SECTION 11 67 23

SHOOTING RANGE EQUIPMENT

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\*\* NOTE TO SPECIFIER \*\* Action Target Inc.; shooting range equipment.  
This section is based on the products of Action Target Inc., which is located at:3411 Mountain Vista Pkwy.Provo, UT 84606Toll Free Tel: 888-377-8033Tel: 801-377-8033Email: [request info (info@actiontarget.com)](https://arcat.com/rfi?action=email&company=Action%252BTarget%252BInc.&message=RE%253A%2520Spec%2520Question%2520(11486act)%253A%2520&coid=45277&spec=11486act&rep=&fax=)  
Web: <http://www.actiontarget.com>   
 [ [Click Here](https://arcat.com/company/action-target-inc-45277) ] for additional information.  
Action Target has the creativity and drive to develop innovative new firearms training technology, the experience to properly apply that technology to solve today's training problems, and the dedication to provide the best ongoing service and support in the industry. Today, Action Target equips the gun owner, police officer, or military personnel with training solutions.  
Our start-to-finish approach encompasses every stepfrom initial range design drawings, to manufacturing, to product design, and final installation. Action Target designs, manufactures, and installs turnkey and custom shooting ranges, tactical combat houses, and portable steel targets for versatile firearms training. We've built Action Target around a team of proven executives, skilled engineers and machinists, dedicated sales representatives, and tireless customer service technicians.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Shooting range equipment including the following:
       1. Bullet traps and collection.
       2. Shooting stalls.
       3. Target systems.
       4. Target retrievers.
       5. Range Control Systems.
       6. Safety baffles and ballistic barriers.
       7. Range lighting.
       8. Range ventilation systems.
       9. Shoot houses.
       10. TAC houses.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. Action Target Ballistic Rating:
       1. ATI Class 1 (Handgun).
          1. Ammunition with velocities up to 1,485 fps and energy up to 1,175 ft/lbs.
       2. ATI Class 2 (Rifle).
          1. Ammunition with velocities up to 3,388 fps and energy up to 3,600 ft/lbs.
          2. No armor-piercing or enhanced penetration rounds.
    2. Conveyor Equipment Manufacturers Association (CEMA).
    3. European Committee for Standardization (EN):
       1. EN 1063 - Ballistic Standard.
    4. National Institute of Occupational Safety and Health (NIOSH):
       1. NIOSH 76-130 - Lead Exposure and Design Considerations for Indoor Firing Ranges.
    5. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA).
    6. Society for Protective Coatings (SSPC):
       1. SSPC-SP6 - Commercial Blast Cleaning.
    7. U.S. Environmental Protection Agency (EPA):
       1. EPA 40 CFR 50.12 - National Primary and Secondary Ambient Air Quality Standards for Lead.
    8. US Department of Transportation (DOT).
    9. Underwriters Laboratories (UL):
       1. UL 94 HB - Horizontal Burning.
       2. UL 752 - Ratings of Bullet Resistant Materials.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
  2. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum 10 years documented experience.
     2. Equipment Installer Qualifications: Company specializing in performing Work of this section. Minimum five years documented experience with projects of similar scope and complexity.
        1. Range Ventilation Installer: Contractor experienced in design, construction, testing, commissioning, and operation of indoor shooting range ventilation systems.
     3. Source Limitations: Provide each product type from single manufacturer ensuring uniformity.
  3. SEQUENCING
     1. Supply products to affected trades in time to prevent interruption of construction progress.
  4. WARRANTY

\*\* NOTE TO SPECIFIER \*\* The following warranty applies to the following products:

* 1. Structural rubber berm trap, .50 BMG Rated Structural Rubber Berm Trap, Modular Total Containment Trap (TCT), All stall products, All target systems, Genesis Target Retrievers, Pilot target retrievers, SmartRange Axis range control systems, Modular Ceiling Baffles, Wide-span ceiling baffles, Wall baffles, Shoot houses, and TAC houses. Delete manufacturer's warranty option not required.
     1. Manufacturer's Warranty:
        1. Trusted Partner Warranty:
           1. Manufacturer warrants products to be free from manufacturing defects. This warranty covers both parts and labor for a period of three years. During this time, Action Target Inc's (ATI) warranty shall become void and ATI shall have no obligation to repair or replace the ATI Work; pursuant to the Repair Warranty, if such Work was (collectively, "Exclusions"):

\*\* NOTE TO SPECIFIER \*\* The paragraph below applies to the Modular containment trap product only

* + - * 1. If required delete warranty paragraph above. Delete if not required..

Improperly used by Customer or others (i.e., exceeded the operational and/or functional scope for which it was intended, including use of unsupported bullets).

Improperly maintained by Customer (regular maintenance items to be performed by Customer include, but are not limited to the following, light bulbs, circuit breakers, batteries, filters, oil, grease, consumable items including but not limited to those identified herein or accepted as consumables in the industry, etc. or complete maintenance records not kept in accordance with ATI instructions.

Modified or altered by Customer or others during and/or after implementation of Work (including the removal of ATI's logos, badging and/or other branding from the ATI materials).

Serviced incorrectly by any third party.

Damaged or rendered inoperative as a result of:

The acts or omissions of Customer or others, including, but not limited to:

Failure to implement recommended protection and/or armoring measures.

Failure to comply with the manufacturer's printed instructions.

Abuse.

Rodents or pests.

Acts of nature, including, but not limited to, lightning, flood, fire, earthquake, etc.

Primary or secondary bullet strikes to or from non-impact surfaces (e.g., ceiling or wall baffles, moving target tracks, target trolleys, target stands, target holders, etc.).

Inadequate, incorrect, or unstable electricity supply.

Exposure to environmental conditions that exceed the scope of the product's design.

Corrosion, moisture contamination, abrasion, or normal wear and tear.

Power surge.

Not operated in compliance with all applicable building, mechanical, plumbing, or electrical codes.

Supplied and/or installed incorrectly by any third party.

Damaged, in whole or in part, due to Customer's failure to give ATI timely notice of the alleged defect or non-conforming portion of the Work; or

Covered under a non-ATI manufacturer's warranty.

* + - * 1. 3-year Trusted Partner Warranty is applicable to the following products:

Rubber Berm Trap

Modular Total Containment Trap (TCT) when comprised of a Vortex Chamber and BCS Deluxe 20.

Ballistic Stalls (Defender, Guardsman, Sentry, American)

All Target Systems

Genesis Target Retriever

Pilot Target Retriever

SmartRange Axis

Baffles and Deflectors

Shoot Houses Including Tac House and MATCH

* + 1. Manufacturer's Warranty: All products not covered under the 3-year Trusted Partner Warranty is provided a standard one-year limited manufacturer's warranty.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Action Target Inc., which is located at:3411 Mountain Vista Pkwy.Provo, UT 84606Toll Free Tel: 888-377-8033Tel: 801-377-8033Email: [request info (info@actiontarget.com)](https://arcat.com/rfi?action=email&company=Action%252BTarget%252BInc.&message=RE%253A%2520Spec%2520Question%2520(11486act)%253A%2520&coid=45277&spec=11486act&rep=&fax=);Web: <http://www.actiontarget.com>
      2. Substitutions: Not permitted.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. BULLET TRAPS AND COLLECTION

\*\* NOTE TO SPECIFIER \*\* Portable bullet traps extend the life of the shoot house by capturing rounds in an easy-to-maintain facade. Strategic placement of bullet traps can significantly reduce the number of rounds fired into the shoot house. Delete if not required.

* + 1. Basis of Design: Portable Bullet Trap; as manufactured by Action Target Inc.
       1. Ballistic Rating: ATI Class 2 (Rifle).
       2. No exposed metal surfaces in the target shooting zone.
       3. Dimensions (WxHxD): 30.5 x 72 x 29 inches (775 x 1829 x 737 mm) deep.
       4. Weight: 340 pounds (154 kg).
       5. Impact Plate: 1/2 inch (13 mm) thick AR500 Steel.
       6. Fascia: Replaceable 2 inch (51 mm) thick rubber.
          1. Rubber recessed into the ballistic plate.
       7. Catch Tray: Catches bullets. Unlatches allowing bullets to be poured into collection container.
       8. Includes four locking castors for rolling relocation.

\*\* NOTE TO SPECIFIER \*\* Delete wheel base options not required.

* + - 1. Wheel Base: Standard wheel base with 4 inch (102 mm) castors with brass deflectors to push bullet casings out of the way when relocating (for smooth surfaces).
      2. Wheel Base: All-terrain wheel base with 8 inch (203 mm) castors.

\*\* NOTE TO SPECIFIER \*\* The Structural Rubber Berm Trap enhances the usability and safety of any shooting range. Delete if not required.

* + 1. Basis of Design: Structural Rubber Berm Trap; as manufactured by Action Target Inc.
       1. Performance Requirements:
          1. Ballistic Rating: ATI Class 2 (Rifle). Shotguns using ammunition 00 Buckshot.
          2. Comply with structural requirements; wind, seismic, and snow loads.

Deck Plate: Secure to framework with Grade 5 nuts and bolts in horizontal and vertical directions.

Toe of Deck Plate: Anchors to concrete floor creating a structural diaphragm.

Structural strap.

* + - 1. Trusted partner warranty.
      2. Angle: Maximum 30 degrees from horizontal.
      3. Width per Foot (Meter): \_\_\_\_\_\_\_\_ as indicated on Drawings.
      4. Media Depth: Perpendicular deck plane, 24 inches (610 mm); horizontal shooting depth, 48 inches (1219 mm).
      5. Frame: Galvanized steel with interlocking and bolted connections.
      6. Retaining Base: Galvanized steel with proprietary fin system to retain rubber layer.
         1. Fins eliminate need for a continuous top-fill device.

\*\* NOTE TO SPECIFIER \*\* Select height required (8 feet is standard). 6 feet height is recommended only for low-volume ranges. Delete options not required.

* + - 1. Height: 6 feet (1829 mm). Mining Requirements: After 60,000 rounds per lane.
      2. Height: 8 feet (2438 mm). Mining Requirements: After 80,000 rounds per lane.
      3. Height: 10 feet (3048 mm). Mining Requirements: After 80,000 rounds per lane.
      4. Height: 12 feet (3658 mm). Mining Requirements: After 80,000 rounds per lane.

\*\* NOTE TO SPECIFIER \*\* Delete media option not required.

* + - 1. Media: Standard chopped rubber, 0.75 in (19 mm) average size, pure SBR, 99.9 percent free of loose wire and exposed steel.
      2. Media: Premium chopped rubber, 1.25 in (32 mm) average size, pure SBR from off-the-road tires and 99.9 percent free of loose wire and exposed steel.

\*\* NOTE TO SPECIFIER \*\* 10 gauge A36 steel is standard. Delete deck plate options not required.

* + - 1. Deck Plate: 10 gauge (3.6 mm) galvanized A36 steel.
      2. Deck Plate: 1/4 inch (6.4 mm) A36 steel.
      3. Deck Plate: 1/4 inch (6.4 mm) AR-500 steel.

\*\* NOTE TO SPECIFIER \*\* 10 gauge galvanized A36 steel is standard. Delete back plate not required.

* + - 1. Back Plate: 10 gauge galvanized A36 steel, 26.5 inches (673 mm) tall.
      2. Back Plate: 1/4 inch (6.4 mm) AR500 steel, 26.5 inches (673 mm) tall.

\*\* NOTE TO SPECIFIER \*\* Wall supported is standard. Delete configuration option not required.

* + - 1. Configuration: Wall supported.
      2. Configuration: Free standing.
      3. Install over existing berm. Modify structure as required.
         1. Allows for use of oblique angles for shooting.
         2. Shall not require rear access for cleaning or service.
         3. Allow for recovery of spent rounds for periodic recycling.
         4. Contains no EPA regulated materials or water-absorbing material.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete sidewall protection as required.

* + - 1. Sidewall Protection: 10-gauge galvanized A36 steel.
      2. Sidewall Protection: 1/4 inch (6.4 mm) thick A36 steel.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete sizes not required or delete eyebrow protection paragraph.

* + - 1. Eyebrow Protection: 10 gauge (3.6 mm) galvanized steel.
         1. Size: 12 inch (305 mm).
         2. Size: 18 inch (457 mm).
         3. Size: 24 inch (610 mm).
         4. Size: 30 inch (762 mm).

\*\* NOTE TO SPECIFIER \*\* Following subparagraphs are optional. Delete options not required.

* + - 1. Fire Protection: ASTM E108, Class A.
         1. Shall adhere to chopped rubber granules.
         2. Fire protectant media shall not contain absorbent materials.
         3. Shall not require water application to maintain fire rating.
      2. Back Plate Fascia: Replaceable 1-1/2 inch (38 mm) thick SBR panel.
         1. SureStop 2 inch (51 mm) Rubber Panel

\*\* NOTE TO SPECIFIER \*\* Structural stamp is optional. Delete if not required.

* + - 1. Structural stamp provided by licensed professional engineer.
    1. Basis of Design: .50 BMG Rated Structural Rubber Berm Trap; as manufactured by Action Target Inc.
       1. Performance Requirements:
          1. Rating: For .50 BMG rounds with under 14,000 ft-lbs of energy at 25-yards.

Shotguns using ammunition 00 Buckshot and larger.

* + - * 1. Comply with structural requirements including wind, seismic, and snow loads.

Deck Plate: Secures to framework with Grade 5 nuts and bolts in horizontal and vertical directions.

Toe of Deck Plate: Anchors to concrete floor creating a structural diaphragm.

Structural strap.

* + - 1. Trusted partner warranty.
      2. Angle: Maximum 30 degrees from horizontal.
      3. Width per Foot (Meter): As indicated on drawings.
      4. Media Depth: Perpendicular to trap plane, 36 inches (610 mm); shooting depth, 72 inches (1219 mm).
      5. Frame: Galvanized steel with interlocking and bolted connections.
      6. Retaining Base: Galvanized steel with proprietary fin system to retain rubber layer.

\*\* NOTE TO SPECIFIER \*\* 8 feet is standard. Delete height options not required.

* + - 1. Height: 8 feet (2438 mm). Capacity: 80,000 rounds per lane.
      2. Height: 10 feet (3048 mm). Capacity: 80,000 rounds per lane.
      3. Height: 12 feet (3658 mm). Capacity: 80,000 rounds per lane.

\*\* NOTE TO SPECIFIER \*\* Select media option not required.

* + - 1. Media: Standard chopped rubber, 0.75 inch (19 mm) average size, pure SBR. 99.9 percent free of loose wire and exposed steel.
      2. Media: Premium chopped rubber, 1.25 inch (32 mm) average size, pure SBR harvested from off-the-road tires. 99.9 percent free of loose wire and exposed steel.

\*\* NOTE TO SPECIFIER \*\* 10 gauge A36 is standard. Delete deck plate options not required.

