



AQUADESIGN
MANUFACTURING

School Restroom Design Guide

5

Design Challenges for School Restrooms

- Preventing Vandalism and Misuse
- Controlling Maintenance and Operating Costs
- Optimal Use of Space
- Influencing Behavior
- Ensuring Good Health



LRHD-PZ - Heavy Duty Handwashing Sinks
ALM02 - Polycarbonate and Solid Surface Mirrors

1 Preventing Vandalism and Misuse

U.S. schools currently pay millions of dollars each year to repair buildings and replace vandalized equipment. A lot of these expensive repairs can be avoided with simple design changes.

- Hands-free fixtures:** Using this type of fixture prevents students from purposely keeping the water running.
- Robust fixtures*:** Solid surface lavatories, wash fountains, and even toilets can provide an aesthetically pleasing but robust alternative to china fixtures.
- Relocate Handwashing:** Moving the lavatory systems to the hallway outside the restroom allows for monitoring by staff.
- Remove Countertops:** Horizontal surfaces offer the opportunity to hide things underneath with double-sided tape or magnets. Countertops are also often used to sit on, stand on or even jump on.

*	Material		
	China	Stainless	Solid Surface
Crack Resistant	-	+++	+++
Chip Resistant	-	+++	+++
Break Resistant	-	+++	+++
Scratch Resistant	+++	---	+
Sturdiness	++	+++	+++
Upfront Cost	\$	\$\$	\$\$\$
Repair & Maintenance	\$\$\$	\$\$	\$



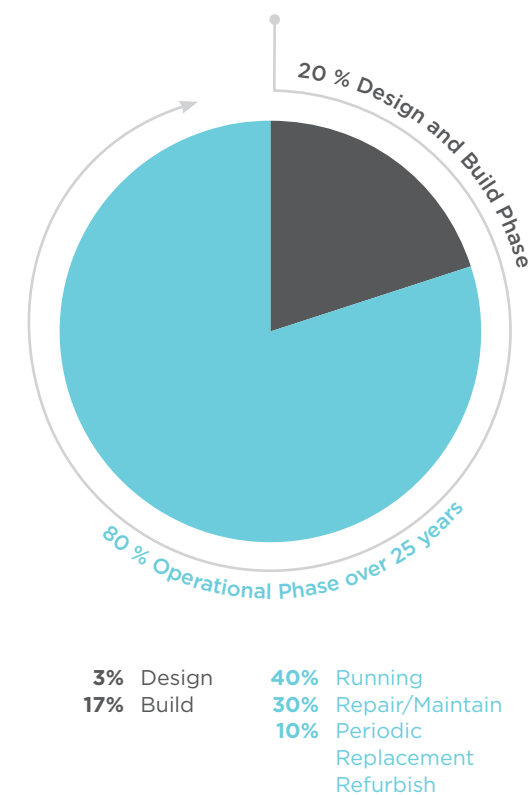
CWC150-ASTG
Solid Surface Vandal Resistant Toilets with Integral Seat

2 Controlling Maintenance and Operating Costs

According to a study done by Turner and Townsend, about 80% of a building's costs come from running and operating it over its lifetime (about 25 years). Only 20% of the overall costs come from its initial design and construction.

By reducing costs at the build stage, perhaps by the contractor down-specifying materials, only the contractor benefits. It's a false economy for the client, who ends up spending more on repairing and replacing lower-performing products during the building's lifetime.

This is especially the case with plumbing fixtures in public restrooms where considerations such as water use, cleanability, and vandal resistance are a large part of their overall cost.



- **Cost of Replacement and Repair:** Consider using fixtures that are more robust, durable, and reliable. While these fixtures tend to have a bigger upfront cost, the maintenance cost will be a lot lower.
- **Cost of Cleaning:** Some plumbing fixtures are designed in such a way that they allow for easy and quick cleaning. This saves time and money on the daily maintenance of the restroom.
- **Water Efficiency:** Choosing water and energy-efficient fixtures will help control the overall running costs of the restroom.
- **Hand Dryers:** A hand dryer costs between .02 cents and .18 cents in electricity per dry versus a paper towel that typically costs about 1 cent per sheet.

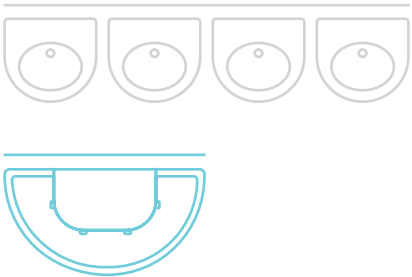
Hand dryers also create much less waste than paper towels. Some people flush the towels down toilets, causing them to be clogged. When this happens, the cost and the hygiene problems with having paper towels go through the roof.
- **Soap:** Foam hand soap is probably the most cost-effective liquid soap to use. Because foaming hand soap is just a diluted form of liquid hand soap, less soap is needed per wash. It is also considerably thinner and less likely to clog the drain.

