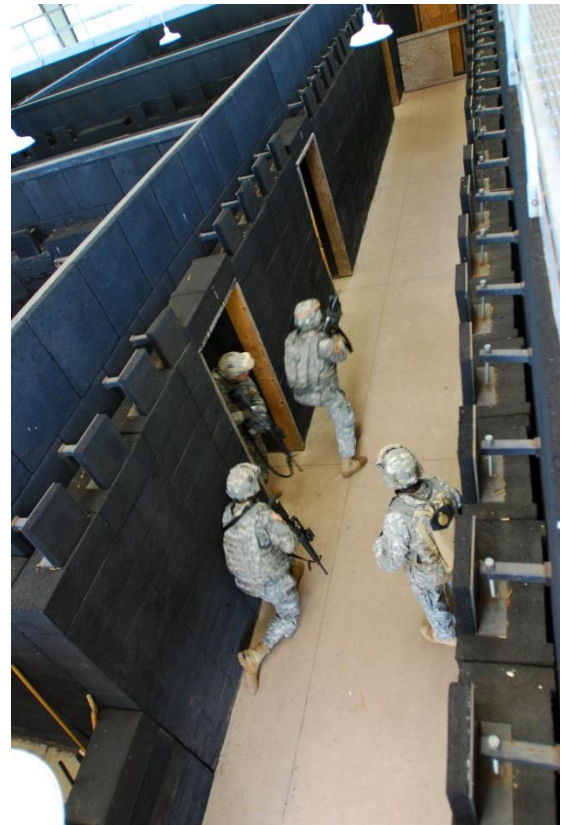




Range Systems designs and builds live fire shoot houses to improve mission-critical, life-saving training for the military and law enforcement communities worldwide. Our past experience includes an integral role in defining the training standard for shoot houses for the US Military Special Forces and working closely with the US Army Special Operations Command (USASOC) to develop design innovations that meet their evolving training requirements. Range Systems shoot houses are field-proven to perform in the harshest environments, endure extreme live fire, and be easily sustainable.

The feature that sets Range Systems' live fire training shoot houses apart from all others is the extraordinary ballistic capabilities, durability, and ease of maintenance our modular designs offer. The superior performance and unique characteristics of our patented ballistic rubber encapsulating wall system significantly reduces the safety hazards of ricochet, bullet splatter, shoot-through, and minimizes airborne lead particles.



SMASH™

Standardized • Modular • Armored • Shoot • House



Based upon a legacy of innovative design achievements, Range Systems developed SMASH™, a modular and expandable shoot house that meets the demand for a deployable live-fire training structure. Utilizing standard parts and modular components, SMASH™ offers a ballistically secure shooting facility that is rapidly deployed, requires minimal maintenance, and is adaptable to your training requirements and location.

Recognizing the potential hazards live-fire activities present, structural integrity and safety



qualities are foremost in all of Range Systems SMASH™ shoot house designs. SMASH™ walls are constructed of our proprietary Dura-Panel™ rubber composite panels secured directly to AR500 steel panels. This method fortifies ballistic containment and minimizes the safety hazards of ricochet, splatter, and shoot-through. SMASH™ shoot house construction includes a dual external wall seam plate system to provide continuous ballistic protection and ensure a 360° training environment. Our bolt-together design utilizes standard parts and modular components to allow SMASH™ to be erected quickly and permits training to commence much sooner than other standard shoot house designs. SMASH™ provides a flexible and expandable live fire structure that is cost-effective, which translates into more training time and less expense.



Range Systems SMASH™ provides a turnkey solution for a realistic and dynamic training environment. Our shoot house designs offer scenarios for urban operations training that include tactical movement, target engagement, breaching, and target discrimination in an environment that replicates real-time and real-distance. Sliding walls and ballistic door and window coverings allow training staff to reconfigure the layout by creating or eliminating alternate rooms and entrance/exit points. SMASH™ components are interchangeable and reconfigurable to provide multiple floor plans for realistic and changing urban operations training scenarios.

