

**ADDENDUM FOUR
HCSO-CPD TARGET SYSTEM
CONTRACT NO. P-16-005-201
CITY OF CHATTANOOGA, TENNESSEE**

The following changes shall be made to the Contract Documents, Specifications, and Drawings:

I. Bid Schedule

- A. A revised Bid Schedule is released as part of this Addendum.
- B. Add Alternate 1, for construction of the protective kneewall has been removed from the project. All targets shall be installed in the existing target trench, which has a depth of 2' +/-.
- C. Add Alternate 2, for the running man system option, is now Add Alternate 1.

II. Bidding requirements

- A. The scope of this project is now limited strictly to providing and installing the new target equipment. A Contractor's license is not required to manufacture, supply, and install this equipment.
- B. Prospective bidders must still be able to provide the insurances as required by the City of Chattanooga and described in the Contract Documents.

III. Specifications

- A. Revised specification Section 13100 is included in this Addendum.

January 17, 2018

/s/ Justin C. Holland, Administrator
City of Chattanooga
Department of Public Works

BID SCHEDULE

HCSO-CPD TARGET SYSTEM

CONTRACT NUMBER P-16-005-201

CHATTANOOGA, TENNESSEE

DESCRIPTION

Providing 30 new air-actuated, remoted-controlled, fully programmable rotating targets and providing on-site installation with sufficient supervision and coordination with electric and pneumatic system installers to ensure proper installation of all components.

TOTAL PROJECT BID

TOTAL PROJECT BID \$ _____

(Sum of A + B) \$ _____

Total Base Bid \$ _____

(A) \$ _____

Total of Add \$ _____

Alternates (B) \$ _____

Note : Dollar amounts are to be shown in both words and figures. In case of discrepancy, dollar amounts shown in words will govern.

Contractor certifies that he has reviewed the plans and specifications, and that all items of work not specifically listed in the Bid Schedule are included in the prices for the various items listed on the Bid Schedule.

BIDDER:

DATE:

BY:

(Signature) TITLE:

ADDRESS:

CITY:

STATE:

ZIP CODE:

TELEPHONE NUMBER:

Bid Schedule**Contract Number P-16-005-201****HCSO-CPD TARGET SYSTEM****City of Chattanooga**

CONTRACT NUMBER P-16-005-201					
Item No.	Description	Estimated Qty.	Unit	Unit Price	Total Price
BASE BID					
717	Mobilization	1	LS		
13100-1	ALL NEW Rotating Target Systems	30	EA		
13100-2	Construct New Target Control System and Power Wiring	1	LS		
13100-3	System Setup and Training	1	LS		
13100-4	**Provide full on-site installation and setup of target systems IN EXISTING TARGET TRENCH.	1	LS		

BASE BID P-16-005-201 \$****The existing French drain in the trench will be replaced by others.**

Bid Schedule

Contract Number P-16-005-201

HCSO-CPD TARGET SYSTEM

City of Chattanooga

Item No.	Description	Estimated Qty.	Unit	Unit Price	Total Price
ADD ALTERNATE 1					
13100-7	ALL NEW 'Running Man' System	1	LS		

ADD ALTERNATE 1 TOTAL \$

TOTAL OF ADD ALTERNATES \$

00301-3

SECTION 13100

RANGE TARGET SYSTEMS

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PART 1 – GENERAL

1.01 WORK OF THIS SECTION

A. The WORK of this Section includes providing and performing the following:

1. The Contractor shall provide a fully functional targeting system for the HCSO-CPD firing range, including the following:

a. **BASE BID:**

I. Thirty (30) rotating targets:

- i. New fully functioning pneumatically-actuated rotating targets capable of rotating 90° from edge to face in ½ second or less, and from face to edge in ½ second or less.
- ii. Targets shall include new bases, brackets, anchors, supports, power and control wiring, conduits, actuators, steel shields, controllers, and all other miscellaneous equipment, hardware, and labor necessary for independent operation of 30 firing lanes. All equipment and hardware shall be new, except:
 - (a). Existing 36” wide fabricated steel target holders shall be reused.
 - (b). Existing air compressor and air tank shall be reused.
- iii. Electric power shall be provided to outlets located at the target line and pneumatic supply headers shall be provided at locations on the target line as specified by the Contractor to permit proper operation of the new targets. These shall be installed by others, but the Contractor shall be responsible for ensuring the installation is adequately coordinated with their targeting system.
- iv. Targets shall be installed in the existing target trench. Contractor shall be responsible for removing the existing equipment.

