

Solid Waste Management During COVID-19 Pandemic

Companion Guide to the Pandemic Recovery Framework



I. BACKGROUND

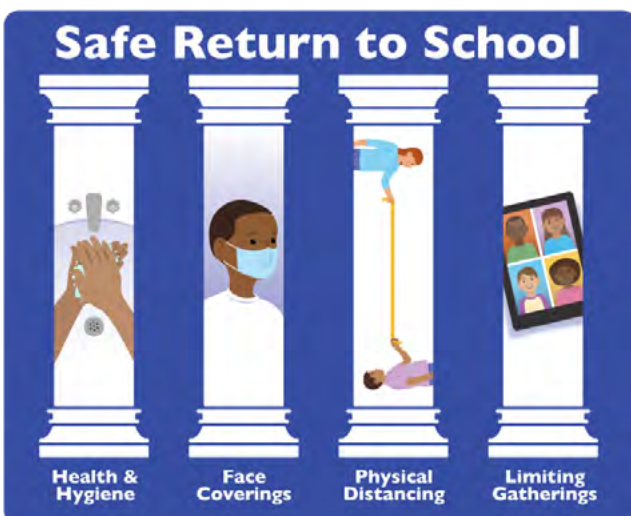
The San Mateo County Office of Education offers this addendum to provide guidance on solid waste management to schools and school-based programs operating in San Mateo County. This document was produced in partnership with the San Mateo County Office of Sustainability and RethinkWaste and is a project of [San Mateo County's Zero Waste Education Alliance](#). This document aligns with the San Mateo County Office of Education's [Pandemic Recovery Framework for Schools](#) and is not meant to be an exhaustive guide.

This document is not intended to revoke or substitute any Federal, State, or County regulations. Programs are responsible for staying current on these regulations as COVID-19 remains a concern in the county. See [page 13](#) for a list of agencies providing more information.

II. SOLID WASTE MANAGEMENT GUIDANCE

A. Regulations

The Pandemic Recovery Framework for Schools and this companion document are aligned with guidance provided by the California Department of Public Health, the California Department of Education, and the Centers for Disease Control and Prevention (CDC). This document also reflects the Pandemic Recovery Framework's Four Pillars, including Health and Hygiene, Face Coverings, Physical Distancing, and Limiting Gatherings. Solid waste management



is primarily a part of the Health and Hygiene pillar, though operating a safe waste management program will include considerations for all of the pillars.

This companion document will provide guidance on how to achieve or maintain waste diversion goals and establish waste diversion practices during the COVID-19 pandemic. In California, the process of diverting waste from landfills and towards recycling and composting is mandated by law ([AB 341](#) and [AB 1826](#)) and through a number of other goals that collectively seek to achieve 75% diversion statewide in the very near future. Enforcement of these new regulations will start on January 1, 2022 ([SB 1383](#)) and will apply to Local Education Agencies (LEA). Schools can meet these mandated regulations through infrastructure updates and waste diversion programs.

B. Solid Waste Management

Solid waste management is an essential part of keeping school campuses safe and healthy. As schools create their plans to safely reopen for on-site learning, it is important to consider how schools impact the waste stream in each phase of the waste system: Waste Generation, Waste Sorting, and Waste Hauling and Processing.

Waste Generation: Federal, California, and San Mateo County COVID-19 guidelines emphasize the importance of limiting the number of shared materials to reduce the risk of disease transmission. This has led to an increase in single-use disposable waste items. Schools can both limit the use of shared materials and single-use disposable waste items by considering the following:

- Encourage reusable materials for individual student use. These might include face coverings, water bottles, and food containers, and utensils.
 - Reusables are considered safe and low risk for disease transmission when properly cleaned and disinfected according to the care of instructions of these items. Cloth should be laundered and hard surfaces should be cleaned and

disinfected. Health experts have provided guidance on measures that make reusable products safe during COVID-19: [Health Expert Statement Addressing Safety of Reusables and COVID-19](#)

- Consider alternatives to single-use disposable cleaning products, especially disposable wipes, where available and practical. [Environmental Protection Agency List-N Registered Disinfectants](#) products may be applied using reusable towels if indicated in the instructions on the products' labels.
- Food Service Considerations: California Department of Education currently recommends avoiding sharing foods and utensils as well as serving meals buffet or family-style. The following recommendations take this into account and offer suggestions on ways to reduce waste while following COVID-19 safety measures.
 - Examine the feasibility of food service providers adjusting their procedures to include optional utensil and condiment pick up.
 - Research or consult with food service providers on whether menus can be adjusted to feature meals with less packaging requirements. [The Center for Ecoliteracy](#) provides resources to Nutrition Service Directors on COVID-19 and meal service safety and sustainability.