Our patented ballistic wall system creates interior walls that closely match standard commercial and residential dimensions and permits quick installation of standard pre-hung doors or breach doors in all doorways. Our breach door systems are capable of supporting mechanical, explosive, and shotgun breaches and to meet SDZ requirements, Range Systems has sliding ballistic covers to secure all exterior openings.

We can customize floor plan layouts for single level to multi-level that include corner-fed rooms, center-fed rooms, "L" hallways, and "Z" hallways. Incorporating sliding walls, ballistic doors, and window coverings into the shoot house will create or eliminate alternate room entrance and exit points. Fully contained ballistic stairwells, exterior ballistic protection for external attack scenarios, observation catwalks, and breach ports are all features that can be incorporated into a Range Systems SMASH™ training facility.



Catwalks

Catwalks provide an elevated observation platform allowing training staff to monitor the training session and give immediate feedback and technique correction. Typically the catwalk structure is constructed of serrated and slip resistant, see-through plank grating and provided with guardrails. Access stairways are constructed of the same material and include handrails.



Sliding Ballistic Coverings

Entrance and exit points can be eliminated with sliding ballistic door and window coverings.



Sliding Ballistic Walls

Training staff can reconfigure the house layout by creating or eliminating alternate rooms with sliding walls.





Multi-Level SMASH™

SMASH designs often include multiple floors to present different scenarios and room configurations.



Multi-level facilities typically offer separate flights of staircases to navigate including encased, open, and landing. When the facility includes an enclosed top floor, the rooftop provides more training options including additional entry points, access to fixed roof ladders, and supports the integration of rappelling and tactical training into one facility.



Whether a team must move up a multi-level stairwell or negotiate through a narrow corridor, the realistic live fire environment helps develop communication and movement skills while clearing and securing the facility.





Customized Floor Plans

We can customize floor plan layouts for single level to multi-level that include corner-fed rooms, center-fed rooms, "L" hallways, and "Z" hallways.



Military Grade

The military grade SMASH™ is built to accommodate the use of 7.62mm NATO and 5.56mm NATO, .45 caliber, 9 mm NATO, .12 GA shotgun slugs, 00 buck and sabot rounds. The shoot house walls are constructed of our proprietary Dura-Panel™ rubber composite panels secured directly to ½-inch (13 mm) AR500 steel panels. This method fortifies ballistic containment and mitigates the safety hazards of ricochet, splatter, and shoot-through. Depending on ballistic capability levels, the use of ballistic rubber portable bullet traps or Dura-Bloc™ Hotwall placement in high impact or target areas are used to maintain the integrity of the facility and ensure a safe training environment.

Law Enforcement Grade

SMASH™ walls are constructed of our proprietary Dura-Panel™ rubber composite panels secured directly to AR500 steel panels 3/8-inch (10 mm) thickness. The Law Enforcement Grade model is designed for standard handgun use, but is capable of stopping and containing errant rifle rounds to 7.62mm.





Range Systems shoot houses have been chosen for their superior performance by these military agencies and law enforcement departments worldwide:

US Army
Ft. Richardson, AK
Ft. Wainwright, AK
Ft. McClellan, AL
Ft. Carson, CO
 Pinion Canyon
Eglin AFB, FL (USASOC)
Ft. Benning, GA
Ft. Stewart, GA - two facilities
Ft. Campbell, KY
 two facilities
Ft. Knox, KY
Ft. Devens, MA
Ft. Bragg, NC
 Range 88F
 Range 65
 Range 62
 Range 37N
 Range 19 (2 LFSH)
Ft. Bliss, TX
 two installations
Ft. Hood, TX
 two installations
Ft. A.P. Hill, VA
Ft. Belvoir, VA
JB Lewis-McChord, WA
 five installations
Yakima Training Center

US Navy
LaPosta Mountain Warfare Training Site
Naval Base Coronado, CA
Joint Expeditionary Base
Little Creek-Fort Story, VA
Special Warfare Group
Norfolk, VA
Two-story breach facility