II. Target control system:

- i. System shall permit independent control of each target or bank of targets and a ‘running man’ target from a wireless controller. Turning targets banks must be capable of customer programming and operation from either a handheld wireless controller or a laptop computer with wireless modem.
- ii. Target system manufacturer shall provide target-controlling software, permanent site software use license, required connectivity cables, transmitters, receivers, drivers.
- iii. A minimum of two wireless controllers shall be provided.
- iv. The controllers shall be able to control the installed targets at a range of 200 yards minimum. Wireless system shall be required to permit control of targets using the controllers from inside the range control tower, as well as from any location on the main range.

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- v. Wireless controllers shall be adaptable to permit expansion or modification of the target systems. Controllers shall be customer-programmable.
- vi. Power and signal supply leads running from the wall to the target system shall be protected from ricochet/bullet splatter with flexible metal shielding. The system shall be mounted so that it is below the top of the target trench.

III. System setup, configuration, training, and warranty

- i. Contractor shall provide the services of target system manufacturer representative for setup and configuration of targeting system, in order to make the system fully operational and meet the operational requirements of the HCSO-CPD Rangemaster.
- ii. The target system manufacturer shall provide on-site maintenance, operation, and program training for the HCSO-CPD Rangemaster and range staff. This training shall consist of a minimum of three (3) days of training, and a price per day shall be established for additional days, if required.
- iii. Target system manufacturer to provide lifetime telephone technical support from 8 am to 5 pm, Monday through Friday.
- iv. Target system manufacturer to provide a minimum of one year of free software/firmware updates for target system, controllers, and computer software.
- v. A detailed Operations and Maintenance manual documenting the target system components, configuration, and instructions for operating and modifying the system shall be provided.
- vi. The entire target system, including target bases, target frames, actuators, motors, power and signal wiring, mounts, pneumatics, electronics, sensors and switches, and all accessories necessary for a fully-operational target system and 'running man' target system shall have a minimum two (2) year warranty.

IV. Provide full on-site installation of target systems in existing target trench

- i. Contractor shall provide this equipment and perform full on-site installation and setup for the targeting system. This work shall also include installing or modifying any base plate anchors and installing a non-shrink grout under all baseplates.
- ii. The Contractor shall coordinate these services with the City's electrical and plumbing contractors, where needed.
- iii. Targets shall be installed in the existing target trench. Electric and pneumatic connections shall be made above the level of the bottom of the trench to aid in water resistance.

b. ADD ALTERNATE 2

- I. Provide and install one (1) new fully functioning 'running man' target system, with approximately 80' of track (in existing):

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- i. This system shall be operated by 120 volt AC electrical power, and be mounted on a durable track.
- ii. The 'running man' target system shall be operated by a portable, moisture-resistant wireless controller with speed and direction controls for up to two (2) separate target carriages.
- iii. The system shall include one (1) moving target carriage, and shall be easily field-modified to add a second independently-controlled and -operated target carriage.
- iv. Place non-shrink epoxy grout under target baseplates for support and leveling.