* + - 1. Deck Plate: 10 gauge; 9/64 inches (3.6 mm) A36 steel.
      2. Deck Plate: 1/4 inch (6.4 mm) A36 steel.
      3. Deck Plate: 1/4 inch (6.4 mm) AR-500 steel.
         1. Required unless back wall of range is filled CMU or Concrete.

\*\* NOTE TO SPECIFIER \*\* 10 gauge A36 steel is standard. Delete back plate options not required.

* + - 1. Back Plate: 10 ga. A36 steel, 26.5 inches (673 mm) tall.
      2. Back Plate: 1/4 inch (6.4 mm) AR-500 steel, 26.5 inches (673 mm) tall
         1. Required unless back wall of range is filled CMU or Concrete.

\*\* NOTE TO SPECIFIER \*\* Filled CMU wall supported is standard. Delete configurations not required.

* + - 1. Configuration: Filled CMU wall supported.
      2. Configuration: Non-filled CMU wall supported. 1/4 inch (6.4 mm) AR-500 deck plate and back plate.
      3. Configuration: Free standing. 1/4 inch (6.4 mm) AR-500 deck plate and back plate.
      4. Install over existing berm. Modify structure as required.
         1. Allows for use of oblique angles for shooting.
         2. Rear access for cleaning or service is not required.
         3. Allow for recovery of spent rounds for periodic recycling.
         4. Contains no EPA regulated materials or water-absorbing material.

\*\* NOTE TO SPECIFIER \*\* Sidewall protection is optional. Choose one desired option or delete as required.

* + - 1. Sidewall Protection: 10 gauge A36 steel.
      2. Sidewall Protection: 1/4 inch (6.4 mm) A36 steel.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete sizes not required or delete eyebrow protection paragraph.

* + - 1. Eyebrow Protection: 10 gauge; 9/64 inches (3.6 mm) galvanized steel.
         1. Size: 12 inch (305 mm).
         2. Size: 18 inch (457 mm).
         3. Size: 24 inch (610 mm).
         4. Size: 30 inch (762 mm).

\*\* NOTE TO SPECIFIER \*\* Following subparagraphs are optional. Delete options not required.

* + - 1. Fascia: Replaceable 2 inch (51 mm) thick SBR rubber.
      2. Fire Protection: ASTM E108, Class A.
      3. Back Plate Fascia: Replaceable 1-1/2 inch (38 mm) thick SBR Panel.

\*\* NOTE TO SPECIFIER \*\* The total Containment Trap offers unparalleled efficiency and reliability for collecting bullets. The patented design utilizes a number of features that not only capture lead fragments and dust, but also make the process of recycling lead easier. Delete if not required.

* + 1. Basis of Design: Modular Total Containment Trap (TCT); as manufactured by Action Target Inc. Self-supporting, self-contained bullet backstop and containment unit of steel plate construction for heavy use on both indoor and outdoor high-volume ranges.
       1. Performance and Design Requirements:

\*\* NOTE TO SPECIFIER \*\* Delete rating option not required.

* + - * 1. Rating: ATI Class 1 (Handgun). 1/4 inch (6.4 mm) thick AR500 steel panels.
        2. Rating: ATI Class 2 (Rifle). 3/8 inch (9.5 mm) thick AR500 steel panels.
        3. No EPA regulated substances.
        4. No substances that might act as a solvent for spent bullets or their by-products.
        5. Capable of capturing a .50 BMG round shot from 25 yards (22860 mm) or more from mouth of trap.
        6. Non-fixture mounted.
        7. No armor-piercing or enhanced penetration rounds.
        8. Inside of Chamber: Readily accessible for inspection without removal of any deceleration medium.
        9. Trap: Fully self-supported requiring no prior construction site preparation other than a flat concrete pad with a prepared trench, and an optional boom.
      1. Trusted partner warranty.
      2. Modular Assembly: Trap and containment system shall be fully modular.
         1. Shall not require permanent connection means.
         2. Prefabricated for simple assembly on site.
      3. Fabrication: Cut by computer-controlled plasma equipment.
         1. Plates: Prepared in compliance with painting specification SP6.
         2. Primary Impact Plates: Arrange so bullets fired straight into the trap, impact plate at an angle of 16 degrees maximum.
         3. All Surfaces Facing Shooters: AR500 steel minimum.
         4. Joints: No exposed bolt heads.
      4. Configuration: Sloping funnel design.

\*\* NOTE TO SPECIFIER \*\* Select plate options required. 3 top and 5 bottom impact plates is standard. Thickness depends on application Delete options not required.

* + - * 1. Plates: 3 top and 5 bottom impact plates.

Steel: 1/4 inch (229 mm) AR-500. Rating: ATI Class 1 (Handgun).

Steel: 3/8 inch (343 mm) AR-500. Rating: ATI Class 2 (Rifle).

Steel: 1/2 inch (457 mm) AR-500. Rating: ATI Class 2 (Rifle).

Steel: 1/2 inch (457 mm) AR-550. Rating: ATI Class 2 (Rifle).

Suitable for high volume test ranges with concentrated impact.

* + - * 1. Plates: 4 top and 4 bottom impact plates.

Steel: 1/4 inch (229 mm) AR-500. Rating: ATI Class 1 (Handgun).

Steel: 3/8 inch (343 mm) AR-500. Rating: ATI Class 2 (Rifle).

Steel: 1/2 inch (457 mm) AR-550. Rating: ATI Class 2 (Rifle).

Suitable for high volume test ranges with concentrated impact.

\*\* NOTE TO SPECIFIER \*\* Select Funnel Plate Style options required. Delete options not required.

* + - * 1. Modular Funnel Plates. Components must fit through a 36 inch (914 mm) door.
        2. Smooth Funnel Plates: No joint strips exposed to shooter. Meets ETL 11-18.
      1. Plate Width: As indicated on drawings and dependent on range lane width.
         1. A combination of 36, 48, and 60 inch (914, 1219, and 1524 mm) plates.
      2. Height: 99.5 inches (2527 mm).
      3. Trap Design: Leading edge of side plates to be situated within a wall trench.
         1. When wall trench is not available; wall deflector with additional consumable wall deflector shall be installed up-range of side plates.
      4. Bullet Components: Directed into a series of DOT approved containers or mechanical auger that collects and delivers spent rounds into DOT containers.
      5. Contained Lead Removal: No process that disturbs the settled state of lead particulates.

\*\* NOTE TO SPECIFIER \*\* Select Structural Stamp if required. Delete options not required.

* + - 1. Structural Stamp: By Professional Engineer (PE).

\*\* NOTE TO SPECIFIER \*\* Select chamber required. Delete option not required.

* + - 1. Vortex Chamber: Multiple bent or multiple individual surfaces at angles that decelerate and break down the bullet.
         1. Material: Minimum 3/8 inch thick (9.5 mm) AR500 steel.
         2. Mouth Material: Minimum 1/2 inch thick (12.7 mm) AR550 steel.
         3. Seal: High-grade, closed-cell Neo/EPDM polymeric blend gaskets or high flexibility silicone adhesive gasket.
         4. Exterior Finish: High impact strike resistant paint.
         5. Easily disassembled for inspection or replacement of components.
         6. Unobstructed open mouth design.
         7. Shall not contain any vertical impact surfaces.
         8. Deceleration shall occur in free air and not in any other medium.
      2. TCT4D Chamber: Multiple bent or multiple individual surfaces at angles that decelerate and break down the bullet.
         1. Containment Chamber: Single-piece construction; fully welded and airtight.
         2. Material: Minimum 3/8 inch thick (9.5 mm) AR500 steel.
         3. Mouth Material: Minimum 1/2 inch thick (12.7 mm) AR550 steel.
         4. Deceleration shall occur in free air and not in any other medium.
         5. Deflectors: Vertical joints that connect modular components shall not be located at or near the front edge of the trap and shall occupy no more than 6 percent of the total aperture height of the trap.

\*\* NOTE TO SPECIFIER \*\* Select self-standing support boom option required. Delete option not required.

* + - 1. Self-Standing Support Boom: Supports TCT upper funnel plates, eliminating need for additional overhead structure. Rated for dead and live loads based on location.

\*\* NOTE TO SPECIFIER \*\* Roof is required for trap with boom that may be exposed to rain or water damage. Delete if not required.

* + - 1. Roof: Rib crimp style, watertight steel roof no more than 4 inches (102 mm) above trap support structure and covering entire area of trap with overhang of 1 foot (305 mm) on sides and 3 feet (914 mm) on rear of trap.

\*\* NOTE TO SPECIFIER \*\* Select collection system required. Delete option not required.

* + - 1. Automatic Collection: Basis of Design: BCS Auto 55 Bullet Collection System; as manufactured by Action Target Inc. Mechanical material transfer system that conveys spent projectiles and debris from bullet trap to sealed and transportable container.
         1. Collection Container: Approved by EPA and DOT.
         2. Fully sealed to prevent lead dust from escaping.
         3. Controls: Programmable microprocessor timer cycles system on and off.

Timer cycles shall be based on expected projectile volume.

* + - * 1. Mechanical Shear Coupling: Prevents system damage in case of overload.
        2. Containers: 55 gallon (208 L) drum. 1208 pounds (548 kg) when 80 percent full (max capacity of barrel is 80 percent full).
        3. Electronic Protection System:

Shuts down system in case of blockage or error.

Monitors collection container fill level.

Includes wall-mounted, real-time display of container fill status.

Shuts down system prior to container over filling.

Display shall indicate system shutdown.

Alarm shall sound to signify shutdown.

* + - * 1. Operating Length:

Two Motors: Up to 150 feet (45700 mm).

Three Motors: Up to 300 feet (91400 mm).

* + - * 1. Discharge Conveyor Screw: A close-tolerance design to improve system performance.
        2. Construction: Meets CEMA standards.

Steel Trough: 7 inches (178 mm) wide.

Maintenance free, oil-impregnating bronze bearings.

Auger Screws: Spaced so no supporting bearings or structures are directly below opening of bullet trap deceleration chamber.

Includes one or more ports to allow insertion of coagulant to improve system performance.

\*\* NOTE TO SPECIFIER \*\* Mobile device access is optional. Delete if not required.

* + - * 1. Mobile device access of protection and monitoring systems.

\*\* NOTE TO SPECIFIER \*\* Select container location required. Delete option not required.

* + - * 1. Container Location: Indoors behind the range.
        2. Container Location: Outdoors adjacent to the range.

\*\* NOTE TO SPECIFIER \*\* This option only available with 3x5 funnel plate configuration on TCT.

* + - 1. Mechanical Collection: Basis of Design: BCS Deluxe 20 Bullet Collection System; as manufactured by Action Target Inc. Mechanical material collection system. Collects spent projectiles and debris from bullet trap directly into a sealed and transportable container.
         1. Collection Container: Approved by EPA and DOT.
         2. Fully sealed to prevent lead dust from escaping.
         3. Requires no moving parts or electrical power.
         4. Angled Hopper: Allows easy flow of projectiles into collection container.
         5. Includes sight glass to allow for visual monitoring of level in each container.
         6. Dolly: Wheeled dolly for easy movement of containers for recycling.
         7. Containers: 20 gallon (76 L) drum.

Weight: 500 pounds (227 kg) when 80 percent full (max capacity).

One for each 3 foot (914 mm) section or two for each 4 or 5 foot (1219 or 1524 mm) section of TCT chamber.

* + - 1. Dust Collection: Basis of Design: Dust Collection Unit; as manufactured by Action Target Inc. Removes and collects dust from deceleration chamber for easy recycling.
         1. Filter: Self-cleaning filter system (MERV 15).
         2. Control Unit: Electronic control unit with digital Magnahelic gauge.
         3. Broken Bag Detector: Shuts system down if there is a leak.
         4. Fan: Standard silencer.
         5. Trap Width: As indicated on Drawings; 3 to 160 ft (914 to 48768 mm).

\*\* NOTE TO SPECIFIER \*\* Select HEPA filter option. Delete if not required.

* + - * 1. Filter: Self-cleaning HEPA filtration (MERV 17). Touch screen control unit.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. SHOOTING STALLS

\*\* NOTE TO SPECIFIER \*\* The American Series stall provides a completely customizable shooting space, without compromising on Action Target's stringent ballistic standards. Delete if not required.

* + 1. Basis of Design: American Series Stall; as manufactured by Action Target Inc.
       1. Performance Requirements:
          1. Ammunition Rating: ATI Class 2 (Rifle).

Complies with UL 752 standards for Levels 5, 6, 7, 8, 9, 10.

Independently tested to validate ballistic standards.

* + - 1. Description: Acts as a physical barrier between shooters to protect against accidental discharge. Serves as a physical mounting location for target retriever controls and a privacy barrier between shooters.
      2. Trusted partner warranty.
      3. Wire Channel: Wiring routed within the stall wall through an integrated wire channel.
      4. Panels: Combination of wood and steel.

\*\* NOTE TO SPECIFIER \*\* Fixed table is standard. Delete table type configuration options not required.

* + - 1. Table Type Configuration: Fixed table
      2. Table Type Configuration: Pivot table.
      3. Table Type Configuration: Rifle table.
      4. Table Type Configuration: Tactical cart.
      5. Table Widths: 30 to 54 inches (762 to 1372 mm) in 6 inch (152 mm) increments.

\*\* NOTE TO SPECIFIER \*\* Delete design style options not required.

* + - 1. Design Style: Craftsman.
      2. Design Style: Manhattan.
      3. Design Style: Rustic.
      4. Integrated Features:
         1. Brass deflector.
         2. Muzzle blast barrier.
      5. Optional Accessories:

\*\* NOTE TO SPECIFIER \*\* The following subparagraphs are optional. Delete options not required.

* + - * 1. Dimmable white light fixtures.
        2. Rifle rack.
        3. Lighted lane number plates.
        4. Under table shelf (Available on fixed table configuration only)

\*\* NOTE TO SPECIFIER \*\* Defender Stall is the most modular shooting stall on the market. Interchangeable ballistic panels make it easy and economical to replace parts. Delete if not required.

* + 1. Basis of Design: Defender Stall; as manufactured by Action Target Inc.
       1. Performance Requirements:

\*\* NOTE TO SPECIFIER \*\* Select ammunition rating required (see section .2.A "Action Target Ballistic Rating"). Delete option not required.

* + - * 1. Ammunition Rating: ATI Class 1 (Handgun).

Solid Panel: Comply with UL 752 for Level 3.

Glass Panel: Comply with UL 752 for Level 3 and EN1063 BR4(S).

Independently tested to validate ballistic standards

* + - * 1. Ammunition Rating: ATI Class 2 (Rifle).

Solid Panel: Comply with UL 752 for Levels 5, 6, 7, 8, 9, and 10.

Glass Panel: Comply with EN1063 BR5(S).

