

Material Table and Cost Analysis

Material / System	How It Is Used	Reason for Use	Rough Cost Range
Cold-formed steel structure	Main structural frame of the makerspace	Fire-resistant, durable, mold-resistant, termite-resistant, and suitable for rebuilding after wildfire	Medium to high cost
Exposed steel beams	Visible structural elements on parts of the building	Shows the rebuilding method instead of hiding it; makes the structure educational	Included with structural system
Fiber-cement cladding	Exterior wall finish	Fire-resistant, durable, washable, and can visually imitate warmer neighborhood materials	Medium cost
Sealed concrete / epoxy flooring	Main interior floor surface	Non-porous, easy to mop, and safer for lead-dust control	Medium cost
Smooth painted drywall / fiber-cement wall panels	Interior wall surfaces	Washable and does not trap lead dust like textured walls or fabric panels	Low to medium cost
Smooth gypsum ceiling	Ceiling finish	Easy to clean and avoids porous surfaces where dust can collect	Low to medium cost
Double-paned sealed windows	Windows throughout the building	Brings in natural light while limiting outside dust and contaminated air	Medium to high cost
Aluminum window frames	Window framing	Non-porous, fire-resistant, and easy to clean	Medium cost
Steel or fiberglass doors	Exterior and service doors	Durable, washable, fire-resistant, and safer than porous wood doors	Medium cost
Entry vestibules with sticky mats	At every main entrance	Reduces ash, soil, and lead dust from being tracked indoors	Low to medium cost
Shoe-cleaning stations	At entrances near the school and courtyard	Teaches children and families safe return habits after wildfire	Low cost
HEPA-filtered HVAC	Main ventilation system	Filters fine particles and improves indoor air quality after fire damage	High cost
Positive air pressure system	Main occupied areas	Helps keep contaminated outdoor air from entering the building	High cost

Material / System	How It Is Used	Reason for Use	Rough Cost Range
Negative-pressure testing room	Lead-testing / soil-sample area	Keeps contaminated samples contained away from visitors	High cost
Stainless steel counters	Soil-testing and cleanup areas	Non-porous, easy to sterilize, and safe for testing work	Medium cost
Solar panels	Roof-mounted energy system	Helps power HEPA filtration, tools, lighting, computers, and emergency systems	High upfront cost
Rainwater collection tower	Tower and storage system	Supports sustainability, emergency preparedness, and garden use	Medium to high cost
Greywater recycling	Garden irrigation support	Reduces water waste and supports the courtyard landscape	Medium cost
Raised planter beds	Courtyard garden	Keeps children and visitors away from contaminated ground soil by using clean imported soil	Low to medium cost
Permeable pavers / sealed courtyard surface	Outdoor courtyard ground plane	Prevents bare soil exposure and reduces dust movement	Medium cost
Native fire-wise plants	Landscape and courtyard	Reduces water use, supports local ecology, and lowers fire risk	Low to medium cost
Deodar cedar entry path	Main entrance landscape	References Altadena's historic tree-lined identity and makes the project feel rooted in place	Medium cost
Warm interior wood accents with fire-safe coating	Interior gathering and kids spaces	Softens the cold feeling of steel while keeping fire safety in mind	Medium cost
Tools, 3D printers, laser cutters, electronics benches	Main workshop and design spaces	Gives residents practical access to rebuilding, repair, and making resources	High equipment cost
Tinkercad / Fusion computer stations	Design room	Helps residents visualize rebuilding ideas and receive design/permitting help	Medium equipment cost

Cost Analysis

This project would likely fall into a medium-to-high cost range because it is not only a simple community building. It combines a makerspace, children's learning area, community hall, design-help room, lead-safe testing area, tool library, outdoor courtyard, solar roof, and fire-resistant construction.

The most expensive parts of the project would likely be the cold-formed steel structure, HEPA-filtered HVAC system, positive and negative air-pressure systems, solar panels, specialized soil-testing room, and workshop equipment. These systems cost more than standard construction, but they directly respond to the post-fire conditions of Altadena.

The mid-range costs would include fiber-cement cladding, sealed concrete or epoxy floors, double-paned windows, steel or fiberglass doors, rainwater collection, raised planters, and permeable courtyard surfaces. These materials are more expensive than basic finishes, but they improve fire resistance, durability, and lead-safe maintenance.

The lower-cost but high-impact items would include shoe-cleaning stations, sticky mats, clear safety displays, handwashing areas, native planting, flexible furniture, and children's creative materials. These are smaller interventions, but they strongly support the project's purpose because they teach safe habits and make the building feel welcoming.

Overall, the building costs more than a basic community center because it is designed for recovery, not just occupancy. The added cost is justified by its long-term use: fire resistance, lead protection, clean air, flexible community programming, children's education, and practical rebuilding support for families returning after the Eaton Fire.