Waste Sorting: According to CalRecycle, the majority of solid waste generated in schools can be diverted from landfills through sorting waste into organic and recycling waste streams. In order to have successful waste sorting in schools, all school stakeholders must be trained on how to properly sort their waste. Training programs that include the proper sorting of Essential Protective Equipment are recommended to reduce the risk of disease transmission to waste management staff. For more information on training programs, read [Appendix C: Solid Waste Management for School Reopening](#)

Training Checklists

Training Recommendations:

- Sorting for the safe disposal of Essential Protective Equipment (EPE):
 - Disposable EPE (disposable face masks, gloves, etc.) go in waste bins.
 - Disposable EPE have become a common littering item. School stakeholders can address this and maintain a healthy school facility by including the proper sorting of disposable EPE into educational programming.
 - By sorting EPE correctly, schools will decrease contamination of recyclable materials, including cardboard and paper.
- Signage: *Labels that reinforce proper sorting practices*
 - Utilize signage to support the continued practice of safe sorting. Adapt signage to include EPE items required for the safe reopening of school campuses. See [Appendix D: Solid Waste Bin Signage for COVID-19](#) for example signs that show the proper sorting of EPE.
 - Display signage in meal break areas and where food is served to reinforce proper sorting practices.
- Infrastructure: *Waste sorting bins and materials for proper sorting at the school site*
 - Promote the use of waste sorting bins in areas of high waste generation.
 - See [Appendix A: Sample Solid Waste Management Infrastructure](#) for suggestions on waste-related infrastructure in meal break locations and other functional areas.
 - See [Appendix B: Solid Waste Management Designs for Physical Distancing](#) for suggestions on how to maintain a safe and healthy distance between school stakeholders at waste bins.

Waste Hauling and Processing: School representatives can maintain their solid waste management systems by staying up-to-date on waste laws and mandates. Additionally schools can:

- Communicate any changes to services to their waste hauling companies.
- Be prepared to place services on hold in the event of a school disruption or changes to remote learning.
- Plan ahead for debris box services when needed.

III. FINAL CONSIDERATIONS

Solid waste management is an essential part of maintaining a healthy and safe school campus.

A sustainable solid waste management plan impacts many aspects of a school program's operations, including food service, cleaning protocols, and instructional services. Schools can make significant progress toward meeting the statewide goal of 75% waste diversion through complying with California state mandates and analyzing their own waste streams. Technical support and additional resources are available through the San Mateo County Office of Education (elsi@smcoe.org), San Mateo County's Office of Sustainability Schools Program (sustainability@smcgov.org), RethinkWaste (info@rethink-waste.org), and other local hauler companies who are member agencies of the Zero Waste Education Alliance.

Appendix A: Solid Waste Management Infrastructure Recommendations

The following tables include sample solid waste management plans for reopening schools to in-person learning. These examples are not exhaustive and additional details would need to be provided by administration to custodians. All suggestions will vary based on the conditions of each school site.

Meal Breaks:

Recommendations for all on-campus meal breaks
<ul style="list-style-type: none"> • Place tri-bin stations where a high amount of waste is generated • Use floor stickers/stencils to promote physical distancing while accessing bin stations • Custodial staff collect waste and replace bin liners daily • Serve meals outdoors or in classrooms instead of cafeterias or group dining rooms where practicable • Where cafeterias or group dining rooms must be used, keep students together in their cohort groups, ensure physical distancing, and consider assigned seating • Serve individually plated or bagged meals • Avoid sharing of foods, utensils, and buffet or family-style meals

On-Campus Meal Break in Outdoor Spaces	On-Campus Meal Break in Classrooms
<p>Meal Break Infrastructure Recommendations:</p> <ul style="list-style-type: none"> • Place large tri-bin systems on drum dollies in outdoor eating areas, rolled in by custodians <p>Waste Reduction Recommendations:</p> <ul style="list-style-type: none"> • Institute a bring-your-own utensils policy, where students are encouraged to bring utensils from home 	<p>Classroom Infrastructure Recommendations:</p> <ul style="list-style-type: none"> • <i>Option A:</i> Place large tri-bin systems on drum dollies in hallways, rolled in by custodians • Student cohorts take turns on a schedule sorting waste at hallway tri-bins • <i>Option B:</i> Place small tri-bins in classrooms <p>Waste Reduction Recommendations:</p> <ul style="list-style-type: none"> • Reduce waste by serving meal items that require less packaging when individually plated or bagged. • Students use a colander to mimic a liquid bucket in classroom sinks (see below for special considerations for liquid collection buckets).