3 Optimal Use of Space

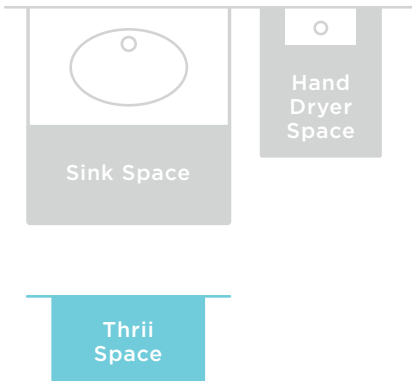
In 2014, the median elementary school in the United States cost \$211.55 per square foot to build. The median cost of a middle school is \$242.96 per square foot, and for high schools, this was \$235.29. Thus, saving a couple of square feet per restroom can easily add up to several thousands of dollars.

Space Saving Features

Semi-circular multi-user fixtures use less floor space than separate lavatories installed next to each other:



Recessed wall-mounted fixtures will generally use less floor space:



4 Influencing Behavior

There is evidence that restrooms are preferred sites for bullying at schools. In a 2015 study, about eight in 10 educators said bullying, misbehavior, vandalism, or other negative behavior happens in the restroom. Some design solutions, like an open plan layout, can help influence the behavior of students.

Case Study

The Kingdown School in Warminster, UK wanted a more open-plan design to their restrooms to prevent them from becoming a congregation area. The challenge was to create a restroom that deters bullying and bad behavior while, at the same time, enabling a certain level of supervision, without infringing upon the pupils' needs and rights to privacy.

The school chose to install Thrii, AquaDesign's all-in-one wall-mounted handwash dryers. These were installed back-to-back in a central, full-height bank with a row of toilet stalls for girls on one side and a row of stalls for the boys on the other, accessed through one common entrance.

The stalls have floor-to-ceiling doors and walls and don't have any gaps. The locks clearly display whether a stall is vacant or occupied. All stalls, boys and girls, have sit-down toilets. No urinals are installed in the boys' stalls.

The feedback from teachers and students was very positive. The layout creates an open feel to the washroom, which the students enjoy using and want to maintain.

It also provides the right level of privacy. Staff can discretely supervise, and the all-in-one fixtures encourage thorough handwashing.



5 Ensuring Good Health

Unkempt school restrooms present serious health and safety issues. Pathogenic microorganisms, blood, and other bodily fluids are often found on poorly maintained restroom fixtures, doors, and counters. These germs can easily spread because of inadequate handwashing.

In addition, slip, trip, and fall accidents tend to be more common in poorly maintained restrooms, which can create financial liabilities for schools. In the past decade, several lawsuits have been filed against various educational facilities regarding the organization's inability to maintain safe and sanitary restrooms.

- **Improve Hygiene:** Sensor-operated faucets, soap dispensers, and flush valves reduce students' exposure to germs.
- **Encourage Proper Handwashing:** The use of clean and attractive handwashing fixtures has proven to encourage the student to wash their hands.
- **Provision of Soap:** The use of automatic soap dispensers is often a good means of providing soap to students. Automatic soap dispensers tend to give the user a predetermined amount of soap and are less prone to vandalism.

Want to learn more about design challenges for school restrooms?

AquaDesign Manufacturing provides continuing education for both architects and engineers. Contact our team at (800) 999-3101 to set up an online course for your team.

The courses are approved by AIA (1 LU) and ASPE (0.10 CEU).



SWV03-L12 - Three User Solidwave Original Lavatory with Line 12 Sensor Faucets

Pre-K and Kindergarten

Pre-K and kindergarten teachers cannot assist all the kids at the same time. Having the kids washing their hands on their own saves time. AquaDesign's sinks for the youngest students use bright colors and playful themes to make the handwashing experience fun.

Large basins reduce the risk of water splashing on the floor and result in less cleanup for the caregivers. With both manual and sensor faucets, AquaDesign always has the solution to fit your needs.



Junior Height Sanispray

With the junior height, Sanispray AquaDesign reinvented the wash fountain concept for the little ones. Every aspect of the fixture from the smooth solid surface bowl to the rim height of 26 inches was designed with our juniors in mind. The playful themes are just a bonus.