Independently tested to validate ballistic standards.

* + - 1. Description: Acts as a physical barrier between shooters to protect against accidental discharge. Serves as a physical mounting location for target retriever controls and a privacy barrier between shooters.
      2. Trusted partner warranty.
      3. Frame: Ballistic rated construction compliant with UL752 for level 3, 5, 7, and 8.
         1. Ballistic Rating: Independently verified by an independent third party.
      4. Hollow core frame for cable routing.

\*\* NOTE TO SPECIFIER \*\* Delete panels option not required.

* + - 1. Solid Panels: Combination of wood, steel, and ABS.
      2. Glass Panels: 2-way ballistic glass.

\*\* NOTE TO SPECIFIER \*\* Select dimension options required. Delete option not required.

* + - * 1. Dimensions without Muzzle Blast Barrier (WxHxD): 2.5 x 93.6 x 47.8 inches (64 x 2377 x 1214 mm).
        2. Dimensions with Muzzle Blast Barrier (WxHxD): 2.5 x 93.6 x 68.8 inches (64 x 2377 x 1748 mm).
      1. Finish on Exposed Steel: Powder coated.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required. Additional options available upon request.

* + - * 1. Color: Silver hammertone (standard).
        2. Color: Hammered blue
        3. Color: Hammered black
        4. Color: Hammered brown
        5. Color: Hammered metallic silver
        6. Color: \_\_\_\_\_\_\_\_
        7. Color: As determined by the Architect.

\*\* NOTE TO SPECIFIER \*\* Fixed table is standard. Delete table configurations options not required.

* + - 1. Table Configurations: Fixed table.
      2. Table Configurations: Pivot table.
      3. Table Configurations: Rifle table.
      4. Table Configurations: Tactical cart.
      5. Table Configurations: Adjustable height rifle table.
         1. Motion Range: 28 to 38 inches (711 to 965 mm) from floor to top of table.
      6. Table Configurations: Adjustable height standard table
         1. Motion Range: 28 to 38 inches (711 to 965 mm) from floor to top of table.
      7. Table Widths: 30 to 54 inches (762 to 1372 mm) in 6 inch (152 mm) increments.
      8. Accessories:
         1. Brass deflector.

\*\* NOTE TO SPECIFIER \*\* Delete the following accessories options not required.

* + - * 1. Muzzle blast barrier.
        2. Dimmable white light.
        3. Rifle rack.
        4. Integrated control panel for retrievers.
        5. ABS skin to protect powder coat finish on the main column.
        6. Outswing barricade.
        7. Under table shelf (for fixed tables only).

\*\* NOTE TO SPECIFIER \*\* The Guardsman Shooting Stall features a rugged yet simple design that retains the industry-leading ballistic standards Action Target proudly holds itself to. Delete if not required.

* + 1. Basis of Design: Guardsman Stall; as manufactured by Action Target Inc.
       1. Performance Requirements:

\*\* NOTE TO SPECIFIER \*\* Select ammunition rating required (see section 1.2.A "Action Target Ballistic Rating"). Delete option not required.

* + - * 1. Ammunition Rating: ATI Class 1 (Handgun).

Complies with UL 752 standards for Level 3.

Independently tested to validate ballistic standards.

* + - * 1. Ammunition Rating: ATI Class 2 (Rifle).

Complies with UL 752 standards for Levels 5, 6, 7, 8, 9, and 10.

Independently tested to validate ballistic standards.

* + - 1. Trusted partner warranty.
      2. A physical privacy barrier between shooters to protect against accidental discharge. Serves as physical mounting for target retriever controls.
      3. Steel Frame: Anchors to concrete; for mounting steel ballistic panels.
      4. Panels: Combination of wood, steel, and ABS, with stainless steel trim.
         1. Dimensions (WxHxD): 3 x 84 x 36 inches (76 x 2134 x 914 mm).
      5. Wire Channel: Wiring routed within the stall wall through an integrated wire channel.

\*\* NOTE TO SPECIFIER \*\* Fixed table is standard. Delete table configurations options not required.

* + - 1. Table Configurations: Fixed table.
      2. Table Configurations: Pivot table.
      3. Table Configurations: Rifle table.
      4. Table Configurations: Tactical cart.
      5. Table Widths: 30 to 54 inches (762 to 1372 mm) in 6 inch (152 mm) increments.

\*\* NOTE TO SPECIFIER \*\* The following accessory is optional. Delete if not required.

* + - 1. Accessory: Under Table shelf (for Fixed Table only)

\*\* NOTE TO SPECIFIER \*\* The Sentry shooting stall offers a range of economical options while the Sentry Deluxe offers customers a private shooting experience. Delete if not required.

* + 1. Basis of Design: Sentry Shooting Stall; as manufactured by Action Target Inc.
       1. Performance Requirements:

\*\* NOTE TO SPECIFIER \*\* Select ammunition rating required (see section .2.A "Action Target Ballistic Rating"). Delete option not required.

* + - * 1. Ammunition Rating: ATI Class 1 (Handgun).

Solid Panel: Comply with UL 752 for Level 3.

Glass Panel Comply with UL 752 for Level 3 and EN1063 BR4(S).

Independently tested to validate ballistic standards.

* + - * 1. Ammunition Rating: ATI Class 2 (Rifle).

Solid Panel: Complies with UL 752 for Levels 5, 6, 7, 8, 9, 10.

Glass Panel: Complies with EN1063 BR5(S).

Independently tested to validate ballistic standards.

* + - 1. Trusted partner warranty.
      2. A physical privacy barrier between shooters protecting against accidental discharge. A physical mounting for target retriever controls.
      3. Frame: Ballistic rated construction compliant with UL752 for level 3, 5, 7, and 8.
         1. Hollow core framing for cable routing.

\*\* NOTE TO SPECIFIER \*\* Select panel option required. Delete option not required.

* + - 1. Solid Panels: Wood and steel, with ABS or 1 inch (25 mm) rubber fascia.
      2. Glass Panels: 2-way ballistic glass.

\*\* NOTE TO SPECIFIER \*\* Select dimension options required. Delete options not required.

* + - 1. Dimensions, Sentry without Muzzle Blast Barrier (WxHxD): 4 x 93 x 36 inches (102 x 2362 x 914 mm).
      2. Dimensions, Sentry with Muzzle Blast Barrier (WxHxD): 4 x 93 x 60 inches (102 x 1524 mm).
      3. Dimensions, Sentry Deluxe without Muzzle Blast Barrier (WxHxD): 4 x 93 x 72 inches (102 x 2362 x 1829 mm).
      4. Dimensions, Sentry Deluxe with Muzzle Blast Barrier (WxHxD): 4 x 93 x 96 inches (102 x 2362 x 2438 mm).
      5. Finish on Exposed Steel: Powder coated.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required. Additional options available upon request.

* + - * 1. Color: Silver hammertone (standard).
        2. Color: Hammered blue
        3. Color: Hammered black
        4. Color: Hammered brown
        5. Color: Hammered metallic silver
        6. Color: \_\_\_\_\_\_\_\_
        7. Color: As determined by the Architect.

\*\* NOTE TO SPECIFIER \*\* Fixed table is standard. Delete table configurations options not required.

* + - 1. Table Configurations: Fixed table.
      2. Table Configurations: Pivot table.
      3. Table Configurations: Rifle table.
      4. Table Configurations: Tactical cart.
      5. Table Widths: 30 to 54 inches (762 to 1372 mm) in 6 inch (152 mm) increments.
      6. Accessories:

\*\* NOTE TO SPECIFIER \*\* Gate is only available for Sentry Deluxe. Delete accessory options not required.

* + - * 1. Brass deflector.
        2. Muzzle blast barrier.
        3. Dimmable white light.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. TARGET SYSTEMS

\*\* NOTE TO SPECIFIER \*\* AutoTargets is a portable, reactive, hit-sensing target system that presents targets in a pop-up or swing-up method. Delete if not required.

* + 1. Basis of Design: AutoTargets; as manufactured by Action Target Inc.
       1. Performance Requirements:
          1. Capable of rotating a complete 90 degrees and limited rotation to less than 90 degrees with the use of an adjustable collar.
          2. Temperature Rating: 0 to 120 degrees F (minus 18 to 49 degrees C).
          3. Wind Speed Rating: 20 mph (32 kph).
       2. Trusted partner warranty.
       3. Description: Portable, reactive, hit-sensing target system.

\*\* NOTE TO SPECIFIER \*\* Delete configuration options and actuator mountings not required.

* + - 1. Configuration: Pop-up only.
         1. Actuator Mounting: Portable ballistic shield mount for knock-down configuration.
      2. Configuration: Adjustable pop-up or swing-up with partial exposure capability
         1. Actuator Mounting: Portable ballistic shield mount for knock-down configuration.
         2. Actuator Mounting: Fixed shelf mounting behind ballistic barrier for swing-up and swing-out partial exposure configuration.
      3. Configuration: Pop-up mounted to Action Target Portable Bullet Trap.
      4. Bullet Impact Sensing: Projectiles passing through target zones provide feedback wirelessly to tablet controller. Single-zone vibration, lethal, and less-lethal ammunition.
      5. Actuator:
         1. Airflow Requirement: 0.2 cfm (5.7 L/m) minimum.
         2. Air Pressure: 60 psi (414 kPa).
         3. Adjustable Lifting Speed: 0.5 to 0.8 seconds (maximum).
         4. Air Supply: Dry and filtered.
         5. Connections: Flexible air tubing with quick-connect, push-in air fittings.
         6. Utilizes compressed carbon dioxide.
         7. Capable of daisy chaining (up to 10 actuators per 20-oz. carbon dioxide tank).
         8. Capable of Battery Powered Operation:

Over 5000 lifts per charge.

Full day under normal usage on a single charge.

* + - * 1. Field repairable using standard hand tools.
        2. Common wear items shall be replaceable without use of tools.
      1. Lift Unit:
         1. Portable and standalone, requiring no external infrastructure such as conduit, wiring, power, air or network.
         2. Communicates over wireless mesh network up to 250 yards (228.6 m) line of sight (options available for extended range).
         3. Length with Hit Sync Target Down: 50.375 inches (1279 mm).
         4. Weight: 15 pounds (6.8 kg) maximum.
         5. Include hit sensing technology capable of detecting hits in 1-4 scoring zones.
         6. Outdoor rated to IP43 standard (IP3X for Portable Bullet Trap configuration).
      2. Hit Sync Target:
         1. No minimum required shooting distance from target.
         2. Size: 16 x 32 inches (406 x 813 mm).
         3. Construction: Layered rigid target with conductive material.
         4. Functions in rain for up to 4 hours.
         5. Supported Ammunition: Metallic, up to .50 BMG. Shotgun must use No. 4 buckshot or larger.
         6. Capable of detecting full auto up to 3,000 rounds per minute
         7. Estimate Target Life: 500 to 1000 rounds (depending on ammunition and distribution of hits.
         8. Up to 4 independent scoring zones.
         9. Capable of accurate hit detection from extreme angles of attack (up to 70 degrees from perpendicular to target face).
      3. Ballistic Shield:
         1. Material: 3/8 inch (9.5 mm) thick AR500 ballistic steel.

Ballistic Rating: ATI Class 2 (Rifle).

* + - * 1. Weight: 48 pounds (21.8 kg) maximum.
        2. Fascia: Rubber panel. Encapsulates errant fired projectiles.

Rubber encloses 3 edges of ballistic plate for splatter containment.

* + - * 1. Includes strap, bracket, and carry handle to mount a 20 oz. (0.57 kg) carbon dioxide tank.
        2. Collapsible and transportable.
        3. Assembles without the use of tools.
        4. Allows for permanent or temporary mounting.
      1. Controls:
         1. Targets: Wirelessly controlled independently or simultaneously through a mobile application that can be downloaded and updated via Android app store.
         2. Programmable Shooting Scenarios: Can be named and saved.

Raise and drop targets.

Set number and location of hits required to drop targets.

Record time and location of hits in each scoring zone of each target.

Provide scoring and feedback in real-time for review.

Includes draw times, par times, and split times with built-in scoring.

Exportable as a spreadsheet with course of fire results.

* + - 1. Construction:
         1. Actuator Body: Steel plate with powder coated finish.
         2. Cover Plates: Removable ABS panels.
         3. Carbon Steel Components: Zinc plated or powder coated.
         4. Electronic components are coated, potted, and/or coated in dielectric grease.
         5. Bushings and cylinders are serviceable without the use of tools.
         6. Uses adjustable flow controls for tuning actuator speed.
         7. Actuator: Self-standing and self-contained.
         8. Power Source: Hard-wired or rechargeable lithium ion battery. Compressed carbon dioxide or compressed air.
      2. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories options not required.

* + - * 1. Ballistic shield.
        2. Soft-sided carrying case.
        3. Android tablet.
        4. Universal mount.
        5. Wall mount.
        6. Knee-wall mount.
        7. Portable Bullet Trap mount .
        8. E-type plastic target adaptor (single zone hit detection).

Capable of detecting full auto up to 1,000 rounds per minute

Minimum 7 yards shooting distance.

For use with standard pop-up configuration only.

* + - * 1. Wi-Fi range extender.

\*\* NOTE TO SPECIFIER \*\* Delete wi-fi range options not required.

Wi-Fi Range: 600 yards (549 meters) line of sight.

Wi-Fi Range: 1200 yards (1097 meters) line of sight.

\*\* NOTE TO SPECIFIER \*\* D-TaPS turns 180 degrees to present each side of a target for teaching threat/no-threat identification. Delete if not required.

* + 1. Basis of Design: D-TaPS; as manufactured by Action Target Inc.
       1. Performance Requirements:
          1. Temperature Rating: From 0 to 140 degrees F (minus 18 to 60 degrees C).
          2. Functions in adverse weather conditions.
       2. Trusted partner warranty.

\*\* NOTE TO SPECIFIER \*\* Select configuration required. Delete option not required.

* + - 1. Configuration: Upright.
         1. Mounts directly to concrete pad behind a ballistic barrier.
         2. Air hoses run along concrete pad behind ballistic barrier.
         3. Requires target support. Can be used with included C-rod or suspended cable.
         4. Size: 5.5 x 34.5625 x 12.875 inches (140 x 877.888 x 327.02 mm).

\*\* NOTE TO SPECIFIER \*\* Ballistic shield is optional. Delete if not required.