On-Campus Meal Break in Cafeteria	Off-Campus Meals (to-go meals)
<p>Meal Break Infrastructure Recommendations:</p> <ul style="list-style-type: none"> • Place large tri-bin systems on drum dollies in cafeteria, rolled in by custodians • Cohorts of students use designated tri-bins in cafeteria <ul style="list-style-type: none"> ▫ For example: students are assigned to tables. Table groups are assigned bin stations and are excused one table at a time to provide more space and time for students to sort at the bins • Clean and disinfect cafeteria tables between cohorts of students 	<p>Infrastructure Recommendations:</p> <ul style="list-style-type: none"> • Provide large tri-bin stations at pick-up and drop-off school food locations <p>Waste Reduction Recommendations:</p> <ul style="list-style-type: none"> • Provide optional utensils for to-go meals • Offer untouched and unclaimed lunches to families already picking up meals

Other Functional Areas Most functional areas will have routine waste management. The following areas include some additional recommendations for schools reopening:
<p>Restrooms: Have organics and/or garbage sorting available for paper waste. Paper towels can be included in most organic waste streams.</p> <p>Nurses Rooms: Include biohazard or medical waste disposal. EPE including gloves and masks are not currently classified as medical waste.</p> <p>Kitchens: Evaluate kitchens for any additional waste bins needed due to COVID-19 staff safety measures.</p> <p>Grounds/Landscaping: Display signage reminding school stakeholders that EPE belongs in waste bins to reduce littering. Solid waste carts may be moved to make additional space for outdoor learning areas.</p>

Considerations for Liquid Food Waste: Pairing tri-bin systems with collection buckets for liquid food waste (milk, water, etc.) reduces contamination and the accumulation of heavy liquid waste in solid waste bins. Consider the following recommendations to ensure COVID-19 health and safety procedures:



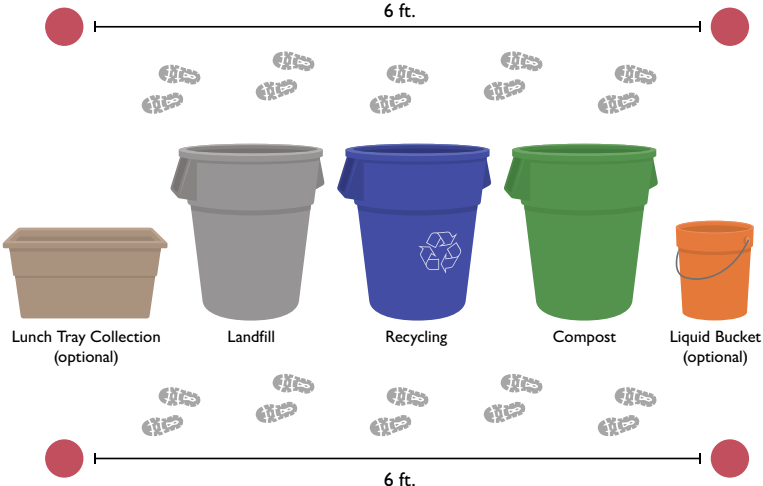
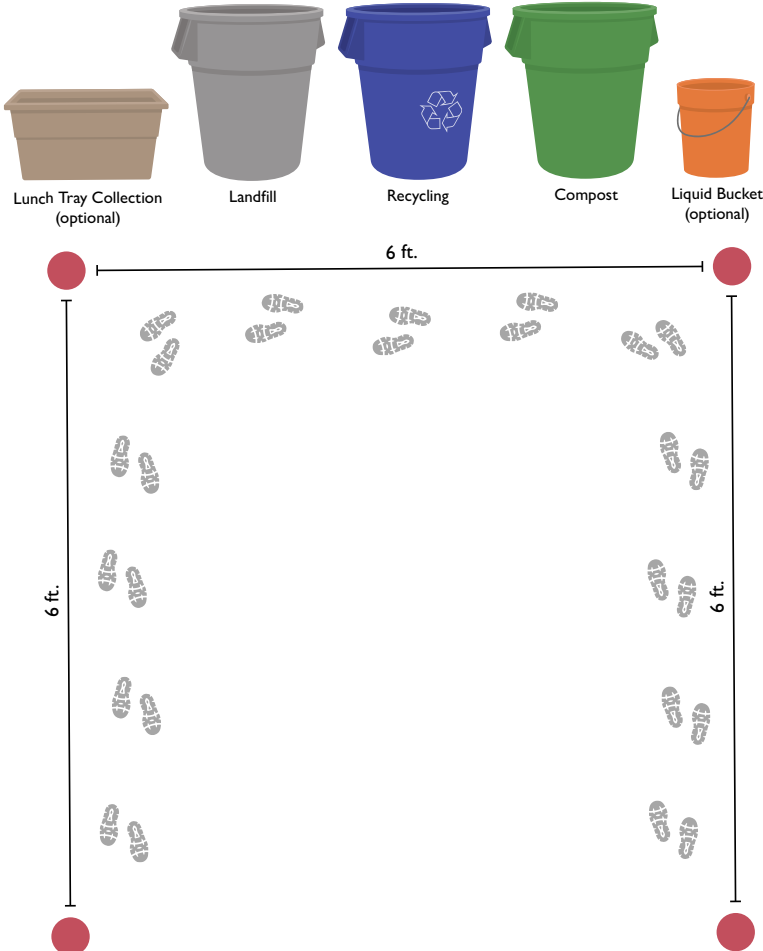
- Use tall, deep buckets to prevent splashing when liquids are poured
- Empty buckets frequently
- Clean and disinfect the buckets with virucide on a regular basis (view list of [EPA List-N Disinfectants effective against COVID-19](#))