- 5 sizes
- 3 cool themes and a basic stainless steel option
- 6 water activation options
- 3 soap options
- 11 available bowl colors



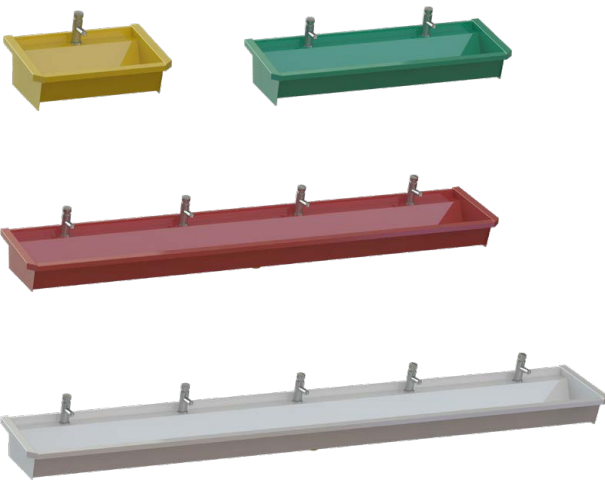
Pre-K and Kindergarten



Wash Basin 5.0

The trough wash basin is an ideal solution for juniors. A large sink area lessens the risk of splashing water on the floor. This means less cleanup and less risk of dangerous slip and falls.

- 5 sizes
- 6 faucet options
- 6 finishes



53-L70 - Three User Line 5 Wash Basin with L70 Pushbutton Faucets
U700150 - Sensor Foam Soap Dispensers

Grade School

Grade school restrooms offer their own set of challenges. Vandalism, stashing contraband, and loitering are just a few. AquaDesign offers fixtures that make these issues just a little bit more difficult for the students.

Fully enclosed sinks made from durable materials and reliable sensor faucets are just a couple of ways we keep the restrooms functioning and safe.

Sanifount

The Sanifount is a mainstay in any school restroom. With the unique space-saving design, it works well in both the restroom and in the communal space. By moving the handwashing to a communal space, you reduce the amount of vandalism.

The Sanifount is fully enclosed to help prevent the stashing of contraband. The lack of a countertop prevents the kids from sitting on the sink.

- Two, three, or four user models
- Pushbutton, sensor, or electronic touch button activation
- 15 available colors
- Vandal-resistant overflow
- ADA compliant



SANIF4-SEN - Four User Sensor Sanifount Washfountain

Grade School



Streamlav Legacy

The Streamlav Legacy is a highly contemporary yet affordable handwash station that is not only functional for the user but also focuses on reducing maintenance issues for years to come. The clean lines and the continuous bowl of the Streamlav Legacy make it easy to clean.

The Legacy is available with a vandal-resistant, water-distribution head or with a standard low-flow sensor or manual faucets.

- Available for one, two, or three users
- 6 faucet options
- Sensor water distribution head option
- 15 available bowl colors
- With or without stainless steel skirt
- ADA compliant



SLO2-B-SEN - Two User Streamlav Legacy with Stainless Steel Skirt and Sensor Water Distribution Head



Colleges and Universities

Colleges and universities tend to have very little vandalism and abuse in the restrooms. This allows the designer to focus more on the appearance of the restroom. Luxurious and attractive restrooms are often used to attract and retain students.

Additionally, college restrooms need to stand up to a lot of traffic, so using fixtures that are easy to clean and reliable and use less water is a must. Solid surface lavatory systems with low-flow sensor faucets and sensor soap dispensers check all the boxes for a user-friendly college restroom.

Streamlav View

The Streamlav View was designed to bring exceptional contemporary style to any space. Beautifully molded in solid surface, the Streamlav View combines form and function into an aesthetically pleasing sink.

You can choose lengths from 30 to 120 inches for one, two, three, or four users. In fact, we can manufacture the Streamlav View to fit the exact length required.

- 4 standard sizes
- Custom sizes from 30" to 120"
- 6 faucet options
- 2 soap options
- 15 available bowl colors
- Baby changer option



SLV03-B-L13-SD12 - Three User Streamlav View with Line 13 Sensor Faucet and Line 12 Sensor Soap Dispenser

Colleges and Universities



Solidwave High-Low

Welcome to the new paradigm for commercial lavatory systems. Introducing AquaDesign's Solidwave High-Low. This innovative lavatory system was engineered to allow the designer to specify a beautiful contemporary work of art. The Solidwave High-Low has exceptional installation versatility and long-lasting, guaranteed product quality for a surprisingly competitive price.

The Solidwave High-Low offers several unique advantages, including ADA compliant sink heights for both juveniles and adults in the same unit, a four-user model, and an available baby change station.