* + - * 1. Ballistic Shield: Allows system to be set up without additional barrier.
      1. Configuration: Inverted.
         1. Mounts behind last ceiling baffle, in front of bullet trap.
         2. Air hoses run along a strut, protected by ceiling baffle.
         3. Size: 5.5 x 12.875 inches (140 x 327.02 mm).
         4. Requires roof or rain cover.
         5. Downrigger with clamp (inverted).
      2. Weight: 32 pounds (14.5 kg).
      3. Air Pressure: 60 psi (414 kPa), adjustable from 40 to 80 psi (276 to 552 kPa).
      4. Actuator: Holds a cardboard or plastic target and can present the target in three positions: front, edge, and back.
      5. Air Flow: Maximum 2.5 cubic inches (40.97 milliliters) per actuation or 0.25 cubic feet (7.08 liters) per minute for typical usage.
      6. Air Supply: Dry and filtered.
      7. Connections: Flexible air tubing with quick-connect, push-in air fittings.
      8. Accommodates all standard target heights.
      9. Target Clamp: 1/4 inch (6.4 mm) AR 500 steel.
         1. Facilitates easy target changing.
         2. Field adjustable speed to turn to any position within two-tenths of a second.
      10. Independent or synchronized operation.
      11. Field repairable using standard hand tools.

\*\* NOTE TO SPECIFIER \*\* Requires Article, "Range Control Systems," Paragraph "Smart Range Application."

* + - 1. Control System: Smart Range Application.
      2. Construction:
         1. Actuator Target Clamp Assembly: Armored for projectile and splatter protection.
         2. Housing: Removable hot-dip galvanized.
         3. Protected from splatter at all angles and protects tubing and control wiring.
         4. Provides standard 1/2 inch (13 mm) conduit interface from bottom of unit.
         5. Pistons: Linear for low-cost, simple, and reliable operation.
         6. Cylinders: Cushioned for low-impact forces.
         7. Valves: Easily accessible for field maintenance and repair.
         8. Ball Bearings: Accommodate a variety of radial loads.
         9. Actuator Clamp: Modular and utilizes only one bolt for easy replacement.
         10. Steel Surface Preparation: Blasted per painting specification SSPC-SP 6.

\*\* NOTE TO SPECIFIER \*\* Deluxe 90 is a pneumatic turning target actuator that rotates cardboard and plastic target backers. Delete if not required.

* + 1. Basis of Design: Deluxe 90; as manufactured by Action Target Inc.
       1. Performance Requirements:
          1. Temperature Rating: Down to 0 degrees F (minus 18 degrees C).
          2. Functions in adverse weather conditions.
       2. Trusted partner warranty.
       3. Configurations:

\*\* NOTE TO SPECIFIER \*\* Select configuration required. Delete options not required.

* + - * 1. Actuator behind a knee-wall.
        2. Actuator with a shield.
      1. Air Pressure: 40 to 80 psi (276 to 552 kPa).
      2. Actuator: Holds a cardboard or plastic target that has two positions: Face and edge.
      3. Air Flow: Maximum 1.2 cubic inches (20 milliliters) per actuation or 0.12 cubic feet (3.4 liters) per minute for typical usage.
      4. Clamp: Facilitates easy target changing.
      5. Air Supply: Dry and filtered.
      6. Field adjustable speed to turn to any position within 0.2 seconds.
      7. Field repairable using standard hand tools.

\*\* NOTE TO SPECIFIER \*\* Delete control system options not required. Smart range application requires Article, "Range Control Systems," Paragraph "Smart Range Application."

* + - 1. Control System: Electronic Hand Switch (EHS) for manual actuation
      2. Control System: Smart Range Application.
      3. Construction: Self-standing and self-contained.
         1. Protects from splatter at all angles and protects tubing and control wiring.
         2. Standard 1/2 inch (13 mm) conduit interface from bottom of unit.
         3. Attachment of replaceable bullet absorbing facade with standard hand tools.
         4. Holds base of target at a set level of 33 inches (838 mm) off the ground.
         5. Dimensions (HxW): 34.5 x 6 inches (876 x 152 mm) wide.
         6. Actuator Body: Hot-dip galvanized steel.
         7. Cover: Removable zinc-electroplated steel.
         8. Pistons: Linear for low-cost, simple, and reliable operation.
         9. Valves: Easily accessible for field maintenance and repair.
         10. Actuator Clamp: Armored for projectile and splatter protection.

Zinc electroplated.

Modular and utilizes one bolt for easy replacement.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete high-power facade if not required.

* + - 1. High-Power Facade: ATI Class 2 ballistic rating.

\*\* NOTE TO SPECIFIER \*\* Power 90 turns a target from edge to face and back. Delete if not required.

* + 1. Basis of Design: Power 90; as manufactured by Action Target Inc.
       1. Performance Requirements:
          1. Temperature Rating: 0 to 140 degrees F (minus 18 to 60 degrees C).
          2. Functions in adverse weather conditions.
       2. Trusted partner warranty.
       3. Actuator: Holds a cardboard or plastic target that has two positions: Face and edge:
       4. Weight: 13.5 pounds (6.1 kg).
       5. Dimensions: 16.5 x 6 x 6.5 inches (419 x 150 x 165 mm).
       6. Capable of turning 90 degrees.
       7. Turning Speed: Field adjustable.
       8. Capable of independent or synchronized operation.
       9. Air Flow: Maximum 5.3 cubic inches (87 milliliters) per actuation or 0.47 cubic feet (13.4 liters) per minute for typical usage.
       10. Air Pressure: 40 to 80 psi (276 to 552 kPa).
       11. Air Supply: Dry and filtered.
       12. Field repairable using standard hand tools.

\*\* NOTE TO SPECIFIER \*\* Delete control system options not required. Smart range application requires Article, "Range Control Systems," Paragraph "Smart Range Application."

* + - 1. Control System: Electronic Hand Switch (EHS) for manual actuation
      2. Control System: Smart Range Application.
      3. Construction: Self-standing and self-contained.
         1. Material: Solid steel plate, hot-dip galvanized.
         2. Housing: Zinc-electroplated steel housing.
         3. Protected from splatter at all angles. Protects tubing and control wiring inside.
         4. Attachment of replaceable bullet absorbing facade with use of screwdriver.
         5. Pistons: Linear for low-cost, simple, and reliable operation.
         6. Valves: Easily accessible for field maintenance and repair.

\*\* NOTE TO SPECIFIER \*\* Delete configuration options not required.

* + - 1. Configuration: Upright anchored to concrete.

\*\* NOTE TO SPECIFIER \*\* Delete target holder options not required.

* + - * 1. Target Holder: 2x2 wood holder.
        2. Target Holder: 2x4 wood holder.
        3. Target Holder: Universal wood clamp.
        4. Target Holder: Foam backer holder.
      1. Configuration: Upright with portable stand on unimproved surfaces:

\*\* NOTE TO SPECIFIER \*\* Delete target holder options not required.

* + - * 1. Target Holder: 2x2 wood holder.
        2. Target Holder: 2x4 wood holder.
        3. Target Holder: Universal wood clamp.
        4. Target Holder: Foam backer holder.
      1. Configuration: Inverted mounted to strut framework.
         1. Mounts behind last ceiling baffle, in front of bullet trap.
         2. Air hoses run along a strut, protected by ceiling baffle.

\*\* NOTE TO SPECIFIER \*\* Delete target holder options not required.

* + - * 1. Target Holder: 2x2 wood holder.
        2. Target Holder: 2x4 wood holder.
        3. Target Holder: Universal wood clamp.
        4. Target Holder: Downrigger with paper target clamp.

\*\* NOTE TO SPECIFIER \*\* Tandem 90 utilizes one actuator to turn up to 10 connected targets simultaneously. Delete if not required.

* + 1. Basis of Design: Tandem 90; as manufactured by Action Target Inc.
       1. Performance Requirements:
          1. Temperature Rating: Down to 0 degrees F (minus 18 degrees C).
          2. Functions in adverse weather conditions.
       2. Trusted partner warranty.
       3. Actuators: Consist of a drive unit and up to 10 mechanically linked slave units.
          1. Weight: 25 pounds (11 kg).
          2. Dimensions: 16.5 x 6 x 6.5 inches (419 x 150 x 165 mm).
          3. Air Flow: Maximum 29.5 cubic inches (484 milliliters) per actuation or 2.66 cubic feet (75.3 liters) per minute for typical usage.
          4. Air Pressure: 45 to 80 psi (310 to 552 kPa).
          5. Slave Units: Capable of turning a complete 90 degrees.

Two positions: Face and edge.

* + - * 1. Synchronized operation only.
        2. Multiple Drive Units: Capable of independent or synchronized operation.
        3. Actuators with Slave Units: Synchronized operation only.

\*\* NOTE TO SPECIFIER \*\* Delete control system options not required. Smart range application requires Article, "Range Control Systems," Paragraph "Smart Range Application."

* + - 1. Control System: Electronic Hand Switch (EHS) for manual actuation
      2. Control System: Smart Range Application.
      3. Construction: Self-standing and self-contained.
         1. Material: Solid steel plate, hot-dip galvanized.
         2. Self-armoring against bullet strikes within plus or minus 45 degrees from lane center.
         3. Protected from splatter at all angles, protecting tubing and control wiring inside.
         4. Provide for attachment of replaceable bullet absorbing facade.
         5. Pistons: Linear for low-cost, simple, and reliable operation.
         6. Valves: Easily accessible for field maintenance and repair.
      4. Mounting: Actuator stand attached to concrete surface.

\*\* NOTE TO SPECIFIER \*\* Delete target holder options not required.

* + - 1. Target Holder: 2 x 2 wood holder.
      2. Target Holder: 2 x 4 wood holder.
      3. Target Holder: Universal wood clamp.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Basis of Design: Electric Fixed Lateral; as manufactured by Action Target Inc.
       1. Actuator Performance:
          1. Suspended from an overhead track behind barrier or baffle.
          2. Capable of independent or synchronized operation.
          3. Can be positioned laterally up to 30 inches (762 mm) in either direction.
       2. Trusted partner warranty.
       3. Construction:
          1. Spacing can be reconfigured without use of tools.
          2. Cabling and mounting system allows multiple target carriers to be mounted on single track.
          3. Actuator Housing: Fully enclosed clamshell design. 11-gauge (0.1196 inch, 3.038 mm thick) mild plated steel with zinc plated or powder coated finish.
          4. Downrigger: Quick-release clamp assembly of ballistic steel to hold target below carrier body.

Clutch: Disengages clamp from turning motor if large external force is applied to motor. Automatically re-engages when force is removed.

* + - * 1. Rotation: Controlled by 360 degree Random Edging target-turning mechanism.
        2. Control and Power Circuits: Made through a connector with a positive lock and quarter-turn release.
        3. Locking Thumbscrews: Secure carrier at desired position.
        4. Track: Accutrac 11 gauge (3.038 mm) thick satin-coated galvannealed.

\*\* NOTE TO SPECIFIER \*\* Requires Article, "Range Control Systems" Paragraph, "Control System: Mancom Master Control."

* + - 1. Control System: Mancom Master Control.

\*\* NOTE TO SPECIFIER \*\* Fixed Turning Target Stand is an ideal system for tactical training and shoot/no shoot scenarios. Delete if not required.

* + 1. Basis of Design: Fixed Turning Target Stand (FTTS); as manufactured by Action Target Inc. is a ground-mounted electric 360-degree turning target system.
       1. Trusted partner warranty.
       2. Mounted upright to concrete pad.
       3. Raceway: 11-gauge (3.038 mm) thick steel raceway connects multiple stands.
          1. Conceals and protects electrical lines.
          2. Provides easy access for installation and service.
       4. Actuators:
          1. Includes an incorporated Quickload target clamp and target support rod.
          2. Able to support cardboard and plastic target backers.
          3. Turns target 90, 180, 270, or 360 degrees.
          4. Rotation controlled by 360 Random Edging target-turning mechanism.
          5. Capable of independent or synchronized control.
          6. Rated for temperatures down to minus 20 degrees F (minus 29 degrees C).
          7. Functions in adverse weather conditions.
          8. Field repairable with standard hand tools.
       5. Quick Disconnect: Contained within the protective raceway.

\*\* NOTE TO SPECIFIER \*\* Requires Article, "Range Control Systems" Paragraph, "Control System: Mancom Master Control."

* + - 1. Control System: Mancom Master Control.
      2. Construction:
         1. Material: Solid steel, hot-dip galvanized.
         2. Deflection Plate: 3/8 inch (9.5 mm) AR500 steel, powder coated.
         3. Removable cover to protect internal components.
         4. Actuator Housing and Cover: Solid steel plate with yellow zinc chromate finish.
         5. Target Actuator Mechanism: Protected from splatter at all angles.
      3. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories options not required.

* + - * 1. Target Lighting: Solid white.
        2. Target Lighting: Police strobe.
        3. Safety photo beam.
        4. Range condition lighting.

\*\* NOTE TO SPECIFIER \*\* DRM Pro™ is a lateral dual target running system. Delete if not required.

* + 1. Basis of Design: Dual Running Man Pro (DRM Pro); as manufactured by Action Target Inc.
       1. Performance Requirements:
          1. Runner: Computerized programmable control system capable of:

Automatic track length detection.

Automatic trolley drift compensation.

Trolley Speeds: Up to 20 fps (6 m per sec). Adjust without knobs or switches.

10 fps (3 m per sec) requires 21 ft. (6.4 m) of track.

15 fps (4.5 m per sec) requires 30 ft. (9.1 m) of track.

20 fps (6 m per sec) requires 48 ft. (14.6 m) of track

Change trolley direction and speed while moving.

Position control within 6 inches (152 mm).

Intelligent error reporting:

Cable slip detection.

Drive errors.

Proximity sensor errors.

Wiring errors.

Status monitoring.

Calibration.

Data logging.

In-field programming for feature add-ons and bug fixes.

Capturing odometer data for maintenance scheduling and general use.

Real-time speedometer for validation of speeds for consistent training.

Capable of connecting to the Action Target cloud network for remote updates and diagnostics (network connection required).

* + - * 1. Accelerating up to 0.5 g.
        2. Accelerating the carrier to 10 fps (3 m per sec) within 5 ft. (1524 mm) of track
        3. Operates in winds up to 30 mph (48 kph).
        4. Temperature rating: Minus 20 to 120 degrees F (Minus 28 to 49 degrees C).
        5. All system components rated to IP54 minimum environmental protection.
        6. Runner uses electronic braking to stop without requiring mechanical braking.
        7. Runner is able to operate without limit switches to determine end of track.
        8. Runner will not make contact with end bumpers except during calibration runs.
      1. Trusted partner warranty.
      2. Runner System: Two trolleys operating on parallel tracks.
         1. Trolleys:

Adjustable for target widths from 12 to 24 inches (305 x 610 mm).

Accept wooden 1 x 2 inch (25 x 51 mm) target holders.

Powder coated and zinc plated components.

Ratcheting mechanism for quick cable adjustments.

Integrated tension indicators for precise cable tensioning.

Easily serviceable with use of standard hand tools.

* + - 1. Construction:
         1. Motor Section: Induction motor. 3 phase, powered by single phase panel.

High precision sealed encoders.

Hardened tool-steel pulleys.