Considerations for Self-Service Dispensers: Due to COVID-19, the California State Health Officer’s orders currently discourage self-service dispensers for condiments, beverages, and single use utensils in order to reduce the number of high-touch surfaces in school settings. Recommended alternatives include:

- Staff member (kitchen staff, lunch monitor, or supervising school faculty member) dispenses condiments and/or single use utensils from self-serve dispenser and distributes to students/families who request them
- Staff member distributes pre-packaged condiments and utensils to students/families who request them

Appendix B: Waste Management Designs for Physical Distancing

Tri-bins with Physical Distancing Diagrams

 = floor markers  = flow of traffic	
 <p style="text-align: center;">6 ft.</p> <p style="text-align: center;">6 ft.</p> <p>Lunch Tray Collection (optional) Landfill Recycling Compost Liquid Bucket (optional)</p>	<p>Bin stations located in open eating areas</p> <p>Instruction: One group of students lines up on either side of the bin station, waits on floor markers (red dot in the diagram), and moves forward when the student before them moves to the next marker.</p> <p>Note: It is recommended that only one group of students access the bin station at one time.</p>
 <p style="text-align: center;">6 ft.</p> <p style="text-align: center;">6 ft.</p> <p style="text-align: center;">6 ft.</p> <p style="text-align: center;">6 ft.</p> <p>Lunch Tray Collection (optional) Landfill Recycling Compost Liquid Bucket (optional)</p>	<p>Bin stations located in enclosed eating areas with space constraints</p> <p>Instruction: One group of students lines up on one side of the bin station, waits on floor markers (red dot in the diagram), and moves forward when the student before them moves to the next marker.</p>

Design features

- Maintain one-way flow of foot traffic to promote physical distancing.
- Ensure students are 6ft apart when waiting for turn at the bins by using floor markers or other indicators.
- Bin stations must be placed at least 6ft away from nearby tables to leave enough space for students passing by and students waiting in line to sort.
- If bin stations are located in the middle of an eating area with enough space for sorting from either side of the bins, both lines should move the same direction.
- Use signs to show the direction of traffic.
 - Recommendation: use traffic signs to show flow of traffic (“One Way,” “Stop,” “U Turn,” “Caution,” “Slow”), particularly for younger students
- Place signage above tri-bins (on a wall or using elevated signs), if practical. Signage on tri-bins should face students.

Tri-Bin Station Examples



KIPP and Connect Community Charter Schools, Redwood City



Our Lady of Mount Carmel, Redwood City



Foster City Elementary School, Foster City

Appendix C: Solid Waste Management for School Reopening Training Checklists

Training on sorting waste is important for a successful waste diversion program. Waste diversion programs reduce contamination of recyclables and organics and help maintain a safe and healthy environment for custodial staff. Waste sorting training should focus on the most heavily used or most common items on each school campus. School administrators can use these checklists to ensure that their school reopening training programs include the proper sorting of solid waste in a COVID-19 context.

Training for Students:

- Explain and demonstrate physical distancing while sorting waste
- Explain and demonstrate traffic flow while waiting for bins and sorting waste items
- Review how to sort common waste items for your campus
- Emphasize the importance of sorting waste correctly
- Include EPE or other COVID-19 related waste items in your sorting training program
- If eating outdoors, remind students to keep campus clean by not littering
- Provide families information on how to sort properly at home
- If school participated in Food Share Program in previous years, explain why program is on hold and reinforce the importance of not wasting food

Training for Teachers/Faculty:

- Explain and demonstrate physical distancing and traffic flow while sorting waste

- Review how to sort common waste items for your campus
- Emphasize the importance of sorting waste correctly and help students when they sort
- Include EPE or other COVID-19 related waste items in your sorting training program

Training for Custodians:

- Explain and demonstrate physical distancing while sorting waste
- Review where to service waste bins on campus
- Review custodial responsibilities in changing bin liners
- Review how to change bin liners while reducing the risk of exposure to COVID-19 related waste items
- Include EPE or other COVID-19 related waste items in your sorting training program

Materials for Training:

- Video or classroom presentation
- Signage: bin or wall posters
- Distance stickers / stencils on ground
- Bin sorting traffic flow signs / reminders
- Contact community partners or contracted hauler companies for additional support (County's Office of Sustainability, RethinkWaste, Recology, etc.)

Appendix D: Solid Waste Bin Signage for COVID-19

The following graphics (stickers and signs) can be used to update waste sorting signs to highlight common Essential Protective Equipment items. It is recommended that school staff print, laminate, and place stickers on existing signs. Additional sample waste sorting signs can be found in the folder: [Waste Signage and Graphics](#).

The signs included here have been developed by the County of San Mateo Office of Sustainability Schools Program and RethinkWaste. Please contact these agencies directly for additional graphic resources at:

County of San Mateo Office of Sustainability Schools Program: sustainability@smcgov.org

RethinkWaste: info@rethinkwaste.org

RethinkWaste COVID-19 Waste Stickers:

These stickers are designed to be paired with existing sorting signage to indicate which bins are—and are not—appropriate for disposal of COVID-19 waste:

- Place 'COVID-19 Waste Goes Here' sticker on existing landfill waste bins/signs
- Place 'NO COVID-19 Waste' stickers on existing recycling and compost waste bins/signs



Landfill



No electronics

No liquids

No medicine or sharps

No aparatos electronicos

No líquidos

No medicamentos ni objetos punzantes



OFFICE OF
SUSTAINABILITY
COUNTY OF SAN MATEO

**For more information on reducing waste visit us at
www.smcsustainability.org or call 888-442-2666.**

No tirar equipo de protección en el contenedor de reciclaje o compostaje.



No Personal Protective Equipment in Recycling or Compost

- “Landfill” sign on preceding page can replace existing landfill waste bin signs
- Place “No Personal Protective Equipment in Recycling or Compost” sticker on recycling and compost waste bins/signs

[Additional Waste Sorting Signs](#) from the County of San Mateo Office of Sustainability Schools Program

Please visit the following websites for more information:

- United States Environmental Protection Agency: [List N Disinfectants for Use Against SARS-CoV-2 \(COVID 19\)](#)
- California Department of Public Health (CDPH): [COVID-19 Industry Guidance: Schools and School-Based Programs](#)
- California Department of Education: [Stronger Together: A Guidebook for the Safe Reopening of California's Public Schools](#)
- California Department of Education Nutrition Services Division: [Nutrition What's New](#)
- California Legislative Information AB 1826: [Solid Waste: Organic Waste](#)
- California Legislative Information AB 341: [Solid Waste: Diversion](#)
- California Legislative Information SB-1383: [Short-lived climate pollutants: methane emissions: dairy and livestock: organic waste: landfills](#)
- California Legislative Information AB-939: [Solid waste management, source reduction, recycling, composting, and market development](#)
- San Mateo County Department of Public Health (SMDPH): [Novel Coronavirus \(COVID-19\)](#)
- San Mateo County Office of Education: [Pandemic Recovery Framework for Schools](#)