US National Guard
Fort Chaffee, AR
Camp Dodge, IA
Camp Blanding, FL
Camp Atterbury, IN
Wendell Ford TC, KY
Camp Beauregard, LA
Camp Grayling, MI
Camp Ripley, MN
Camp Shelby, MS
Camp Raveena, OH
Camp Gruber, OK
Fort Indiantown Gap, PA
Camp Santiago, PR
Camp Bullis, TX
Fort Pickett, VA
Camp Dawson, WV
Camp Guersney, WY

Law Enforcement/Federal Agencies
Butte County Sheriff's, CA
Glendale Police Dept, CA
Los Angeles Police Dept, CA
San Bernardino Sheriff, CA
Milford Police Dept, CT
Wilmington Police Dept, DE
Illinois State Police, IL
Kent County Sheriffs Dept, MI
Greenville Police Dept, SC
DOE Savannah River, SC
FBI Milwaukee, WI
International
Brazilian Marine Corps
Estonian Defence Forces
Ireland Dept of Defence
Japan Defense Forces
Jordan GID
Jordan 71P^{stP} CTB
Kazakhstan Special Forces
Mexico Federal Police
USACE Afghanistan
USACE Sana'a, Yemen
USMC Camp Hanson, Okinawa
JRMCM Hohenfels, Germany
 Four facility complex
US Army SOF Baghdad, Iraq
3rd Special Forces Group
36 Commando



Technical Specifications

1.1 LIVE-FIRE SHOOT HOUSE: LAW ENFORCEMENT

- A. System: Standardized parts, Modular design, Armored protection, Shoot House (SMASH) System as manufactured by Range Systems. SMASH™ components are interchangeable and reconfigurable.
1. Provide a 360 degree live fire environment in a fully modular, reconfigurable shoot house system as indicated or required by the drawings.
 2. Shoot house walls shall be designed to eliminate any possibility of shoot-through during live fire exercises and shall minimize ricochet and splatter hazards.
 3. Interior shoot house ballistic walls will consist of 3/8 inch (9.5 mm) AR 500 ballistic plate steel, steel framing, steel support angle, connection bolts and anchors, and 2 inch (50 mm) thick *Dura-Panel™ anti-ricochet ballistic rubber adhered directly to steel surface with "no air gap" between the rubber and steel wall. No air gap significantly reduces airborne lead particulates and increases durability by eliminating the need for wood backing.
 4. Standard room layouts shall utilize 2 foot (610 mm) dimensional increments AR 500 steel and Dura-Panel™ Walls. Custom room dimensions can be provided.
 5. Connections between panels shall be mechanical (not welded) and include a dual external wall seam plate system to provide continuous ballistic protection.
 6. Shoot house shall be designed to be quickly assembled and disassembled using patented and proprietary ballistic tested fasteners.
 7. Catwalk system shall be modular and non-permanent attachment with bolts. Catwalk shall be galvanized steel and designed and constructed to carry a working load of 100psf and shall have railings installed on all sides.
 8. Shoot house shall include entry points such as breach and standard pre-hung doors. All doors shall be framed to allow installation of 36" wide x 80" high doors.
 9. Breach doors shall be capable of supporting mechanical, explosive, and shotgun breaches. Breach doors shall lead in and out of the shoot house and withstand all operational and environmental requirements as specified.
 10. Components: Refer to drawings for scope and configurations. Construction may include, but is not limited to, the following elements:
 - a. Multi-story designs.
 - b. Ballistic ceilings/roof.
 - c. Ballistic stairwells and stairways.
 - d. Ballistic breaching doors/windows.
 - e. Ballistic sliding doors/windows/wells.
 - f. Ballistic pivot walls.
 - g. Exterior ballistic protection.
 - h. Lighting.
 - i. Target systems.
 - j. Closed circuit camera system.
 - k. NIOSH compliant HVAC system.
 - l. Concrete slab.
 - m.

**** NOTE TO SPECIFIER ** SMASH™ is a modular and expandable shoot house that meets the demand for deployable, non-permanent live-fire training structures. Utilizing standard parts and modular components, SMASH™ offers a ballistically secure shooting facility that is rapidly deployed, requires virtually no maintenance, and is adaptable to training requirements and locations. SMASH™ components are interchangeable and reconfigurable to provide multiple floor plans for realistic and changing urban operations training scenarios.**



1.2 LIVE-FIRE SHOOT HOUSE: MILITARY

- A. System: Standardized parts, Modular design, Armored protection, Shoot House (SMASH) System as manufactured by Range Systems. SMASH™ components are interchangeable to provide a 360 degree live fire shooting environment in a fully modular, deployable, reconfigurable shoot house system as indicated or required by the drawings.
1. Performance: Live fire shoot house shall be ballistically capable to accommodate the use of 7.62mm NATO and 5.56mm NATO, .45 cal, 9 mm NATO, .12 GA shotgun slugs, 00 buck and sabot rounds.
 2. Shoot house walls shall be designed to mitigate any possibility of shoot-through during live fire exercises and shall minimize ricochet and splatter hazards.
 3. Interior shoot house ballistic walls will consist of AR 500 ballistic plate steel, 3/8 inch (9.5 mm) typical, 1/2 inch (13 mm) where noted or required for ballistic rating, steel support framing, steel support angle, connection bolts and anchors, and 50 mm thick (2 inch) *Dura-Panel anti-ricochet ballistic rubber adhered directly to steel surface with "no air gap" between the rubber and steel wall. No air gap significantly reduces airborne lead particulates and increases durability by eliminating the need for wood backing.
 4. Encapsulating ballistic rubber Dura-Bloc™ Hotwalls placement in high impact or target areas shall maintain the ballistic integrity of the live fire shoot house.
 5. Standard room layouts shall utilize 2 foot (610 mm) dimensional increments AR 500 steel and Dura-Panel Walls. Custom room dimensions can be provided.
 6. Connections between panels shall be mechanical (not welded) and include a dual external wall seam plate system to provide continuous ballistic protection.
 7. Shoot house shall be designed to be quickly assembled and disassembled using patented and proprietary connectors.
 8. Depending on ballistic capability levels, shoot house shall maximize the use of portable bullet traps or Dura-Bloc™ Hotwall placement in high impact or target areas to maintain the integrity of the facility and ensure a safe training environment.
 - a. Shoot house shall be equipped with portable bullet traps.
 - 1) Each bullet trap shall be capable of being moved by two soldiers and shall have the ability to be moved to various wall positions.
 - 2) The size of each portable bullet trap shall be determined by manufacturer.
 - 3) Bullet traps shall be made to encapsulate all acceptable rounds and shall not present ricochet and splatter hazards. Test data is required for the absorption and non-ricochet of live-fire rounds tested randomly from 15 degrees to 90 degrees of baseline defined as any internal protected structural surface.
 - 4) Encapsulates standard handgun and frangible rounds and will defeat armor piercing and non-armor piercing. Ballistic rubber surface of bullet trap is self-healing to 2,000 rounds (dependent on caliber) distributed uniformly over the trap surface area without eroding, deteriorating, or significantly distorting the surface.
 - b. Shoot house shall be equipped with Dura-Bloc™ Hotwalls in high impact or target areas.
 9. Catwalk system shall be modular and non-permanent attachment with bolts. Catwalk shall be galvanized steel and designed and constructed to carry a working load of 100 psf and shall have railings installed on all sides.
 10. Shoot house shall include entry points such as breach and standard pre-hung doors. All doors shall be framed to allow installation of 36 inches wide by 80 inches high (914 mm by 2032 mm) doors.
 11. Breach doors shall be capable of supporting mechanical, explosive, and shotgun breaches. Breach doors shall lead in and out of the shoot house and withstand all operational and environmental requirements as specified.