Urethane bumpers.

* + - * 1. Idler Section: Steel idler pulleys on bronze bushings for smooth operation.

Urethane bumpers for trolley calibration.

* + - * 1. Track: Modular to allow replacement or repair of individual damaged sections.

Consists of universal 6-foot Action Target Accutrac sections.

Fabricated from pre-galvanized material.

\*\* NOTE TO SPECIFIER \*\* State length required. Minimum length is 15 feet, maximum length is 201 feet. Minimum 21 feet required for speed of 10 fps (3 m per sec), 30 feet for speed of 15 fps (4.5 m per sec), and 48 feet for speed of 20 fps (6 m per sec). Available in 3 foot (914 mm) increments. Delete options not required.

Required Track Length: \_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete mounting option not required.

* + - * 1. Mounting: Ground mounted on a concrete pad using wedge anchors.
        2. Mounting: Inverted mounting from channel strut.
        3. Downrange Control Panel: UL listed, with pre-terminated connectors.
        4. Proximity Sensors: Reset trolley position and compensate for any drift.
        5. Cable: 1/8 inch (3 mm) 7x19 galvanized steel cable for trolley movement.
        6. Electronics: Rated for indoor or outdoor use.

Wiring: Protected by metal-lined wide-temperature flexible conduit.

* + - * 1. Electrical Requirements: Operate on 208-240 volt single phase 20 A service.

\*\* NOTE TO SPECIFIER \*\* Delete control system options not required.

* + - 1. Control System: Standalone Wireless Controls.
         1. Web-based graphical user interface.
         2. Independent trolley control.
         3. 3 user-adjustable speed controls.
         4. Dynamic positioning.
         5. Real-time speed, position, and status feedback.
         6. Delay function for standalone training.
         7. Continuous mode function.
         8. Status, settings, and configurations.
         9. Error reports.
         10. System reset function.
         11. Built-in user manual.

\*\* NOTE TO SPECIFIER \*\* Requires Article, "Range Control Systems," Paragraph " Control System: Mancom Master Control." Delete if not required.

* + - 1. Control System: Mancom Master Control.
         1. Requires server panel with communications bridge.
         2. Includes standalone wireless controls.

\*\* NOTE TO SPECIFIER \*\* Requires Article, "Range Control Systems, Paragraph "Smart Range Application." Delete if not required.

* + - 1. Control System: Smart Range Application.
         1. Requires server panel with communications bridge.
         2. Includes standalone wireless controls.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. TARGET RETRIEVERS

\*\* NOTE TO SPECIFIER \*\* The Genesis was purpose-built to be the most engaging, easiest to use and lowest maintenance wireless target retriever available. Delete if not required.

* + 1. Basis of Design: Genesis; as manufactured by Action Target Inc.
       1. Trusted partner warranty.
       2. Maximum Track Length: 100 meters (328 feet).

\*\* NOTE TO SPECIFIER \*\* Select speed required. 7-12 fps is standard. Delete option not required.

* + - 1. Maximum Speed: Standard Performance Unit: 7 fps (7.7 kph) standard speed, 12 fps (13 kph) fast speed.
      2. Maximum Speed: With Performance Upgrade: 8 fps (8.8 kph) standard speed, 15 fps (16 kph) fast speed.
      3. Positioning Accuracy: plus or minus 1 inch (25 mm).
      4. Carriers:
         1. Deflector Plate: 3/8 inch (9.5 mm) AR500 steel.
         2. Side Housings: 11 gauge (3.038 mm thick) steel.
         3. Weight: 135 pounds (61.2 kg) maximum.
         4. Wireless Capabilities: Dual band compliant with 802.11 a/b/g/n/ac standards.
         5. Home Position: To be adjustable.
         6. Direct drive brushless drive motors.

\*\* NOTE TO SPECIFIER \*\* Performance Upgrade is optional. Delete if not required.

* + - * 1. Performance Upgrade:

One additional motor for increased acceleration and speed.

One additional battery for increased battery life.

* + - * 1. Features an eco-mode to conserve battery life:

Reduces accent lights (if installed) to 50 percent when down range.

Turns off target light on carrier when in home position.

* + - * 1. Carrier target lighting:

User dimmable white light.

Muzzle blast strobe simulates return gun fire.

Strobe Patterns: 3 patterns of red, blue, and white.

White Lighting: 40 fc of light at center of target.

* + - * 1. Carriers return home for charging after a range-defined period of time.
        2. Battery Charging: When carrier is in home position with power switch on.
        3. Two static dissipating brushes.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete integrated camera if not required.

* + - * 1. Integrated camera: Views and displays the target in real time from anywhere on the track on local control screen.
        2. Strike Watch: Technology integrated with carrier to detect bullet strikes:

If carrier is shot, the following is to occur:

Warning message appears on local control screen.

Target turns to edge.

Accent lights (if installed) strobe red, notifying range safety officer.

Docking station lights (if installed) and target lights strobe red, notifying shooter.

If shots on carrier exceed allowable limit set in master control, the target returns home and session is terminated.

If session is terminated, a warning message appears on the SmartRange Axis control screen.

Detect shots from .22LR calibers and higher.

Does not detect false positives from muzzle concussion.

* + - * 1. Clamp: Rotates backer and target 360 degrees in each direction.

Recessed into housing, hidden from shooter's view.

No leading edges or exposed hardware that could be shot.

Controlled by 360-degree brushless motor with built-in encoder.

Programmed to offer 3 different target behaviors, including teasing, 360-degree spinning or 90-degree turning.

Programmed to random edge the target after an exposure.

Operable with one hand.

Holds cardboard or plastic backers.

Self-corrects to proper exposure side if involuntarily moved.

* + - 1. Docking Station:
         1. ABS formed housings.
         2. Weight: 26 pounds (12 kg).
         3. Includes lane numbers on rear of housing.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete in-booth docking station lighting if not required.

* + - * 1. In-booth docking station lighting:

User-dimmable white light.

Red-only light for low-light training.

Strobe Patterns: 3 patterns of red, blue, and white.

Lighting: 40 fc of light at shooter's table located 34 inches (864 mm) above the ground.

* + - 1. Track:
         1. Material: 11-gauge (3.038 mm thick) steel.
         2. Weight: 11.66 pounds per foot (5.3 kg per 305 mm).
         3. Standard Track Section Length: 6 feet (1829 mm).
         4. Down range portion of track shall be free of bus bars, cables, and tensioners.
         5. Dead stops on both ends contain gas/oil dampers housed in a steel structure and is capable of stopping a 135 lb (61.2 kg) target carrier traveling at 15 fps (4.6 m per sec).
         6. Earth-grounded.
         7. Requires removing a maximum of 12 bolts to replace a track section.

Section replacement does not require removing adjacent track sections.

* + - * 1. Flat track base directs all impacting rounds down-range towards the bullet trap.
        2. Track to be supported by zinc-coated steel hanger brackets.
      1. Local control screen user interface:
         1. Size: 10 inch (254 mm), 1280 x 800 resolution.
         2. Abrasive resistant glass touch screen.
         3. Power over Ethernet (PoE) powered.
         4. Includes drills, shooting games, custom programmability and distance control.
         5. Contains ability to create a drill with randomized distance, target behavior (turn, tease, spin) and target face exposure (front/back) for shoot/no-shoot training.
         6. Displays remaining lane time via SmartRange Axis Lane Management.
         7. Three levels of screen brightness shall exist to allow for low-light training.
         8. Integrated help button that interfaces with SmartRange Axis. When pressed:

Accent lights on carrier and dock (if installed) will strobe blue.

Docking station lights (if installed) and target lights on carrier will strobe blue.

Range staff are notified of required assistance via the range's SmartRange Axis control screen.

* + - * 1. Displays and requires acknowledgement of range rules before a session starts.
        2. Local control screen can display instructional video prior to shooting session.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete accent lighting if not required.

* + - 1. Carrier and docking station accent lighting: LED lighting strip.
         1. Concealed from direct or indirect bullet impacts.
         2. Integrated into side of carrier and docking station housings.
         3. Protected by a silicon diffuser strip.
         4. Adjustable to any RGB color value.
         5. Strobes red when carrier is shot and blue when a shooter needs assistance.
      2. Integrates with SmartRange Axis Range Control System: Includes lane management for assigning lane time.
         1. Includes ability to enter and display customer's name on local control screen.
         2. Allows range to set time-out limits for lane use.
         3. Unique permissions can be assigned to shooter's equipment including programs, read/write access to program folders, and control of advanced lighting.
         4. Retriever control allows range to run programs across multiple lanes.
         5. Allows a cease fire causing targets to edge and local control screens to display a cease fire message.
         6. Accessible via 15 inch (381 mm) touchscreen with 1920 x 1080 resolution.
         7. SmartRange Axis Control Screen is powered by Power over Ethernet (PoE).
         8. Offers full functionality of retrievers, including lighting, turning, timing, program execution, time drills, distance selection, and target presentation behavior.
         9. Displays all connected retrievers.
         10. Allows multiple users with unique logins.
         11. Connects with Action Target's cloud network for software and content updates, remote troubleshooting, and technical assistance.
      3. No cables or wires shall be exposed to direct or indirect projectile hits.
    1. Basis of Design: Pilot; as manufactured by Action Target Inc.
       1. Trusted partner warranty.
       2. Maximum Length: 100 meters (328 feet).
       3. Maximum Speed: 7 to 12 fps (7.7 to 13 kph).
       4. Carrier:
          1. Deflector Plate: 3/8 inch (9.5 mm) AR500 steel.
          2. Side Housings: 11 gauge, 0.1196 inch (3.038 mm) thick steel.
          3. Weight: 111 pounds (50.3 kg).
          4. Wireless Capabilities: Dual band compliant with 802.11 a/b/g/n/ac standards.
          5. Stabilizer Wheels: 6 internal stabilizing wheels.
          6. Home position shall be modifiable.
          7. Positioning Accuracy: Plus or minus 1 inch (25 mm).
          8. Includes 1 direct drive brushless drive motor.
          9. Carrier Target Lighting:

User dimmable white light.

Muzzle blast strobe simulates return gun fire.

3 Strobe patterns of red, blue, and white.

White Lighting: 40 fc of light at the center of target.

* + - * 1. Includes strike watch technology to detect if carrier is shot. If carrier is shot, the following occurs:

Warning Message appears on local control.

Targets lights strobe red, visually notifying the shooter.

If shot exceeds allowable limit set in master control, the target comes home, the session is terminated, and a warning message appears on SmartRange Axis Control System.

Detect shots from .22LR calibers and up.

Does not detect false positives from muzzle concussion.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete integrated camera if not required.

* + - * 1. Integrated Camera: Views and displays target in real time from anywhere on track on local control screen.
        2. Clamp: Recessed into housing and hidden from shooter's view.

No leading edges or exposed hardware that could be shot.

Operable with one hand.

Designed to hold cardboard or plastic backers.

* + - 1. Track End Cap: Steel with powder coating. Includes lane numbers on rear of housing.
      2. Track:
         1. Material: 11-gauge (0.1196 inch, 3.038 mm thick) steel.
         2. Weight: 11.66 pounds per foot (5.29 kg per 304.8 mm).
         3. Standard Track Section Length: 6 feet (1829 mm).
         4. Down range portion of track shall be free of bus bars, cables, and tensioners.
         5. Dead stops on both ends contain gas/oil dampers housed in steel structure and capable of stopping a 111 lbs (50.3 kg) carrier traveling 20 fps (6.1 m per sec).
         6. Earth-grounded.
         7. Requires removing a maximum 12 bolts to replace a track section.

Does not require removing or adjusting adjacent track sections to remove a track section.

* + - * 1. Track has a flat base that directs all rounds down range towards the bullet trap.
        2. Track shall be supported by zinc-coated steel hanger brackets.
      1. Local Control Screen User Interface:
         1. Size: 10 inch (254 mm), 1280 x 800 resolution.
         2. Abrasive resistant glass touch screen.
         3. Power over Ethernet (PoE) powered.
         4. Displays remaining lane time via SmartRange Axis Lane Management.
         5. Three levels of screen brightness to allow for low-light training.
         6. Integrated help button interfaces with SmartRange Axis control screen. When pressed:

Target lights on carrier will strobe blue.

Range staff are notified of required assistance via range's SmartRange Axis control screen.

* + - * 1. Displays and requires acknowledgement of range rules before a session starts.

\*\* NOTE TO SPECIFIER \*\* Requires Article "Range Control Systems," Paragraph "SmartRange Axis Range Control System."

* + - 1. SmartRange Axis Range Control System Integration: Integrates with SmartRange Axis Control system.
      2. No cables or wires to be exposed to direct or indirect projectile hits.

\*\* NOTE TO SPECIFIER \*\* The SRET is Action Target's longest standing retriever. The base SRET model is available with a toggle switch and is our most economical offering.. Delete if not required.

* + 1. Basis of Design: SRET; as manufactured by Action Target Inc.
       1. Maximum Length: 25 meters (82 feet).
       2. Maximum Speed: 5 fps (5.5 kph).
       3. Non-Turning Carrier:
          1. Deflector Plate: 3/8 inch (9.5 mm) AR500 steel.
          2. Retriever Shells: 12 gauge, 7/64 inch (2.78 mm) thick mild steel.
          3. Weight: 15 pounds (6.8 kg).
          4. Drive System: Aircraft cable with spring tensioning system.
          5. Wheels: Urethane with shielded bearing.
       4. All impact surfaces shall direct rounds toward the bullet trap.
       5. Shall not require use of bus bar or wires.
       6. Positioning Accuracy: plus or minus 4 inches (100 mm) or plus or minus 1.5 percent of overall travel distance, whichever is greater.
       7. Track: Composed of readily available strut. Fixed bumpers at front and rear of track.
       8. Drive Unit:
          1. Input Voltage: 120/240 VAC and 50/60 Hz.
          2. Auto-resetting circuit breaker and internal fuse protection.
          3. Capable of detecting if trolley is unable to move.
          4. Mounts to end of target track.
          5. User replaceable and serviceable.
          6. Uses industry standard serial communication devices.

\*\* NOTE TO SPECIFIER \*\* Delete user interface option not required.

* + - 1. User Interface: Toggle switch (optional).
      2. User Interface: Keypad (standard).
      3. Integrates with Smart Range Control. See Article, "Range Control Systems."

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. RANGE CONTROL SYSTEMS

\*\* NOTE TO SPECIFIER \*\* Select control systems required. Delete options not required.