1.02 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. Except as otherwise indicated, the Contractor shall comply with the Reference Standards specified in Section 1080, as well as the following Codes:

1. International Building Code 2012 (IBC 2012)
2. National Electric Code (Current Edition)
3. ANSI B36.20
4. ASME B31.9

1.03 SHOP DRAWINGS AND SAMPLES

A. The following shall be submitted in compliance with Section 01300:

1. General
 - a. Drawings including the following:
 - I. Manufacturers' equipment drawings.
 - b. Manufacturer's product data including the following:
 - I. Catalogue cuts, bulletins, brochures, or photocopies of applicable pages for mass-produced, non-custom-manufacture products stamped to indicate the project name, applicable Specification section and paragraph, model number, ratings, and options.
 - c. Lists of the following:
 - I. Materials, equipment, apparatus and fixtures proposed for use; with the list including sizes, names of manufacturers, catalog numbers, and such other information required to identify the items.

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d. Test reports of the following:

I. Factory-fabricated products.

1.04 FIELD TESTING

A. Testing: Products shall be field-tested for compliance with the indicated requirements.

B. Witnesses: The Owner and the ENGINEER (at the option of either) reserves the right to witness field tests.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Delivery of Materials: Products shall be delivered in original, unbroken packages, containers, or bundles bearing the name of the manufacturer.

B. Storage: Products shall be carefully stored in a manner that will prevent damage and in an area that is protected from the elements. Products shall not be damaged, marred, or splattered with water, foam, plaster, or paint. Moving parts shall be kept clean and dry.

C. Replacement: Damaged materials or equipment shall be replaced or refinished by the manufacturer at no expense to the Owner.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Target Systems

1. Air Connections

a. All air hose connections for flexible air hose shall be quick-connect, push-in air fittings for use with flexible air tubing.

2. Target Turning Mechanisms

a. Target turning mechanisms shall be water resistant and designed to withstand outdoor weather conditions.

b. Target turning mechanisms shall be constructed such that minor repairs may be accomplished by standard range personnel, with the guidance of the manufacturer/service representative, so that the warranty remains intact.

c. The target turning mechanisms' housings shall be covered with a galvanized or powder coated material.

d. The target turning mechanisms' bearings must be sealed and require no maintenance.

e. All steel components must be painted or powder-coated black.

3. Target bases

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- a. All target bases, brackets, and turning mechanisms shall be installed behind and below a protective knee wall to eliminate the potential of ricochet toward the firing line.
- b. All exposed carbon steel or non-weather-resistant metals and materials shall be powder coated or painted (two coats of high-solids) to prevent corrosion.
- 4. Running Man System
 - a. Running man steel track components must be hot dipped galvanized, powder coated, or painted (two coats of high-solids minimum) to withstand extreme weather conditions.
 - b. Drive cable/cord to be non-corrosive.
 - c. The running man system must have sensors at each end of the track to eliminate hard mechanical stops.
 - d. The running man system must be controlled by a handheld wireless transmitter with rotary speed dial and direction control switch for each target carriage.
 - e. The running man system must be capable of being controlled for varying speed while in motion and stop automatically at end of travel locations.
- 5. Target System Control Unit
 - a. The target control unit must provide wireless remote control of the target system, be capable of operating a minimum of 42 targets with individual control of each target.
 - b. The target control unit software must cover a broad range of training requirements, and be programmable by the Rangemaster.
 - c. The target control unit keypads must feature full sized keys, be moisture resistant, and operate off DC current.
 - d. The target control unit keypad must be portable and lightweight.
 - e. The target control unit receiver must be waterproof.
- 6. General Target System Requirements
 - a. Any permanent, stationary outdoor control panels or controller cabinets must be moisture-resistant, and weatherproof.
 - b. The target systems must be capable of withstanding prolonged exposure to extreme temperatures, both hot and cold, as well as prolonged exposure to rain and moisture, without compromising the systems' ability to function properly.

PART 3 -- EXECUTION

3.01 GENERAL

- A. The Contractor shall perform work in a safe, professional, and workmanlike manner, in accordance with applicable codes and regulations.
- B. The Contractor is responsible for locating any and all utilities.
- C. All work shall be performed in a professional, workmanlike manner, with work performed evenly and neatly. The Contractor shall keep work areas as clean as possible, and when stopping work for the day shall leave work areas and equipment in such a state as to not obstruct use of the balance of the HCSO-CPD Range.

