additional Planning Tips...

Fencing may be required and will be decided based on site circumstances by the Principal and the Remodel Project Manager.

Fencing can be helpful in areas where dogs and other animals frequently travel, and may be required if produce will be consumed.

**Refer to the *Harvest and Post-Harvest* sections of the
Nevada School Garden Food Safety Guidelines web site.**

You will also need to contact Tim Riley at Washoe County School District Nutrition Services.

Important: *Site preparation requiring large equipment must be pre-approved by Capital Projects and Facilities Management.*

D2. Construction Materials:

Please include in the garden proposal what construction materials will be used and how they will be used. Please consider the following guidelines when choosing construction materials:

- When constructing raised beds, containers, stakes and trellises, only use materials made of non-toxic and non-leaching material such as concrete and untreated wood.
- Do not use pressure-treated wood, used tires, railroad ties, or single use plastics in the school garden.
- Do not use products coated with lead-based paint or other potentially contaminated coating.

E. Garden Implementation, Maintenance and Management Plan

The WCSD may request a Long-term Maintenance Plan and Agreement.

The following 7 categories are considerations to include in your written maintenance plan:

1. Soil Composition

- Please include in your proposal what soil will be used in the garden.
- Please identify soil origination and/or supplier.
- Soil nutrient tests should be conducted before the garden is built, testing for levels of plant nutrients and micronutrients, pH, and soil type.

Consult your local nursery for soil and compost recommendations.

2. Water Sources

Please include in your proposal what water sources will be used.

Requirements for Water and Irrigation

- Only potable (drinking) water may be used for irrigation.
- Garden should be watered 7 days per week during the growing season.
- If unable to use water from an approved and permitted public water source a water test must be obtained from a reputable lab facility for private wells.
- Rain water collection must not be used for irrigating edible crops. Rain water may directly contact surfaces that contain harmful metals, chemicals, bacteria, etc.
- Information on local resources available for water testing can be found under the Resources tab.
- Contact the University of Nevada Cooperative Extension program for more information.
- Be sure that irrigation water is accessible during the entire growing season. Some schools may turn off irrigation water before the growing season is over.
- Hoses/irrigation systems must have backflow preventers or air gaps. Irrigation hoses should be made of material that won't contaminate the water running through the hose.
- Gray water, waste water, recycled water or runoff water from any source must not be used.
- Review proximity and placement to the above.
- If transporting water, only food grade containers are to be used
- Hoses must be disconnected when not in use.

3. **Plant Selection**

Please include in the garden proposal what plants will be planted in the garden.

- Select plants that perform well in your area and that have growing cycles that fall within the school year's schedule. (See Appendix: Recommended Materials)
- Due to the increasing number of illnesses associated with eating raw sprouts, do not grow sprouts for consumption.
- Growing sprouts may also be a concern when used strictly for education purposes. Students may still attempt to consume the high-risk product.
- Inform students that different vegetative parts on fruit and vegetable plants may be toxic (including leaves, roots, and unripe fruit). For example rhubarb leaves and unripe green potatoes are toxic to humans.

Please be aware of Potential Allergens!!

- Do not bring products with allergens into the garden in order to prevent cross-contamination.
- Do not grow crops of well-known allergens, such as peanuts or soybeans.
Please see *Washoe County School District Administrative Procedure for student allergies*
http://www.washoecountyschools.net/csi/pdf_files/HEA-M600%20Food%20Allergy%20Manual.pdf

4. **Chemical and Fertilizer Use**

- Do not use any pesticides, fungicides or herbicides in school gardens due to potential health hazards.
- Secure all organic fertilizer in a safe and locked location when not in use.
- Fertilizer may only be handled by an adult and not applied while children are present.
- Do not use raw animal manure in the garden as fertilizer.
- Organic products are recommended.
- Contact local nurseries for recommendations.

5. **Compost**

Only approved composting systems may be utilized on District property. The Remodel Project Manager will assist you with this.

If you will be composting in the garden, please include the description of the composting system in the garden proposal. Please use only properly treated compost and do not use animal products.

Animal manure can create a high risk of pathogen contamination in the garden when not properly treated, aged, handled, or applied. Be sure to have an individual trained in composting practices to oversee the School Garden's compost.

“Best Composting Practices”

- Achieve temperatures of >130 degrees F plus 3 months of curing for thermal composting or >6 months curing for cold (non-thermal) composting.
- Exclude harmful plants (noxious weeds) or diseased materials.
- Ensure compost pile is properly aerated.
- Ensure compost contains a balance of carbon and nitrogen sources.
- Add only plant products, such as fresh fruit and vegetable culls from food.
- Avoid grass clippings or leaves unless you can verify that they were in a location that was free from pet waste or herbicide contamination. If grass clipping or leaf donations are received you must be able to verify that they are not contaminated. This is difficult to verify so utilizing these products on non-edible crops is optimal.
- Locate compost pile downhill and away from the garden to prevent run-off.
- Document proper training procedures have been implemented and students/staff are not incorporating animal products, refuse, etc. into the compost bins, if using cafeteria waste products.
- Work with Nutrition Services site staff to ensure proper use of composting materials.
- Are monitored by an adult during mealtime to ensure proper items are composted.
- Require glove use when handling compost material. Gloves do not replace proper hand washing.
- Locate compost piles in a secure location away from potential contamination such as garbage, water runoff, etc. Restrict access by animals as much as possible.
- Must have its organic matter must be fully composted before adding to garden or it will compete with plants for nitrogen.
- Consider using worms to form *vermicompost*. Learn about “vermicomposting” at: <http://www.bae.ncsu.edu/topic/vermicomposting/>.

***The Garden Handbook and additional information for schools
may be found at the following site:***

Under construction

6. Regular Up-Keep

- Determine who will sow, weed, compost, and water during the school year. If a number of classes are using the garden, it might be helpful to create a schedule for caring for the garden.
- Develop a watering plan: Who will water the garden and when? If you plan to plant fruit trees then a 3-year watering plan needs to be established until the trees are well established.
- Establish and share a summer site management schedule with names and contact information of volunteers. Include procedures, location of keys to access tools, and days scheduled. Keep a gardening journal so volunteers can see what has been done i.e. fertilizing, weeding, planting, watering etc.
- Outline your plan for winter maintenance (i.e. cover crops) and spring soil preparation.
- Include a statement acknowledging and adhering to WCSD standards including no use of pesticides, fungicides and herbicides on WCSD properties.

- Include a statement that the team will respond in a timely manner to correct any safety issues created by the garden or any violations to WCSD, city or county codes.
- Washoe County Health Department may require Nevada Department of Agriculture (NDA) inspections.

7. Long-term planning

- Develop a long-term plan to maintain any garden-owned materials (e.g. wooden beds, fences, irrigation, paths, etc.)
- Develop a long-term strategy to keep enthusiasm high among volunteers and to recruit new volunteers.
- Identify the number of years each team member commits to maintaining the garden and outline a succession plan. There should be a minimum 3-5 year commitment and plan. The agreement should be reviewed and renewed each year.
- We encourage you to put aside funding for unexpected contingencies.
- Develop a plan for what steps will be taken if the garden will no longer be utilized. This could include low water consuming plants being planted in the garden space or the area being covered with gravel.

Step 4: Garden Installation

Once the school garden is approved by the Remodel Project Manager, necessary paperwork is submitted, and the necessary funds are raised; you are ready to install your school garden.

- Teachers and students may prepare the site with permission from the Remodel Project Manager (e.g. pull up lawn or sheet mulch, delineate plot boundaries).
- Volunteers or students/parents and teachers may prepare garden beds (e.g. add soil amendments or build boxes). Raised beds may be built off-site to WCSD standards.
- If selling or processing food, you may need to obtain a producer certificate from the Nevada Department of Agriculture.
- The Remodel Project Manager will complete the final inspection.

Future garden expansions need to be approved by the Remodel Project Manager prior to implementation.

Step 5: Celebration and Reflection

Congratulations – you’ve done it. You now have a beautiful garden - now it’s time to celebrate! Consider holding a community event for the opening. Neighbors and other community members who have not been directly participating in the project may be excited to get involved once they see the final project! Fall harvest celebrations also provide a rewarding opportunity for school and community garden events.

Congratulations and happy gardening!

APPENDIX

WCSD School Garden Checklist

Project Idea

Be sure that your School Garden Project Proposal includes the following:

- Project Scope (*Vision, goals, objective, type, etc.*)
- Financial plan
- Fundraising plan
- Location: spot and garden size
- Winter and summer maintenance plans
- Installation plan
- Watering Plan
- Long-term maintenance plan
- Contingency plan (*if the School Garden becomes no longer sustainable*)

Timeline

Does your School Garden Project include the necessary time for...

- The Remodel Project Manager to review all design plans as well as ensure that standards and codes are met. (This may take up to 30 days.)
- The distribution, collection, and processing all necessary forms and paperwork.
- The revision for all its members; including proper notice.
- The gathering of supplies and beginning construction.
- The garden designs and drawings.
- The proper planting season and when specific species grow.

Garden development or expansion

- Principal submits the Remodel Work Order to Capital Projects.
- Garden Team surveys the school faculty's interest.
- Form a student group.
- Garden Team includes an administrator (principal or vice principal) staff members, parents, student and volunteers.
- Identify a "School Garden Coordinator".

Estimated Costs

Does your School Garden Project include the costs for...

- | | |
|--|---|
| <input type="checkbox"/> Water and Irrigation Installation | <input type="checkbox"/> Fencing (<i>if needed</i>) |
| <input type="checkbox"/> Soil and Amendments | <input type="checkbox"/> Miscellaneous garden features |
| <input type="checkbox"/> Garden Tools | <input type="checkbox"/> Construction Materials |
| <input type="checkbox"/> Required Signage | <input type="checkbox"/> Contingency (20% of total, for cost overruns, unforeseen expenses, etc.) |
| <input type="checkbox"/> Storage | |

Garden Design

Does your School Garden Project include ...

- A design size that is manageable with space to grow.
- Input and contribution from all team members within the garden design.
- Accessibility for all students (*limited mobility, height, surface material, width of pathway, etc.*).
- A secured place for the storage of tools, hoses, materials as well as a strategy of accessing them.
- Clearly defined walkways, garden beds, storage area, compost or fencing (if necessary), signage, and a sitting area.
- A scaled *Garden Design* (see page 17).

Physical Layout

Does your School Garden Project include...

- A close distance within the school's buildings or surrounding community (reduces vandalism).
- A nearby water supply for watering and hand washing.
- A safe distance from effluent water and overspray.
- Accessibility to parking, delivering, and ADA approved paths.
- Ample sunlight; at least 6 hours of direct sunlight per day for leaf and herbs or 8 hours of direct sunlight for fruiting crops.
- Insight on potential hazards such as flooding, chemical storage, animal grazing/housing, and vandalism.
- Protection from runoff of industrial and agricultural areas, parking lots, roads, and all other sources of potential contamination.
- Avoidance of nearby dumpsters and garbage bins.
- Avoidance of abutting a green space (due to the higher presence of rodents).

Garden Materials

Does your School Garden Project materials meet with the following guidelines...

- Only uses materials made of non-toxic and non-leaching material.
- Does not use pressure-treated wood, used tires, railroad ties, or single use plastics.
- Does not use materials coated with lead-based paint or other potentially contaminated coatings.
- Soil has been tested for levels of plant nutrients, micronutrients, and pH and soil type.
- All organic fertilizer is in a safe and locked location when not in use.
- Organic fertilizer is only handled by adults and applied when children are not present.
- Does not use raw animal manure as fertilizer.