* + 1. SmartRange Axis Range Control System:

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Basis of Design: Range Control System as designed by Action Target Inc.
      2. Description: Centralized control of Genesis and Pilot Target Retrievers and HVAC System.
      3. Trusted partner warranty.
      4. Connects with Action Target's cloud network for software and content updates, remote troubleshooting, and technical assistance.
      5. Admin Management: Allowing unlimited users with unique logins.
      6. Allows customized range rules, range name, bay and lane numbering.
      7. Allows custom user groups to be defined that control the following features (if enabled) during a lane session:
         1. Available programs.
         2. Lighting control access.
         3. Access to turning features of equipment (e.g. programs and time drills).
      8. Allows custom programs to be created and organized among custom folders in a program management directory.
      9. Capable of setting customized accent light coloring for Genesis Retrievers.
      10. System Components consists of:
          1. Centralized server.

Ethernet Communication; TCP/IP.

128GB SSD Hard Drive Minimum.

8GB Ram Minimum.

Fanless.

Intel X86 Processor.

187mm Long x 155mm Wide x 52mm Tall.

Able to Communicate to Action Target Cloud Services for Remote Updates and Diagnostics.

* + - * 1. Power over ethernet (PoE) Switch.

48 port minimum. 500 W PoE sourcing capacity minimum.

Serve up to 15 Lanes per switch.

Switch Size: 1U. 2 switches per 8U rack; 30 lanes per 8U rack.

* + - * 1. Patch Panel: 2U panel size. 48 port Minimum. Cat6 certified.
        2. Server Rack: 8U. 30 lanes per 8U rack. Add additional 8U rack per 30 lanes.

Integrated shelf for server.

Power supply unit for powering rack.

* + - * 1. Power Requirements: Isolated ground 120V 20A dedicated receptacle.

\*\* NOTE TO SPECIFIER \*\* Delete user interface configuration option not required.

* + - * 1. User Interface Configuration: 15 inch (381 mm) multi-touch display. 1920 x 1080 resolution.

Dimensions: 15.2 x 9.8 x 1.5 inches (387 x 249 x 39 mm).

Ram: 2GB minimum.

Processor: N3160 quad-core.

PoE Powered (no internal battery).

Storage: 128 GB minimum.

Up to 3 per range max.

\*\* NOTE TO SPECIFIER \*\* Delete display mounting configuration options not required.

Display Mounting Configuration: Tabletop.

Display Mounting Configuration: Stand.

Display Mounting Configuration: Wall.

* + - * 1. User Interface Configuration: Portable tablet. 10.5 in (267 mm) multi-touch display with 1920 x 1200 WUXGA resolution.

Dimensions: 10.25 x 6.34 x 0.31 inches (260 x 161 x 8 mm)

Ram 3 GB Minimum.

Battery: 7,300 mAh Minimum.

Storage 32 GB Minimum.

Processor 1.8 GHz Minimum.

Unlimited quantity per range.

* + - 1. Genesis and Pilot Control System Integration:
         1. Includes lane management for assigning lane time.

Ability to enter customers name and display it on the local control screen.

Set time-out limits for lane use; carriers return home and session ends.

Assign unique permissions to shooter's equipment.

* + - * 1. Allows a cease fire causing targets to edge (Genesis only) and screens to display cease fire message.
        2. Offers full functionality of retrievers, including lighting and distance selection.
        3. Displays all connected retrievers.
        4. Allows full control of one or many lanes, including:

Synchronized program execution across one or multiple lanes

Lighting control across one or multiple lanes including booth and target lighting.

* + - 1. HVAC Control:
         1. Integrates with recirculation and purge HVAC systems.

Realtime status monitoring.

Temperature and system control.

Humidity monitoring.

Provides visual reference of remaining filter life.

Displays errors, warnings, faults and critical alarms on interface.

* + - * 1. Interfaces with Genesis target retrievers (if installed) to automatically edge targets to call a cease fire when unsafe air conditions exist.
        2. Ability to connect with Action Target Cloud Services for remote monitoring, diagnostics and troubleshooting.
    1. Control System: Mancom Master Control.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Basis of Design: Range Control System as designed by Action Target Inc. Provides centralized control of DRM Pro and electric turning targets.
      2. Advanced Scenario Building: Writing and executing courses of fire up to 20 individual stages. Stages may include multiple timed exposures of front or back of target.
      3. Save courses of fire programs in local storage. Up to 99 for electric turning targets.
      4. Integrated target timers for control in 1-second increments for specified target presentation times for accurate qualification metrics.
      5. Organize targets into groups for individual or simultaneous operations.
      6. Integrates with DRM Pro running man targets.
      7. Provides Input/Output command control for external devices.
      8. Controls up to 60 turning targets (Fixed Turning Target only).
      9. Built from Industrial automation components.
      10. Communication Protocol: Devicenet (electric turning targets only).
      11. House in a weatherproof NEMA 4 enclosure.
      12. User interface Configurations: Up to 2 control panels per range including wall/desk mounted and wireless carts.

\*\* NOTE TO SPECIFIER \*\* Delete configuration options not required.

* + - * 1. Wall/desk mounted control panel. Installed in a climate-controlled location.

\*\* NOTE TO SPECIFIER \*\* Portable tablet is optional. Delete if not required.

* + - * 1. Portable tablet (available for turning targets only).

Unlimited quantities per range.

Allows control within range area as specified on range design drawings.

Internet connection is not required.

Screen replicates the mounted control panel screen in real time.

\*\* NOTE TO SPECIFIER \*\* Wireless cart is optional. Delete if not required.

* + - * 1. Wireless Cart: Installed in a climate-controlled location.

Rechargeable battery for full-day use to wirelessly control targets anywhere within the defined range area.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Smart Range Application:
       1. Basis of Design: Range Control System as designed by Action Target Inc. Provides centralized control of SRET target retrievers, DRM Pro running man targets, and pneumatic targets.
       2. Advanced scenario building for writing and executing complex courses of fire.
       3. Save unlimited courses of fire programs in local pc storage.
       4. Integrated Target Timers: To control specified target presentation times for accurate qualification metrics.
       5. Organize targets into groups for individual or simultaneous operations.
       6. Integrated range layout configurator for dynamic modification of course layouts.
       7. Integrates with DRM Pro running man targets.
       8. Provides Input/Output command control for external devices.
       9. Communication protocols
          1. RS422 (SRET target retrievers).
          2. TCP/IP (pneumatic targetry).
       10. Hardware: Laptop PC.

\*\* NOTE TO SPECIFIER \*\* Delete control system option not required.

* + - 1. Control System: Wireless Tablet.
      2. Control System: Air Command remote.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. SAFETY BAFFLES AND BALLISTIC BARRIERS

\*\* NOTE TO SPECIFIER \*\* Ballistic rubber blocks contain bullet splatter and lead dust. Delete if not required.

* + 1. Basis of Design: Ballistic Rubber Block; as manufactured by Action Target Inc.
       1. Description: Composite recycled vulcanized rubber with a urethane binder.
       2. Easily stacked and repositioned to create a wall.
       3. When used in conjunction with steel products, provides a ballistic barrier that contains bullet splatter and lead dust.
       4. Size: 24 x 12 x 9 inches (610 x 305 x 229 mm).
       5. Weight: 80 lbs (36.3 kg) plus or minus 5 lbs (2.3 kg).
       6. Durometer: 60 Shore A plus or minus 5.
       7. Ballistic Rating: Up to 50 caliber.

\*\* NOTE TO SPECIFIER \*\* Delete optional fire retardant if not required.

* + - 1. Intumescent UL E-84 fire retardant.

\*\* NOTE TO SPECIFIER \*\* Delete optional acoustical sound absorption material if not required.

* + - 1. Acoustical sound absorption surface.
    1. Basis of Design: SureStop Rubber Block as manufactured by Action Target.
       1. Capable of containing and preventing splatter from supported live fire rounds when used as part of an approved Action Target System.
          1. Supported Rounds: Include jacketed, semi-jacketed, and non-jacketed projectiles up to 7.62 x 51 mm NATO grade.
       2. Capable of containing 3,000 rounds before replacement is necessary when used as part of an approved Action Target System.
          1. Block Ballistic Capability: Third-party certification.
       3. Flammability Rating: Per ASTM E84 when coated with approved fire retardant.
          1. Approved Fire Retardant: FlameLock or FlameLock Ballistic fire retardant by Action Target.
       4. Provide minimum third-party certified acoustical noise reduction (NRC) value of 0.35.
       5. Block Construction: Recycled rubber. A maximum of 4 percent binder by weight.
          1. Cold compressed using a moisture cured urethane binder.
          2. Dimensions (WxHxD): 24 x 9 x 12 inches (610 x 229 x 305 mm).

Dimensional Accuracy: Plus or minus 1/8 inch (3 mm); all dimensions.

* + - * 1. Density: 56 lbs per cubic ft Plus or minus 5 lbs per cu ft.
        2. Durometer: 60 shore A, plus or minus 5.

\*\* NOTE TO SPECIFIER \*\* FlameLock is optional. Delete if not required.

* + - 1. FlameLock intumescent fire-retardant coating.
    1. Basis of Design: SureStop Acoustical Rubber Block as manufactured by Action Target.
       1. Capable of containing and preventing splatter from supported live fire rounds when used as part of part of an approved Action Target System.
          1. Supported Rounds: Include jacketed, semi-jacketed, and non-jacketed projectiles up to 7.62 x 51 mm NATO grade.
       2. Capable of containing 2,200 rounds before replacement is necessary when used as part of part of an approved Action Target System.
          1. Block Ballistic Capability: Third-party certification.
       3. Flammability Rating: Per ASTM E84 when coated with approved fire retardant.
          1. Approved Fire Retardant: FlameLock or FlameLock Ballistic fire retardant by Action Target.
       4. Acoustical Noise Reduction (NRC): 0.65 minimum. Third-party certification.
       5. Block Construction: Recycled rubber. A maximum of 4 percent binder by weight.
          1. Cold compressed using a moisture cured urethane binder.
          2. Dimensions (WxHxD): 24 x 9 x 14 inches (610 x 229 x 356 mm).

Dimensional Accuracy: Plus or minus 1/8 inch (3 mm); all dimensions.

* + - * 1. Ribbed on shooter facing surface such that panels can be arranged vertically or horizontally to break up sound wave propagation.
        2. Density: 42 lbs per cubic ft Plus or minus 5 lbs per cu ft.
        3. Durometer: 40 shore A, plus or minus 5.

\*\* NOTE TO SPECIFIER \*\* FlameLock is optional. Delete if not required.

* + - 1. FlameLock intumescent fire-retardant coating.
    1. Basis of Design: Ballistic Rubber Panel; as manufactured by Action Target Inc.
       1. Description: Composite recycled vulcanized rubber with a urethane binder.
       2. Use in conjunction with steel products. Provides ballistic barrier that contains bullet splatter and lead dust.
       3. Size: 24 x 24 x 2 inches (610 x 610 x 51 mm).
       4. Weight: 37 pounds (17 kg).
       5. Durometer: 60 Shore A. Plus or minus 5.

\*\* NOTE TO SPECIFIER \*\* Select optional fire retardant. Delete option if not required.

* + - 1. Intumescent UL E-84 fire retardant.

\*\* NOTE TO SPECIFIER \*\* Select optional features required. Delete option not required.

* + - 1. Acoustical sound absorption surface.
    1. Basis of Design: SureStop Rubber Panel as manufactured by Action Target.
       1. Capable of preventing splatter from supported live fire rounds when used as part of part of an approved Action Target System.
          1. Supported Rounds: Include jacketed, semi-jacketed, and non-jacketed projectiles up to 7.62 x 51 mm NATO grade.
       2. Capable of absorbing splatter of 2,200 rounds before replacement is necessary when used as part of part of an approved Action Target System
          1. Panel Ballistic Capability: Third-party certification.
       3. Flammability Rating: Per ASTM E84 when coated with approved fire retardant.
          1. Approved Fire Retardant: FlameLock or FlameLock Ballistic fire retardant by Action Target.
       4. Provide minimum third-party certified acoustical noise reduction (NRC) value of 0.35.
       5. Panel Construction: Recycled rubber. A maximum of 4 percent binder by weight.
          1. Cold compressed using a moisture cured urethane binder.
          2. Dimensions (WxHxD): 24 x 24 x 2 inches (610 x 610 x 51 mm).

Dimensional Accuracy: Plus or minus 1/8 inch (3 mm); all dimensions.

* + - * 1. Density: 56 lbs per cubic ft Plus or minus 5 lbs per cu ft.
        2. Durometer: 60 shore A, plus or minus 5.

\*\* NOTE TO SPECIFIER \*\* FlameLock is optional. Delete if not required.

* + - 1. FlameLock intumescent fire-retardant coating.
    1. Basis of Design: SureStop Rubber Acoustical Panel as manufactured by Action Target.
       1. Capable of preventing splatter from supported live fire rounds when used as part of part of an approved Action Target System.
          1. Supported Rounds: Include jacketed, semi-jacketed, and non-jacketed projectiles up to 7.62 x 51 mm NATO grade.
          2. Panel Ballistic Capability: Third-party certification.
       2. Flammability Rating: Per ASTM E84 when coated with approved fire retardant.
          1. Approved Fire Retardant: FlameLock or FlameLock Ballistic fire retardant by Action Target.
       3. Acoustical Noise Reduction (NRC): 0.65 minimum. Third-party certification.
       4. Panel Construction: Recycled rubber. A maximum of 4 percent binder by weight.
          1. Cold compressed using a moisture cured urethane binder.
          2. Dimensions (WxHxD): 24 x 24 x 2 inches (610 x 610 x 51 mm).

Dimensional Accuracy: Plus or minus 1/8 inch (3 mm); all dimensions.

* + - * 1. Ribbed on shooter facing surface such that panels can be arranged vertically or horizontally to break up sound wave propagation.
        2. Density: 42 lbs per cubic ft Plus or minus 5 lbs per cu ft.
        3. Durometer: 40 shore A, plus or minus 5.

\*\* NOTE TO SPECIFIER \*\* FlameLock is optional. Delete if not required.

* + - 1. FlameLock intumescent fire-retardant coating.

\*\* NOTE TO SPECIFIER \*\* Action Target's modular ceiling baffles provide ballistic protection for ceiling structures, lights, electrical systems, and ventilation systems. Delete if not required.

* + 1. Basis of Design: Modular Ceiling Baffles; as manufactured by Action Target Inc. Interconnected baffles attached to building structure.
       1. Trusted partner warranty.
       2. Metal Z-purlin for splatter protection attachment provides air gap to increase splatter protection material life.
       3. Depth: 48 inch (1219 mm) minimum to 144 inch (3658 mm) maximum.

\*\* NOTE TO SPECIFIER \*\* Delete configuration option not required.

* + - 1. Configuration: Tactical.
      2. Configuration: Fixed firing position.
      3. Overall Width (foot/mm): \_\_\_\_\_\_\_\_ per foot (305 mm) as indicated on drawings.

\*\* NOTE TO SPECIFIER \*\* Delete ballistic rating / thickness option not required.