- 7 configurations
- 6 faucet options
- 2 soap options
- 15 available bowl colors
- Baby changer option



SWV4H-OML - Four User Solidwave High-Low with Omnia Water and Soap Sensor Faucet
SWV1H-BCL - Single User High-Low with Integral Baby Changer

Sports Facilities

Restrooms and showers are probably the most essential components of a sports facility. Sports facilities have their unique requirements for wet rooms. MRSA, mold, mildew, and bacteria can ruin a player's season. The use of non-porous and anti-microbial surfaces is a logical choice for sports facilities.

Locker rooms are unique in that they have "rush hours" where all the players use the restroom and showers at the same time. Having plenty of sinks with mirrors will help with the bottleneck that occurs when the athletes are drying their hair and washing their hands.

Thrii

The Thrii by AquaDesign combines all the processes of proper handwashing into one unique space-saving design.

- On-demand water heater
- Foam or liquid soap
- Onboard hand dryer
- Run time set by facility maintenance
- Vandal-resistant design
- Reduce consumption of single used paper towels
- Cost savings



THRII-AW - Thrii Handwash-Dryer with Custom Team Logo

Sports Facilities



Solidwave Original

The Solidwave Original is a uniquely designed lavatory system that offers functionality and aesthetics through the combination of solid surface and stainless steel.

The Solidwave is fully modular, i.e., the units can be built-in ranges while access paneling is fixed to adjacent frames in an uninterrupted continuous and flowing line. This allows the Original to accommodate an infinite number of users.

With its unique design, it can offer multiple water activations which makes this a premier fixture for the education sector.

- Single, two, or three user models
- 6 faucet options
- 2 water distribution head options: sensor and pushbutton
- 15 available bowl colors
- Modular design



Showering

In this modern era, there is a need for more private showering solutions. The design trend has evolved from gang showers to single private stalls. AquaDesign has you covered with thoughtfully designed products that integrate key features to keep your shower stalls looking great for years to come.

- LRS2 - custom-sized shower panels in solid surface
- 40707 or LRSCOM-showerheads - removable handhelds makes it a breeze to clean and sanitize the shower room
- WM-TMVPMSCS, 42030 and 50140: vandal resistant shower valves and diverters
- FLOT: individual shower pans



Art Classes

Art classes have their own requirements. The use of large deep sinks that allow for the cleanup of tools and hands. You might consider adding a clay trap if pottery is part of the program.

Long sinks that allow plenty of room for the kids allow the cleanup to go faster and smoother. Installing two sinks on opposite sides of the class helps prevent congestion during clean-up. Kids can get dirty in art class, so hands-free faucets are usually a good idea.

Wash Basin 1.0

AquaDesign's stainless Wash Basin 1.0 is uniquely suited for the art classroom. The deep bowl helps prevent splashing. The wash basin can be equipped with stainless steel grids. These offer an ideal spot for the art supplies to dry without making a big mess.

- Available from 1 to 5 users
- 5 faucet options
- 304 stainless steel
- Seamless welding on the inside
- Indoor or outdoor use



13-M04-A17-2 - Three User Series 1 Wash Basin with Blade Handle Faucets and Stainless Grids

Hand Hygiene

Coming out on the other side of a global pandemic, it is proven once again that handwashing is of utmost importance to stop the spread of germs. Mobile and fixed hand washing stations have become commonplace in the workplace and schools.



TRIF-SS - Stainless Steel Trifecta

Trifecta

The AquaDesign Trifecta brings soap, water, and dryer all into one compact fixture. Its sleek design and small footprint are perfect for tight spaces or corridors.

The sink is extra deep to prevent splashing. The lack of horizontal surfaces helps prevent standing water. The sink is available in custom powder-coated colors.

- Foam soap dispenser
- Faucet with 0.5 gpm aerators
- Heated high-speed dryer works quickly and quietly
- Sink available for 1 to 5 users
- Custom powder coating available on request

LAV20

The LAV20 lets your customers, employees, or students know that their safety is not an afterthought. Features such as bag hooks, a mirror-finished towel dispenser, and a spout with plenty of clearance make this handwashing station stand out above the rest.

The unit has large capacity 10.5-gallon freshwater and greywater tanks and a soap dispenser with a 1.6 qt. reservoir. This means less pressure on the janitorial staff. The large wheels make rolling the LAV20 over thresholds a piece of cake.

- Customizable color
- 2 bag hooks
- 10.5-gallon grey and freshwater tank
- Mirror finished towel dispenser
- 1/4" thick powder-coated aluminum
- Foot pump operated
- Sensor foam soap dispenser with 1.6 qt reservoir



LAV20-CUS - Mobile Handwash Station in Custom Color



Vandalism Resistant

Restrooms are one of the few locations in a school where students are unsupervised. This often results in vandalism. AquaDesign's suite of extremely robust fixtures is perfectly suited for schools where vandalism is a concern.

The line of solid surface sinks, water closets, urinals, and mirrors prove that robust and vandal-resistant fixtures don't need to look like penal ware.



Retrofit

Replacing old faucets with water-saving faucets can pay for itself in water savings. Replacing fixtures with vandal-resistant ones can cut down on replacement and maintenance costs. A full line of affordable retrofit fixtures for any student, teacher, or staff restroom is available from AquaDesign.

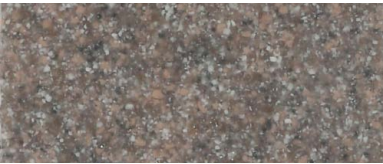


Overview of
Fixtures and
Applications

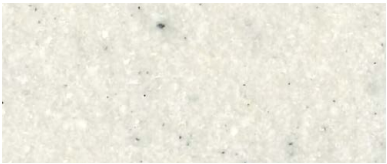
	Pre-K and Kindergarten	Grade School	Colleges and Universities	Sports Facilities	Art Classes	Shop Classes	Vandalism Resistant	Hand Hygiene	Retrofit	ADA
Lavatories and Sinks										
Solidwave Original		•	•	•			•		•	•
Solidwave High Low		•	•	•					•	•
Streamlav Legacy		•	•	•			•		•	•
Streamlav View		•	•	•					•	•
Streamlav Wing			•							•
Saniwave		•	•	•			•		•	•
Modus			•						•	•
Thrii		•	•	•			•		•	•
Sanifount		•	•	•			•		•	•
Junior Height Sanspray	•									•
Sanispray - Sensor				•	•	•				•
Sanispray - Piezo					•	•				•
Sanispray - Hand					•	•				•
Wash Basin 1.0	•				•	•			•	•
Wash Basin 5.0	•			•	•	•			•	•
LAV20		•	•	•	•	•		•		•
Trifecta		•	•	•				•	•	•
LRHD Sink		•	•	•			•		•	•
Water Closets and Urinals										
CWC Water Closet							•			•
CWC Urinal							•			•

	Pre-K and Kindergarten	Grade School	Colleges and Universities	Sports Facilities	Art Classes	Shop Classes	Vandalism Resistant	Hand Hygiene	Retrofit	ADA
Faucets										
ADM21		•		•		•	•		•	•
L12C	•	•	•	•		•			•	•
L13C	•	•	•	•		•			•	•
OMW			•						•	•
OML			•						•	•
L70	•	•	•	•	•	•	•		•	•
M15			•							•
Soap Dispensers										
SD12	•	•	•	•	•	•	•		•	•
SD15				•						•
HSD20								•		•
U700150	•		•		•			•	•	•
Showers										
FLOT Shower Pans				•					•	•
42028				•						•
42030				•						•
WM-TMVPMSCS				•						•
42020				•						•
LRSCOM				•					•	•
Accessories										
ALM Mirror	•	•	•	•			•	•	•	NA

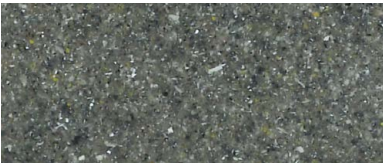
Standard Colors



Adobe Brown



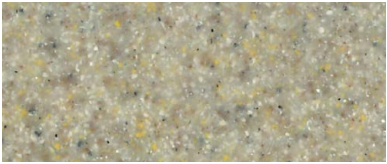
Ash White



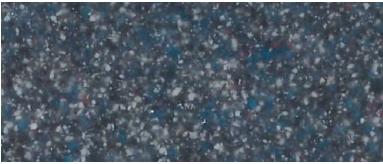
Black Forest



Concrete Gray



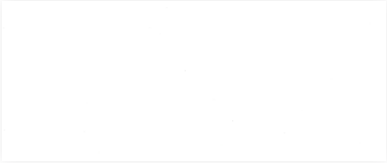
Egyptian Sand



Midnight Blue



Misty Gray



Polar White



Sandstone

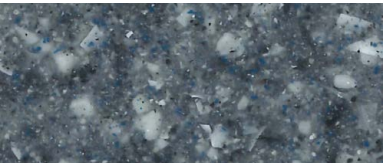


Twilight Gray



Pearl Black

Designer Colors



Belgian Blue



Sydney Rock Oyster



Montreal Quartz



Paris Stone



13-M04-A17-2 - Three User Series 1 Wash Basin with Blade Handle Faucets and Stainless Grids



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