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- D. The Contractor shall be responsible for properly collecting and disposing of any construction waste and debris. Any materials subject to erosion shall be properly stockpiled outside the 100-year floodplain and shall be protected with appropriate erosion control measures.
- E. The Contractor shall coordinate all work with City of Chattanooga Police Department Rangemaster in order to ensure any and all work activities do not conflict with planned training by any agencies served by the HCSO-CPD Range.
- F. Range 1 will be closed for 30 calendar days MAXIMUM to allow construction of the target systems and other improvements. Liquidated damages will be assessed if the Range 1 closure exceeds 30 days.
- G. During the closure of Range 1, the Contractor is advised that training will likely be taking place elsewhere on the HCSO-CPD Range property, and so consideration for and coordination with the HCSO-CPD and other agencies is necessary.
- H. Any damage to the concrete sidewalks, any drainage structures, earth rutting, or other damage to the HCSO-CPD Range during improvements to Range 1 will be repaired at the Contractor's expense.
- I. The Contractor is advised that the HCSO-CPD Range is an active firing range that has been in use for several decades, and is known to contain a substantial amount of lead projectiles and other byproducts of an active outdoor firing range. Therefore, the Contractor should follow all OSHA and NIOSH recommendations for working in such an environment, including but not limited to:
 - 1. Attending training, following safe work practices, and participating in health monitoring programs.
 - 2. Employees should be encouraged to report symptoms to the Contractor and get medical attention for:
 - a. Common health effects of lead poisoning including reproductive effects, nausea, diarrhea, vomiting, poor appetite, weight loss, anemia, fatigue, hyperactivity, headaches, stomach pain, and kidney problems.
 - b. Exposure to high noise levels can cause hearing loss, tinnitus (ringing in the ear), stress, high blood pressure, fatigue, and gastro-intestinal problems.
 - c. If the employee suspects exposure to high levels of lead, even if showing no symptoms, the employee should have their BLL (Blood Lead Level) tested.
 - 3. Employees should be encouraged to practice good hygiene:
 - a. Wash hands and face with soap and water or clean them with lead decontamination wipes after shooting, handling spent cartridge cases, or cleaning weapons, especially before eating, drinking, or smoking. Wipes for cleaning skin without water are commercially available and should be used if access to soap and water is limited.
 - b. Change clothes before leaving the range and wash clothes separately from other family clothing.

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4. Employees should be advised to use personal protective equipment (PPE):
 - a. Wear double hearing protection when shooting or around shooting.
 - b. Wear properly-fitted respirators and full protective outer clothing for maintenance activities that involve close contact with lead dust or spent bullets.
 - c. Wear gloves and eye protection when using chemical to clean firearms or to clean equipment that has come in close contact with lead dust or spent bullets.
5. Limit the length of time that workers use the firing range: rotate assignments and provided quiet, clean break areas.
6. The Contractor SHALL provide all workers with training and information about the hazards, including:
 - a. Inform workers about the importance of hygiene in reducing potential lead exposures, post warning signs, and provide convenient washing facilities to encourage frequent hand washing.
 - b. Prohibit eating, smoking, chewing gum, or tobacco use in areas potentially contaminated with lead.
 - c. Inform pregnant workers about possible risks to the fetus.
 - d. Ensure that workers are aware of symptoms that may indicate a health problem.
 - e. Tell workers about participating in medical surveillance programs and getting their BLLs tested, even if they don't show symptoms.
7. Review OSHA requirements for medical monitoring for lead (29 CFR 1910.1025(j)).
8. For best medical and lead management practices, consult the Association of Occupational and Environmental Clinics.
9. Provide workers with protective equipment, including:
 - a. Hygiene and cleaning kits
 - b. Skin protection, eye protection, and NIOSH-approved respirators for workers who clean lead-contaminated areas
 - c. Provide knee or full-body pads to limit transfer of lead to clothing.

****END OF SECTION****