* + - 1. Ballistic Rating: ATI Class 1 (Handgun). 1/4 inch (6.4 mm) thick AR500 steel panels.
      2. Ballistic Rating: ATI Class 2 (Rifle). 3/8 inch (9.5 mm) thick AR500 steel panels.

\*\* NOTE TO SPECIFIER \*\* Delete connection type option not required.

* + - 1. Connection type: Flexible cable hangers.
      2. Connection type: Structural flexible cable hangers per International Building Code (IBC) for areas that require a structural stamp for baffling.

\*\* NOTE TO SPECIFIER \*\* Delete wall attachment options not required.

* + - 1. Wall Attachment: Concrete or filled CMU block wall.
      2. Wall Attachment: Hollow block wall.
      3. Wall Attachment: None.

\*\* NOTE TO SPECIFIER \*\* Delete splatter protection not required.

* + - 1. Splatter Protection: CDX plywood - unpainted.
      2. Splatter Protection: CDX plywood - sealed.
      3. Splatter Protection: Pressure treated plywood.
      4. Splatter Protection: Fire treated plywood - unpainted.
      5. Splatter Protection: Fire treated plywood - sealed.

\*\* NOTE TO SPECIFIER \*\* Acoustical protection is optional. Delete options note required.

* + - 1. Acoustic Tile: 1 inch (25 mm) Charcoal PEPP.
      2. Acoustic Tile: 1 inch (25 mm) White PEPP.
      3. Acoustic Tile: 2 inch (51 mm) Charcoal PEPP.
      4. Acoustic Tile: 2 inch (51 mm) White PEPP.
      5. Sound Absorption Panels that meet the sound requirements of the UFC 4-179-02.
      6. Sound Absorption Blankets that meet the sound requirements of the UFC 4-179-02.

\*\* NOTE TO SPECIFIER \*\* Action Target's wide-span ceiling baffles provide ballistic protection for ceiling structures, lights, electrical systems, and ventilation systems. They are easier to install in large tactical ranges or outdoor ranges that require over-head ballistic protection. Delete if not required.

* + 1. Basis of Design: Wide-span Ceiling Baffles; as manufactured by Action Target Inc. Interconnected baffles attached to building structure.
       1. Trusted partner warranty.
       2. Joints: Overlapping surfaces so there is no potential for gaps.
          1. Rating: ATI Class 1 (Handgun). 1/4 inch (6.4 mm) thick AR500 steel panels.
          2. Rating: ATI Class 2 (Rifle). 3/8 inch (9.5 mm) thick AR500 steel panels.
       3. Metal Z-purlin for splatter protection attachment provides air gap to increase splatter protection material life.
       4. Depth: 96 to 196 inch (2438 to 4978 mm) minimum to maximum.

\*\* NOTE TO SPECIFIER \*\* Delete configuration option not required.

* + - 1. Configuration: Tactical.
      2. Configuration: Fixed firing position.
      3. Overall Width: \_\_\_\_\_\_\_\_ per foot (305 mm) as indicated on drawings.

\*\* NOTE TO SPECIFIER \*\* Delete ballistic rating / thickness option not required.

* + - 1. Rating: ATI Class 1 (Handgun). 1/4 inch (6.4 mm) thick AR500 steel panels.
      2. Rating: ATI Class 2 (Rifle). 3/8 inch (9.5 mm) thick AR500 steel panels.

\*\* NOTE TO SPECIFIER \*\* Delete Hanger options not required.

* + - 1. Hangers: Rigid.
      2. Hangers: Flexible cable hangers. Only for 96 inch (2438 mm) depth baffles.
      3. Hangers: Structural flexible cable hangers per International Building Code (IBC).
         1. For areas that require a structural stamp for baffling.
         2. This option is only valid for 96 inch (2438 mm) depth baffles.

\*\* NOTE TO SPECIFIER \*\* Delete wall attachment options not required.

* + - 1. Wall attachment: Concrete or filled CMU block wall.
      2. Wall attachment: Hollow block wall.
      3. Wall attachment: None.

\*\* NOTE TO SPECIFIER \*\* Delete splatter protection options not required.

* + - 1. Splatter Protection: CDX plywood - unpainted.
      2. Splatter Protection: CDX plywood - sealed.
      3. Splatter Protection: Pressure treated plywood.
      4. Splatter Protection: Fire treated plywood - unpainted.
      5. Splatter Protection: Fire treated plywood - sealed.

\*\* NOTE TO SPECIFIER \*\* Acoustical protection is optional. Delete as required.

* + - 1. Acoustic Tile: 1 inch (25 mm) Charcoal PEPP.
      2. Acoustic Tile: 1 inch (25 mm) White PEPP.
      3. Acoustic Tile: 2 inch (51 mm) Charcoal PEPP.
      4. Acoustic Tile: 2 inch (51 mm) White PEPP.
      5. Sound Absorption Panels that meet the sound requirements of the UFC 4-179-02.
      6. Sound Absorption Blankets that meet the sound requirements of the UFC 4-179-02.

\*\* NOTE TO SPECIFIER \*\* Wall baffles provide ballistic protection for wall structures and keep errant rounds fired into walls safely within the shooting range. Delete if not required.

* + 1. Basis of Design: Wall Baffles; as manufactured by Action Target Inc. Provide ballistic protection for wall structures.
       1. Trusted partner warranty.
       2. Tied directly into existing wall structure.

\*\* NOTE TO SPECIFIER \*\* Height and length is to be specified in 48 inch (1219 mm) increments.

* + - 1. Size (inches/mm): \_\_\_\_\_\_\_\_ x \_\_\_\_\_\_\_\_ (HxL).
      2. Thickness, Without Fascia: 3/4 inch (19 mm).

\*\* NOTE TO SPECIFIER \*\* Delete ballistic rating option not required.

* + - 1. Rating: ATI Class 1 (Handgun). Steel Panels: 1/4 inch (6.4 mm) thick AR500.
      2. Rating: ATI Class 2 (Rifle). Steel Panels: 3/8 inch (9.5 mm) thick AR500.

\*\* NOTE TO SPECIFIER \*\* Delete wall attachment option not required.

* + - 1. Wall attachment: Concrete or filled CMU block wall
      2. Wall attachment: Hollow block wall

\*\* NOTE TO SPECIFIER \*\* Splatter protection is optional. Delete plywood options not required.

* + - 1. Splatter Protection: Includes metal Z-purlin which provides air gap to increase splatter protection material life.
         1. Plywood with acoustical tile.
         2. Plywood with 1 inch (25 mm) PEPP acoustical protection.
         3. Plywood with 2 inch (51 mm) PEPP acoustical protection.
         4. Plywood with 1 inch (25 mm) rubber panel.
         5. Plywood with 2 inch (51 mm) rubber panel.
         6. Plywood with 2 inch (51 mm) acoustical rubber panel.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. RANGE LIGHTING

\*\* NOTE TO SPECIFIER \*\* Action Target's 2x4 LED grid ceiling light offers architectural appeal with must have features. Delete if not required.

* + 1. Basis of Design: 2x4 LED Grid Ceiling Light for staging area lighting; as supplied by Action Target Inc.
       1. Profile: 3 inches (76 mm) deep for minimal penetration into the plenum space.
       2. Size: 23-3/4 x 47-3/4 inches (603 x 1213 mm).
       3. Distribution: Lambertian for uniform horizontal and vertical illuminance.
       4. Lamp Life: Up to 70,000 hour predicted L70 LED lumen.
       5. Color Rendering: Minimum 80 CRI.
       6. Lumens: 4212.
       7. Light Color: 4,000 k.
       8. For use with standard or narrow ceiling grid.
       9. LED boards and driver are accessible from below by removal of the lens.
       10. Construction:
           1. Side Covers: Die formed metal with a conical shape.
           2. Lens Retainers: Injection molded for tool-free access.
           3. Luminaire Finish: Matte white polyester powder coated.
           4. Integrated T-bar grid clips in body.
       11. Includes discrete air handling and integral emergency function.
       12. Dimmer: 0-10 v dim driver.
       13. Provides a minimum of 40 fc at floor.

\*\* NOTE TO SPECIFIER \*\* Action Target's LED Strip is a high performing luminaire delivering smooth diffuse light ideal for light industrial and residential applications. Delete if not required.

* + 1. Basis of Design: Slim Surface Mount LED Strip for downrange lighting; as supplied by Action Target Inc.
       1. Dimensions: 2-1/2 x 3 x 44-3/4 inches (64 x 76 x 1137 mm).
       2. Compact design for installation in tight spaces.
       3. Diffuser and LED Plate: Snap in place. Tool-free access to LED boards and driver.
       4. Operating Temperature: Minus 4 to 104 degrees F (minus 20 to 40 degrees C).
       5. Lamp Life: 100,000 hours predicted L70 LED lumen.
       6. Lumens: 4130.
       7. Light Color: 4,000 k.
       8. Dimmer: 0 to 10 V dim driver.
       9. Lens: Minimizes penetration of dust, insects, and other debris.
       10. Finish: Baked white acrylic matte, high reflectance paint finish.
       11. LED boards and drivers are RoHS compliant.
       12. Provides a minimum of 40 fc at floor.

\*\* NOTE TO SPECIFIER \*\* Action Target's Slim Surface Mount LEDs are 5/8 inch thick surface mounted luminaires with the appearance of recessed luminaire. Delete if not required.

* + 1. Basis of Design: Slim Surface Mount LED for safety ceiling lighting; as manufactured by Action Target Inc.
       1. Dimensions: 7-7/8 inch diameter by 5/8 inch deep (178 x 16 mm).
       2. Flange: One piece plastic flange, injection molded.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - * 1. Color: White.
        2. Color: Black.
      1. Lens: High transmittance lens for smooth, comfortable light pattern.
      2. Lamp Life: Up to 50,000 hours.
      3. Lumens: 726.
      4. Dimmer: 0 to 10 V dim driver.
      5. RoHS compliant.
      6. Light Color: 4,000 k.
      7. Provides a minimum of 40 fc at floor.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. RANGE VENTILATION SYSTEMS

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Basis of Design: Purge Range Ventilation System; as manufactured by Action Target Inc.
       1. Supply Air: Provides 100 percent outside air distributed uniformly across width of range behind shooters.
          1. Distribution utilizes radial diffuser plenum.
          2. Serves range and bullet containment trap areas within the range envelope.
          3. Make-up air units enable heating to maintain supply air temperature.
          4. Laminar airflow across the shooter's breathing zone at 7 cfm minimum.
          5. Distribution System: Per NIOSH, OSHA, and EPA requirements.
       2. Exhaust Air:
          1. Flow to be 10 percent higher than supply air flow.
          2. Exhaust distributed across width of range located above bullet trap area.
          3. Maintains a negative air pressure of minus 0.052 in./wc.
          4. Includes two-stage filter bank, minimum, meeting recommendations of NIOSH 76-130 and EPA 40 CFR 50.12.
          5. Filters: 99.97 percent high-efficiency particulate arrestor (HEPA) filters.
       3. Alarm will illuminate under any of the following conditions:
          1. Negative air pressure fails for more than 2 minutes.
          2. Range door is open for longer than 15 seconds during start up.
          3. Range door is open for longer than 5 minutes during steady state.
          4. Filter pressure differential exceeds parameters.
       4. System shall monitor and react to loss of range pressure.
       5. Variable frequency drives provided for both supply and exhaust.

\*\* NOTE TO SPECIFIER \*\* Heating and cooling is optional. Delete if not required.

* + - 1. Heating: Direct gas heating.
      2. Cooling: Evaporative cooling.
      3. Supply and exhaust systems interlocked to run simultaneously.
      4. Status on control screen:
         1. Do Not Shoot. Activated by any of the following conditions:

Supply fan is off.

Exhaust fan is off.

Supply pressure is below setpoint.

Differential pressure is outside upper limit.

Any door is open for longer than 15 seconds during system startup.

* + - * 1. Safe To Shoot.

Warning. Activated by any of the following conditions:

Exhaust pre-filter differential pressure is above set point.

Exhaust HEPA filter differential pressure is above set point.

Any range door is open for 3 minutes or longer.

Any trap door is open.

\*\* NOTE TO SPECIFIER \*\* physical status box with indicator lights are optional. Delete if not required.

* + - 1. Physical status box with indicator lights
         1. Do Not Shoot. Activated by any of the following conditions:

Supply fan is off.

Exhaust fan is off.

Supply pressure is below setpoint.

Differential pressure is outside upper limit.

Any door is open for longer than 15 seconds during system startup.

Any range door is open longer than 3 minutes.

Any trap door is open.

* + - * 1. Safe To Shoot.

Warning. Activated by any of the following conditions:

Exhaust pre-filter differential pressure is above set point.

Exhaust HEPA filter differential pressure is above set point.

* + - 1. Direct Digital Control System:
         1. Access shall be available remotely through public IP address.
         2. Remote display shall be supplied with real-time data including range filter status, range envelope pressure, temperature values and set points, supply and return fan status, warnings, and alarms.
      2. Ductwork: Constructed, installed, and reinforced per SMACNA standards and details.
         1. Interior Surfaces: Smooth.
         2. Sealed with water and fire-resistant sealant compatible with mating materials.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Basis of Design: Recirculation Range Ventilation System; as manufactured by Action Target Inc.
       1. Supply Air:
          1. Recirculates 75 percent of total range supply air with 25 percent outside air.
          2. Supply air distribution utilizes radial diffuser plenum.
          3. Serves range and bullet containment trap areas within the range envelope.
          4. If outside air is less than 65 degrees F (18 degrees C), make-up air units enable heating to maintain supply air at 70 degrees F (21 degrees C).
          5. Provide ability for range to set their temperature setpoints and humidity.
          6. Provide laminar airflow across the shooter's breathing zone at 7 cfm minimum.
          7. Distribution System: Per NIOSH, OSHA, and EPA requirements.
       2. Exhaust Air:
          1. Flow shall be 10 percent higher than supply air flow.
          2. Distributed across width of range located above bullet trap area.
          3. Maintains a negative air pressure of minus 0.052 in/wc.
          4. Includes two-stage filter bank, minimum, meeting recommendations of NIOSH 76-130 and EPA 40 CFR 50.12.
          5. Filters: 99.97 percent high-efficiency particulate arrestor (HEPA) filters.
       3. Alarm will illuminate under any of the following conditions:
          1. Negative air pressure fails for more than 2 minutes.
          2. Range door is open for longer than 15 seconds during start up.
          3. Range door is open for longer than 5 minutes during steady state.
          4. Filter pressure differential exceeds parameters.
       4. System shall monitor and react to loss of range pressure.
       5. Variable frequency drives provided for both supply and exhaust.
       6. Heating: Direct gas or electric heating.
       7. Cooling: Hydronic cooling (chiller) or mechanical cooling.
       8. Supply and exhaust systems interlocked to run simultaneously.
       9. Status on Control Screen:
          1. Do Not Shoot. Activated by any of the following conditions:

Supply fan is off.