Water & Irrigation

Be sure that your School Garden Project complies with the following...

- Water source is accessible and convenient.
- Garden should be watered 7 days/week during the growing season.
- Only potable (drinking) water may be used for irrigation.
- If unable to use water from an approved and permitted public water source a water test must be obtained from a reputable lab facility for private wells.
- Rain water collection must not be used for irrigating edible crops.
- Irrigation water is accessible during the entire growing season.
- Hoses/irrigation systems must have backflow preventers or air gaps.
- Irrigation hoses should be made of material that won't contaminate the water running through the hose.
- Does not use gray water, waste water, recycled water or runoff water from any source.
- If transporting water, only food grade containers are to be used.
- Is not compromised by cross-contamination from non-potable sources.
- Hoses must be disconnected when not in use.

Compost (if approved by Capital Projects)

Be sure that your School Garden Project meets with the following...

- Achieves temperatures of >130 degrees F plus 3 months of curing for thermal composting or >6 months curing for cold (non-thermal) composting.
- Excludes harmful plants (noxious weeds) or diseased materials.
- Compost pile is properly aerated.
- Contains a balance of carbon and nitrogen sources.
- Adds only plant products, such as fresh fruit and vegetable culls from food.
- Avoids grass clippings or leaves unless you can verify that they were in a location that was free from pet waste or herbicide contamination. If grass clipping or leaf donations are received you must be able to verify that they are not contaminated. This is difficult to verify so utilizing these products on non-edible crops is optimal.
- Places compost pile downhill and away from the School Garden, potential contaminants, garbage, and water runoff.
- Documents proper training procedures have been implemented by students and staff.
- Does not incorporate animal products, refuse, etc. into the compost bins, if using cafeteria waste products.
- Works with Nutrition Services site staff to ensure proper use of composting materials (*If applicable*).
- Monitored by an adult during mealtime to ensure proper items are composted.
- Requires glove use when handling compost material (*Gloves do not replace proper hand washing*).
- Restrict access by animals as much as possible.
- Organic matter is fully composted before adding to garden or it will compete with plants for nitrogen.

Plant Selection

Does your School Garden Project consider...

- Specific plants that will be included in the garden.
- Plants that perform well in the geographic area or growing cycle/season.
- Plant locations as well as how plants grow overtime or how they can inhibit pedestrian flow.
- Plans for how plant debris will be composted or disposed of.
- Informing all children how some parts of plants are not edible or may be toxic?

Does NOT include the growing of...

- Sprouts
- Well-known allergens (*such as peanuts or soybeans*).

Maintenance

Be sure that your School Garden Project includes ...

- A maintenance plan for sowing, weeding, composting, and watering during the school year.
- A watering plan for who will be watering the garden, when, and duration (*If you plan to plant fruit trees then a 3-year watering plan needs to be established until the trees are well established*).
- A schedule with the names and contact information of volunteers who will be maintaining the School Garden. Includes procedures, location of keys to access tools, and days scheduled.
- A gardening journal so volunteers can see what has been done (*i.e. fertilizing, weeding, planting, watering etc.*)
- A plan for winter maintenance (*i.e. covering the crops*) and spring soil preparation.
- A long-term plan to maintain garden materials and upkeep.
- A long-term strategy to keep enthusiasm high amongst volunteers and renewing Garden Team members.
- The duration each team member can commit to maintaining the School Garden.
- An outline of a succession plan (*should be a minimum of 3-5 years commitment and plan*).
- A deposit for unexpected contingencies.
- A plan if the School Garden will no longer be utilized, maintained, or funded.

School Name: _____

School Administrator Name: _____

Signature: _____ Date: _____

*****Please attach the Checklist to the School Garden Proposal**

and make copy for your own records

Sample 2 Phase Garden