Exhaust fan is off.

Supply pressure is below setpoint.

Differential pressure is outside upper limit.

Any door is open for longer than 15 seconds during system startup.

Any range door is open for longer than 3 minutes also activates alarm.

Any trap door is open also activates alarm.

* + - * 1. Safe To Shoot. Activated by any of the following conditions:

Exhaust pre-filter differential pressure is above set point.

Exhaust HEPA filter differential pressure is above set point.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete physical status box with indicator lights. Delete if not required.

* + - 1. Physical status box with indicator lights.
         1. Do Not Shoot. Activated by any of the following conditions:

Supply fan is off.

Exhaust fan is off.

Supply pressure is below setpoint.

Differential pressure is outside upper limit.

Any door is open for longer than 15 seconds during system startup.

Any range door is open for longer than 3 minutes. Also activates alarm.

Any trap door is open. Also activates alarm.

* + - * 1. Safe To Shoot.

Warning. Activated by any of the following conditions:

Exhaust pre-filter differential pressure is above set point.

Exhaust HEPA filter differential pressure is above set point.

* + - 1. Direct Digital Control System:
         1. Access available remotely through public IP address.
         2. Remote display supplied with real-time data including range filter status, range space pressure, temperature values and set points, supply and return fan status, warnings, and alarms.
      2. Ductwork: Constructed, installed, and reinforced per SMACNA standards and details.
         1. Interior Surfaces: Smooth.
         2. Sealed with water and fire-resistant sealant compatible with mating materials.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. SHOOT HOUSES

\*\* NOTE TO SPECIFIER \*\* MATCH is 360 degree, live-fire, ballistically safe shoot house designed for teaching and learning close quarter combat skills, such as room clearing and hallway navigation, with realism and safety. Delete if not required.

* + 1. Basis of Design: Modular Armored Tactical Combat House (MATCH) Shoot House Version II; as manufactured by Action Target Inc. Consists of a series of fully modular, hardened steel armor panels that are mechanically fastened together to form a continuous wall.
       1. Performance and Design Requirements:

\*\* NOTE TO SPECIFIER \*\* Delete ammunition rating option not required.

* + - * 1. Ammunition Rating: ATI Class 1 (Handgun).

Solid Panel: Comply with UL 752 for Level 3.

Independently tested to validate ballistic standards

* + - * 1. Ammunition Rating: ATI Class 2 (Rifle).

Solid Panel: Comply with UL 752 for Levels 5, 6, 7, 8, 9, and 10.

Independently tested to validate ballistic standards

* + - 1. Trusted partner warranty.

\*\* NOTE TO SPECIFIER \*\* Select ballistic wall based on ammunition rating. Delete options not required.

* + - 1. Ballistic Wall: Plywood Fascia - ATI Class 1. Meets ATI Class 1 Specifications.
         1. Includes a 1/4 inch (6.4 mm) thick AR steel core with a 2.5 inch (63.5 mm) airgap between the steel and fascia on all sides subject to bullet impact.
      2. Ballistic Wall: Plywood Fascia with Rock Fill - ATI Class 2. Meets ATI Class 2 Specifications.
         1. Includes a 3/8 in (9.5 mm) thick AR 500 steel core with a minimum of 2.5 in (63.5 mm) of crushed rock between the steel and the fascia on all sides subject to bullet impact, except for the no shoot zone at top 1 ft (305 mm) of the wall.
         2. Has a sealing layer to prevent rocks or dust from exiting via bullet impact holes.
      3. Ballistic Wall: Plywood Fascia - ATI Class 2. Meets ATI Class 2 Specifications.
         1. Includes a 1/2 in (12.7 mm) thick AR 500 steel core with a minimum 2.5 in (63.5 mm) air gap between the steel and fascia on all sides subject to bullet impact.
      4. Ballistic Wall: Rubber Fascia - ATI Class 1: Meets ATI Class 1 Specifications.
         1. Includes a 1/4 in (6.4 mm) thick AR 500 steel core with a minimum 1.5 in (38 mm) air gap between the steel and a 2 in (50.8 mm) thick rubber fascia.
      5. Ballistic Wall: Rubber Fascia - ATI Class 2: Meets ATI Class 2 Specifications.
         1. Includes a 1/2 inch (12.7 mm) thick AR 500 steel core with a minimum 1.5 inch (38 mm) air gap between the steel and a 2 inch (50.8 mm) thick rubber fascia.

\*\* NOTE TO SPECIFIER \*\* Delete safety zone design option not required.

* + - * 1. Safety Zone Design: Ensures a Zero Surface Danger Zone.
        2. Safety Zone Design: Ensures a Zero Surface Danger Zone and Zero Vertical Danger Zone.
      1. Panels: Rectangular sheet of minimum AR500 steel.
         1. Panel System: Assembled on a 48 in (1219 mm) grid.

\*\* NOTE TO SPECIFIER \*\* Select panel height required. Delete option not required.

* + - * 1. Panel Height: 96 in (2438 mm).
        2. Panel Height: 120 in (3048 mm).
        3. Wall System Thickness: 8.25 in (209.6 mm) maximum.
      1. Fabrication and installation:
         1. Panel is not to be subjected to flame cutting. All cutting to be computer-controlled plasma equipment.
         2. Panels to be assembled with standard hand tools.
         3. No welding or field drilling to be necessary.
         4. Connect panels by means of dual battens.
         5. Panels to be replaceable by doorways or window modules.
         6. Finish Preparation: Steel to be shot-blasted in compliance with SSPC-SP6.
         7. Finish: Cover steel surfaces with industrial grade rust inhibitive coating or galvanized coating.
         8. Top Edge of Module Sections: C covered by metal plate connected every 4 ft (1219 mm) at the batten for a continuous surface.

Minimum 1/4 inch (6.4 mm) thick steel

Wide enough to cover the gap between walls and facade.

* + - * 1. Withstand structural site-specific loads indicated per contract specifications.
      1. Joints: Hold panels so edges are adjacent and panels are coplanar.
         1. Covered on both sides by full length strips; 3/8 in (9.5 mm) thick AR 500 steel.
         2. No gaps are allowed through which bullet fragments may pass.
         3. Construct such that fragments encounter three separate surfaces and joint seams before passing through joint.
         4. Connection Bolts: Maximum 4 on center vertically. Hardened grade 5 steel, 12 in (305 mm).
         5. Nuts: Steel self-locking type.
         6. Joint modules provide for attachment of an optional overhead walkway.
         7. Fasteners: Zinc-plated.
         8. Available Joint Modules:

Straight line.

Corner.

T-Shape.

X-Shape.

* + - 1. Fascia: Exterior grade fascia on all surfaces subject to bullet impact.
         1. Spaced 1.5 inches (38 mm) away from steel plates with metal Z-furring.
         2. Attached and interconnected with exterior-grade plated screw connectors.
         3. Trim: At all edges, corners, windows, doors, and similar items as necessary such that no metal edges are exposed.
         4. Does not prevent bullet fragments from collecting at bottom of wall section.
         5. SureStop Rubber Panel: Total Thickness: 2 inch (51 mm) minimum.

Panel Construction: Recycled rubber. A maximum of 4 percent binder by weight.

Cold compressed using a moisture cured urethane binder.

\*\* NOTE TO SPECIFIER \*\* Delete fascia option not required.

* + - * 1. Rubber Fascia: Crumb rubber panels of 2 in (51 mm) minimum total thickness.

Interlocking design to prevent any gaps in coverage.

Manufactured under a hot-press process.

* + - * 1. Plywood Fascia: Minimum 3/4 inch (19 mm) thick exterior grade plywood.

Exposed surfaces shall be painted.

Zones designated as "No shoot" shall be painted Red.

* + - 1. Doors: Function similar to a doorway found in a standard block, brick, or steel building such that explosive entry training may be conducted at the door.
         1. Module shall provide for connection of a standard construction-grade pre-hung steel or wooden door without need for special fabrication.

\*\* NOTE TO SPECIFIER \*\* The Tactical Breach Door is the ultimate mode of entry training tool with an advanced design is ideal for every type of forced entry training. Delete if not required.

* + - 1. Basis of Design: Tactical Breach Door; as manufactured by Action Target Inc.
         1. Description: Multipurpose steel frame and door system that is easily adjustable and reusable. Door is not broken when latch releases and can be quickly reset.
         2. Available Design Configurations (to be specified in design layout):

Left door frame.

Right door frame.

Free standing frame.

* + - * 1. Adjustable Latch Settings:

Kick.

Heavy kick.

Shoulder.

Battering ram.

* + - * 1. Dowel Settings:

Shotgun breach.

Explosive breach.

* + - * 1. Panel:

Material: 3/8 inch (9.5 mm) AR500 steel.

Dimensions: 48 x 5.75 x 96 in (1219 x 146 x 2438 mm).

Weight: 400 pounds (181 kg).

Attaches to MATCH panels or free-standing frame.

* + - * 1. Door:

Replaceable plywood facade.

Steel jamb configuration allows for removal of breach door and replacement with a standard framed door.

* + - * 1. Breach Assembly:

Latch and tension spring to adjust strength required for opening the door.

Shotgun breach slot accepts disposable wood dowels for use with live ammunition.

\*\* NOTE TO SPECIFIER \*\* Walkway is optional. Delete if not required.

* + - 1. Walkway: Integral part of shoot house. Floor Level: No more than 22 inches (559 mm) above tops of wall modules allowing observer to see into shooting house rooms.
         1. Handrails: Minimum 42 inches (1067 mm) high.
         2. Floor: Expanded metal grating.
      2. Shoot House Repair: Rapid Armor Panels (RAP) act as a repair option for worn or damaged panels to extend the life of the MATCH.
         1. Material: 1/2 inch (12.7 mm) AR500 steel.
         2. Installed beneath the existing fascia without affecting the look or appearance.
         3. Installed with same through bolting method as existing AR steel panels and do not require welding or modifications of existing steel or joints.
         4. Shall not interfere with installation of other armor panels.

\*\* NOTE TO SPECIFIER \*\* Select accessories required. Delete options not required.

* + - * 1. CCTV with a resolution of 0.02 LUX.
        2. After action review (AAR) capture and playback.
        3. Balcony and staircase.
        4. In-room lighting.
        5. Concrete Ballistic roof (Zero vertical danger zone). Requires Mechanical Ventilation
        6. Climate controlled operations center.
        7. Portable bullet traps.
        8. Fire resistant coatings (per ASTM E-108 Class A).
        9. Autotargets WiFi network infrastructure
        10. Rapid Armor Panel: A bolt-on accessory that extends life of steel panels as they wear over time.

Mounted to panel joints in the MATCH wall system.

Material: 1/2 inch (12.7 mm) AR500 steel.

Size: 47.9 x 24 inches (1217 x 610 mm).

Weight: 152 pounds (68.9 kg).

* + - * 1. Multi-story MATCH House options available.

\*\* NOTE TO SPECIFIER \*\* The TAC house is a non-ballistic training tool for adaptive urban assault, building search and clearing, as well as force-on-force training. Delete article if not required.

* 1. TAC HOUSE; TRAINING AMMUNITION COMBAT HOUSE
     1. Basis of Design: Training Ammunition Combat (TAC) House; as manufactured by Action Target Inc. Creates a reconfigurable training atmosphere using modular panels for non-lethal training ammunition.
        1. Performance and Design Requirements: Designed to ensure a Zero Surface Danger Zone and Zero Vertical Danger Zone.
        2. Trusted partner warranty.
        3. Allows for modular reconfiguration on a 48 inch (1219 mm) grid.
        4. Compatible with standard, commercially available, non-lethal training ammunition.
        5. Panels:

\*\* NOTE TO SPECIFIER \*\* Delete panel options not required.

* + - * 1. Wall Panel: 44 x 3.5 x 96 inches (1118 x 89 x 2438 mm).
        2. Indoor Wall Panel: 44 x 3.5 x 90 inches (1118 x 89 x 2286 mm).
        3. Window Panel: 44 x 3.5 x 96 inches (1118 x 89 x 2438 mm).
        4. Indoor Window Panel: 44 x 3.5 x 90 inches (1118 x 89 x 2286 mm).
        5. Open Door Panel: 44 x 3.5 x 96 inches (1118 x 89 x 2438 mm).
        6. Indoor Open Door Panel: 44 x 3.5 x 90 inches (1118 x 89 x 2286 mm).
        7. Door Panel: 44 x 3.5 x 96 inches (1118 x 89 x 2438 mm).
        8. Indoor Door Panel: 44 x 3.5 x 90 inches (1118 x 89 x 2286 mm).
        9. Column: 3.5 x 3.5 x 96 inches (89 x 89 x 2438 mm).
        10. Column: 3.5 x 3.5 x 90 inches (89 x 89 x 2286 mm).

\*\* NOTE TO SPECIFIER \*\* Select outdoor or indoor TAC House required. Delete option not required.

* + - 1. Outdoor TAC House: Constructed of two layers of 3/4 inch (19 mm) high density overlay (HDO) laminated together with exterior grade glue.
         1. Panel fascia shall be 1/2 inch (13 mm) waterproof HDO plywood.
         2. Surfaces of panels and posts coated in high performance outdoor-rated paint.
         3. Doors: Fiberglass with hollow core.
         4. Door Jambs: Outdoor Painted wood.
         5. Capable of withstanding 40 mph (17.9 m/s) winds.
         6. Suitable for Wet Environments: Do not use in standing water. Do not stack wet.
      2. Indoor TAC House: Wall panel frame constructed from billet LVL to resist warping, bowing, and cracking.
         1. Panel Fascia: 1/2 in (12.7 mm) plywood core with laminated melamine faces.

No melamine on panel edges.

No joints on fascia panels.

* + - * 1. Posts: Painted.
        2. Doors: Hollow core, primed wood, unfinished.

Door Hardware: Assembly required.

Standard door sizes for replacement.

* + - * 1. Door Jambs: Mounted, unfinished.
        2. Handle pockets at edges for ease of movement.
      1. Joints: Assembled using two brackets, plastic hand knobs, and single bolt.
         1. Finish: Powder coated.

\*\* NOTE TO SPECIFIER \*\* Delete Joint Module options not required.

* + - * 1. Joint Module: End joint.
        2. Joint Module: X-joint.
        3. Joint Module: T-joint.
        4. Joint Module: I-joint.
        5. Joint Module: L-joint.
      1. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories options not required.

* + - * 1. CCTV with a resolution of 0.02 LUX.
        2. After action review (AAR) capture and playback.
        3. Camera system.
        4. AutoTargets.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly constructed and prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
   2. INSTALLATION
      1. Install in accordance with manufacturer's instructions, approved submittals and in proper relationship with adjacent construction.
   3. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturer's recommendations.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION