



# STAFF REPORT

**Report To:** Range Task Force

**Meeting Date:** April 3, 2019

**Staff Contact:** Jennifer Budge, CPRP, Parks and Recreation Director

**Agenda Title:** For Possible Action: Discussion and possible action regarding directions to staff and/or recommendations to the Board of Supervisors regarding Carson City Rifle Range budget, grants, and future projects.

**Staff Summary:** This item will review various project and budget items related to the Carson Rifle and Pistol Range, including City retained engineering services, grants submitted, improvement projects and the City's budget process.

**Agenda Action:** Formal Action/Motion

**Time Requested:** 20 minutes

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## **Proposed Motion**

I move to direct staff and/or recommend to the Board of Supervisors \_\_\_\_ regarding the Carson Rifle and Pistol Range.

## **Board's Strategic Goal**

Safety

## **Previous Action**

N/A

## **Background/Issues & Analysis**

### **DESIGN AND ENGINEERING SERVICES:**

Previously, the City received a proposal from Poggemeyer Design Group for civil engineering services, which was over \$100,000. At the direction of the Range Task Force, staff obtained a second quote for services. Based on approval from the City's Internal Finance Committee, the City entered into a contract with Lumos and Associates for \$46,400. The scope of work is attached and the contract is only for tasks 1-4.

### **GRANTS:**

Based on direction from the Range Task Force, the City submitted a grant request to the Nevada Department of Wildlife Shooting Range Grant Program for \$38,158.58. The proposal included purchase and installation of signage, removal of target lines on the long range, earthwork improvements to the shooting bays and short range backstop. Parks maintenance staff labor would fulfill the match requirement. A portion of the grant application is provided in the packet.

### **CITY BUDGET PROCESS:**

The Fiscal Year (FY) 2019-2020 budget process is nearing completion. The Department is requesting an increase in general fund staffing and supplies, as well as additional support for infrastructure

preservation and capital improvement needs to address the Range Task Force and Parks and Recreation Commission priorities as well as the City's aging parks infrastructure. Unfortunately, with only approximately \$7 million available citywide for Capital improvements in FY20, and over \$12 million in requests, there are limited opportunities to reinvest in parks infrastructure from the City's General Fund. This further demonstrates the need for the Department to be creative in developing a diverse funding strategy, as outlined in the parks strategic plan.

A request for \$250,000 has been requested by the Department for future capital improvements at the Carson Rifle and Pistol Range as part of the tentative FY20 budget, which could serve as a substantial future grant match to address the infrastructure needs at the range. In addition, 1 new full time Park Ranger position (partial general fund request, partially funded by Open Space and Q18 Maintenance) was requested to help assist with needs throughout the park system, including range operations.

**TENTATIVE Budget Schedule:**

Feb. 28: Capital Improvements Ranking Discussion – Department Heads/City Management  
March 20: Internal Finance Committee meetings on supplemental requests-operating budgets  
April 1: Budget open house (12 pm and 5:30pm – Sierra Room)  
April 2: Parks and Recreation Commission and possible budget recommendations to BOS  
April 3: Range Task Force and possible budget recommendations to BOS  
April 18: BOS meeting-Presentation of FY20 budget and CIP (tentative budget approval)  
May TBD: BOS adopts final FY20 budget

**Attachments:**

Lumos and Associates Scope of Work  
NDOW grant request (portion)  
Rifle Range Project and Operations Items

**Alternatives**

Do not approve the item and provide alternative direction to staff.

**Task Force Action Taken:**

Motion: _____	1) _____	Aye/Nay
	2) _____	_____
		_____
		_____
		_____
		_____

\_\_\_\_\_  
(Vote Recorded By)



March 15<sup>th</sup>, 2019

LA19.186

Jennifer Budge, CPRP  
Parks and Recreation Director  
Carson City  
Via email: [JBudge@carson.org](mailto:JBudge@carson.org)

**RE: Proposal for Engineering Services to Design the Proposed Upgrades to the Carson City Rifle/Shooting Range**

Dear Ms. Budge:

Lumos & Associates Inc. (Lumos) is pleased to provide this proposal for engineering services to design the upgrades/modifications to the Carson City Rifle/Shooting Range for the Carson City Parks and Recreation Department.

**Project Understanding**

Based on coordination with the Parks and Recreation staff it is our understanding that Carson City desires to make improvements to the existing Rifle Range facilities located near the Carson City Landfill. The impetus for the improvements is based upon two assessments conducted for the facility which were requested after complaints of stray rounds within the landfill area. The two assessments are:

- Tactical Services Group Range Technical Team Field Operations Division – Range Evaluation Report (Project # NV20190103), Dated January 3<sup>rd</sup>, 2019
- National Rifle Association of American Range Technical Range Services Department Recreational Programs and Ranges Division – Range Evaluation Report (Case #RCN NV-2382-18), Dated January 31<sup>st</sup>, 2019

The City has requested a proposal from Lumos to provide the engineering services associated with design of the necessary improvements to the shooting range to comply with the City selected recommendations within the evaluations and the design guidelines within the NRA Range Source Book. The following scope of services has been developed to assist the City Parks and Recreation Department with this project.

**Scope of Services**

**Task 1: Topographic Survey – If Necessary**

Lumos will prepare a Topographic Survey Map at 1" = 40' scale with 1 foot contour interval accuracy in accordance to National Map Accuracy Standards for the Rifle Range Project Area. In addition to the topography we will provide a digital color orthophoto at 0.2' pixel resolution. All existing surface

improvements and utilities will be located. The existing boundary of the parcels, if within the project area will be shown from record information and no setting of monuments is anticipated in this scope. Control for the project will be referenced to the Nevada Coordinate System, West Zone, NAD83, modified to ground, and the vertical datum for the project will be referenced to NAVD88 as required by Carson City. Deliverables for this project will be a portable document format file (.pdf), and an Autocad format file of the survey map.

### **Task 2: Conceptual Improvement Plans**

Lumos will prepare conceptual engineering layouts for the proposed modifications to Rifle Range. The conceptual layout will lay out the proposed improvements on an aerial plan view. The conceptual drawing will be provided to Carson City Parks and Recreation for review to finalize the list of improvements to be incorporated into the project. This task includes one review meeting with the City.

### **Task 3: 60% Improvement Plans**

Based on feedback from the Conceptual Layouts under Task 2 and the survey base mapping from Task 1, Lumos will prepare 60% engineering drawings for the proposed grading and related site work associated with the modifications to the Rifle Range. The drawings will be prepared on 24"x36" format sheets at a standard engineering scale. The 60% submittal will be provided to the City at for review and will containing the following sheets:

- a. Title sheet with notes, locations, and vicinity maps;
- b. Preliminary Horizontal/vertical control sheet;
- c. Site plan indicating location of improvements and potential barrow area should one be necessary;
- d. Preliminary grading plans for the Rifle Range;
- e. Preliminary grading plans for the Pistol Range;
- f. Preliminary grading plans for the Private Range;
- g. Preliminary cross section views of each of the three ranges;
- h. Preliminary drainage concepts;
- i. Preliminary detail sheets.

This task will also include;

- A drainage memo detailing the anticipated storm water flows and sizing of any drainage facilities.
- A preliminary construction cost estimate based on preliminary cut/fill estimates and improvements

This task includes one review meeting with the City.

### **Task 4: Final Improvement Plans**

Based on feedback from the 60% plans under Task 3, Lumos will prepare Final engineering drawings and specifications for the proposed grading and related site work associated with the modifications

to the Rifle Range. The drawings will be prepared on 24"x36" format sheets at a standard engineering scale. The final submittal will be provided to the City and will contain the following sheets:

- j. Title sheet with notes, locations, and vicinity maps;
- k. Final Horizontal/vertical control sheet;
- l. Final site plan indicating location of improvements and potential barrow area should one be necessary;
- m. Final grading plans for the Rifle Range;
- n. Final grading plans for the Pistol Range;
- o. Final grading plans for the Private Range;
- p. Final cross section views of each of the three ranges;
- q. Final drainage concepts;
- r. Final detail sheets.

This task will also include;

- A finalized drainage memo detailing the anticipated storm water flows and sizing of any drainage facilities.
- A final construction cost estimate based on preliminary cut/fill estimates and improvements

#### **Task 5: Baffle – If Necessary**

Should the City desire the installation of a baffle to reduce/eliminate the view of the horizon, Lumos can design, under this task, a single free standing baffle system for the Rifle Range (standing area/not prone) and one for the Pistol Range. It is assumed that the baffle would be of wood construction with a concrete footing for the support beams. It is assumed that a baffle is not needed for the private bays. The baffle would be designed per 2018 IBC and will address dead loads and seismic loads, as applicable.

#### **Assumptions / Exceptions**

Lumos has made the following assumptions in preparation of this proposal:

- This proposal does not include a geotechnical report.
- This proposal does not include bidding or construction services
- This proposal does not include public outreach (it is assumed that the City will conduct any public outreach activities).
- This proposal does not include the creation of documents to phase the improvements.
- Design will be per the recommendations provided in the Tactical Services Group Range Technical Team Field Operations Division – Range Evaluation Report (Project # NV20190103), Dated January 3<sup>rd</sup>, 2019
- Design will be per the recommendations provided in the National Rifle Association of American Range Technical Range Services Department Recreational Programs and Ranges Division – Range Evaluation Report (Case #RCN NV-2382-18), Dated January 31<sup>st</sup>, 2019
- Design will be per NRA guidance documents for the design of a shooting range.

## **Fees**

The tasks described in the Scope of Services will be completed for the following fees:

Task	Description	Fee
Task 1	Topographic Survey	\$8,100
Task 2	Conceptual Improvement Plans	\$5,200
Task 3	60% Improvement Plans	\$17,900
Task 4	Final Improvement Plans	\$15,200
Task 5	Baffle	\$7,150
Total:		\$53,550

Tasks 1 through 5 are lump sum. Lumos will be happy to amend this proposal as necessary to include services not included or to amend the proposed services to better match the scope of services required.

If this proposal is acceptable, please provide your Contract for execution. Lumos will send monthly progress billings on this project. The amount of these billings will be based upon the percentage of work completed. The terms are 'Due Upon Receipt' and accounts are past due after 30 days. Accounts over 30 days old will be subject to interest at the rate of 1 ½% per month and such collection action as may be necessary to collect the account. In addition, a "Stop Work Order" may be issued on past due accounts. In this case, no further work will be performed until the account is brought current.

Thank you again for allowing Lumos to provide you with this proposal. Please do not hesitate to call me if you have questions or concerns as we would happy to discuss them with you.

Sincerely,



Tim Russell, P.E., WRS  
Group Manager, Engineering Division

Is the proposed project within the existing footprint of the range: ☒ Yes ☐ No

Will the proposed project require soil removal or impact a waterway? ☒ Yes ☐ No

If yes, list which local, state and/or federal permits that will be required: n/a

If project requires removal of soil or disturbing the soil please provide detailed information/history of site (is project on undisturbed or fill dirt)?

**The total ground disturbance for the proposed tasks below would be less than one acre. All dirt work would be conducted within existing disturbed areas and the project site is more than .5 miles from the Carson River. Contractor will be required to use Best Management Practices associated with dust control and stormwater run-off as part of all work conducted on site. No soil will be removed.**

**TARGET LINES:** If approved, this item will include removal of damaged target lines/curbs from the Long Range at the Carson Rifle and Pistol Range. The target lines/curbs are shown in map Exhibit B. This task was identified as a critical safety concern outlined in two separate Range Evaluations conducted by Tactical Services Group LLC. and the National Rifle Association, provided as Exhibits C and D respectively. As indicated in the reports, the target lines/curbs are likely one contributing factor to ricochets at the range. The target lines /curbs are made of concrete and rebar, but will require some ground disturbance to remove. There would be no fill required for this task, nor removal of soils from the premises. No permits would be required for this task.

**SHOOTING BAY #1:** If approved, this item would improve the northwest corner of Shooting Bay #1. This task would include the addition of compacted soil to ensure that the bay's northern lateral berm and backstop at the northwest corner meets the recommended minimum standard as outlined by the NRA and as identified in the report Exhibits C and D. The amount of soil required for this task is minimal and does not meet the threshold for any permits. All soil is on site, from existing disturbed areas, so there will be no import of fill required. No permits would be required for this task.

**SHORT RANGE:** If approved, this item would improve the backstop on the Short Range to meet the recommended minimum standard as outlined by the NRA and as identified in Exhibits C and D. Currently the backstop height is 12' and the addition of compacted soil would increase the height to the 20' recommendation, at a 4'ft. wide at the top of the backstop. The majority of the soil required for this task is on site, from existing disturbed areas. The top 4"-6" of the backstop will require import of fill material. The fill is anticipated to be screened decomposed granite, ballistic sand or equivalent, as per the NRA recommendations the outer layer of the backstop should not have rocks or material that would promote ricochets. No permits would be required for this task as the amount of fill material required would be less than 300 cubic yards.

Please provide detailed photos and information on the construction process if soil is being removed!

Will this project be completed in accordance to the EPA best management practices for shooting ranges: ☒ Yes ☐ No

How many acres/miles does the project encompass? 1 acre or less

What week(s) or month(s) will the project occur? 2-3 months after notice to proceed.

How long will it take to complete the project(s)? 2-3 weeks for construction

What machinery, if any, will be involved? Back hoe, front end loader, grader, compactor, and dump truck.

Will herbicides be used? ☐ Yes ☒ No

If so, describe what herbicide, what it will be used for, and application rate:

## DESCRIPTION

Describe project purpose, history, design and techniques to be used and major project features. (Must provide detail description of project.)  
**PLEASE ATTACH SITE MAP(S), PHOTOS, DRAWINGS AND/OR PLANS.**

**HISTORY/BACKGROUND:** The Carson Rifle and Pistol Range has been in existence since the early 1980's and is in its third physical location within Carson City. With the support of multiple funding sources and community grassroots involvement, it has been a popular place for locals and visitors to enjoy shooting sports. During its initial existence, its location was in a very remote part of Nevada's capital city, with abundant open space, canyons, and mountainous native desert terrain surrounding the facility. According to the US Census Bureau, Carson City's population is now almost four times what it was since the range's inception. With exponential growth and development over the past 30 years, including the City's adjacent landfill, this has encroached on the range's natural safety buffer.

In 2018 reports of errant bullets landing in the landfill were observed and reported. Under the abundance of caution, the City retained the National Rifle Association and Tactical Services Group LLC. to conduct range evaluations (Exhibits C and D). The reports confirm the likelihood of ricochets and overshot into the landfill from the range, while identifying deficiencies, and providing physical and operational suggestions to minimize this from occurring in the future. Since the landfill receives over 500 trips per day from the public, a revised range schedule has been implemented due to public safety concerns. All proposed projects as part of this grant request were identified as safety recommendations in both range evaluations and were also recommended by the Carson City Range Task Force, an advisory board to the Carson City Board of Supervisors as project priorities.

**PROJECT PURPOSE:** The purpose of this grant request is to begin to address the deficiencies identified in the aforementioned range evaluations, particularly focusing on safety, reducing occurrences of ricochets, and promoting proper shooting behavior through education. The City's goal is to increase public use of the range, improve safety, and mitigate the issues identified in the evaluations for the benefit of the community. This will be an important first step in a multi-phased approach. This project, if approved will fund the following:

**TASK 1:** Hiring of a third party professional to remove and dispose of the concrete/rebar target lines/curbs from the Long Range. (Exhibit B)

**TASK 2:** Purchase carsonite markers with signage to warn trespassers about the "active range". Signs will not only delineate the perimeter boundary, but be placed on off-highway vehicle roads that access the range property and be used in the shooting bays to establish firing line locations. Signage will be compliant with Nevada Revised Statutes.

**TASK 3:** Design, fabrication, and purchase of educational signs, posts, concrete, and vandal proof hardware. Signs will contain user friendly visual diagrams to easily educate participants with proper shooting behaviors and target placement zones. Signs will be posted on the Long Range, Short Range, and Shooting Bays.

**TASK 4:** Hiring of a third party professional to increase the height to the northwest corner of bay #1 in the shooting bays, so it meets the minimum recommended standard. This task will include operation of heavy equipment in existing disturbed areas to increase the lateral berm and the backstop.

**TASK 5:** Hiring of a third party professional to increase the backstop of the short range to the NRA minimum recommended standard. This would increase the existing 12' high backstop to 20' in height. The backstop is approximately 160' in length and would be improved utilizing soil from existing disturbed areas on site. The top 4-6" of material would be imported and consist of screened decomposed granite, ballistic sand or equivalent to meet the standard, as the material cannot contain rock or other materials that would encourage ricochets. The imported material would only be for the face of the improved area of the backstop, estimated at 25 cubic yards.

**IN-KIND MATCH:** Carson City staff will provide the personnel and equipment required to conduct the installation for all signage, provide project/grant administration. In addition, dump fees will be waived for the disposal of the target frames. These tasks will serve as in-kind match for the project. Funding for the personnel is provided from local funds consisting of Carson City General Fund and Quality of Life Funding (sales tax).

**DESIGN GUIDELINES/PRINCIPLES:** 2012 NRA Range Source Book, Range Evaluations conducted by NRA and Tactical Services Group LLC, Carson City Parks and Recreation Signage Master Plan

**LETTER OF SUPPORT:** A letter of support for this project from the Carson Rifle and Pistol Club is provided as Exhibit E. The Club is the City's non-profit partner that operates the facility through a use agreement.

**PLEASE NOTE THAT IT IS THE CITY'S INTENT TO INCREASE THE GENERAL PUBLIC USE OF THE SHOOTING BAYS AND THE SHORT RANGE ONCE THIS PROJECT IS COMPLETED. THERE ARE OPERATIONAL ITEMS THAT WOULD NEED TO COMPLEMENT THIS EFFORT IN ORDER TO MAKE THIS HAPPEN, WHICH WILL REQUIRE ADDITIONAL COORDINATION WITH OUR PROJECT PARTNERS. ONCE THAT COORDINATION IS COMPLETE, HOURS FOR ADDITIONAL DAYS CAN BE ESTABLISHED.**

APPLICANT-Fill In		PROJECT BUDGET Alternative format may be used with NDOW approval.	
Description	Quantity	\$ Unit Cost	\$ Total Cost
<b>PERSONNEL</b> (List by type of labor. Skilled labor to be valued at \$??/hour; Unskilled labor to be valued at \$??/hour. Quantity = hours used.)			
See Exhibit F for Project Budget detail. Personnel costs include hourly rate plus benefits. Inmate labor represents contractual amount.			
Sub-Total 1			\$9,434.50
<b>PROJECT SUPPLIES &amp; MATERIALS</b>			
See Exhibit F for Project Budget detail			
Sub-Total 2			\$7,331.46
<b>CONTRACTED SERVICES</b> (Describe and attach subcontractor estimates including design/engineering)			
Removal of target lines on Long Range	1 EA	\$6,000	\$6,000
Earthwork: Improve backstop at Short Range and lateral berm and backstop on Shooting Bay #1.	250 cubic yards	\$30	\$7,500
Earthwork: Import screened decomposed granit +/- ¾" for backstop face of Short Range	25 cubic yards	\$30	\$7,500
Sub-Total 3			\$21,000
<b>EQUIPMENT</b> (Landowner provided equipment and/or rented equipment. Quantity = hours used. Value not to exceed standard market rate)			
Kubota Utility Tool Kat (owner provided)	20 hours	\$19.63	\$392.62
Sub-Total 4			\$392.62
<b>TOTAL PROJECT BUDGET</b> (add sub-totals 1-4)			\$38,158.58

COST SHARE FUND DISTRIBUTION	
Shooting Range Grant Funds Requested (can not exceed 75% of total project cost)	\$28,618.94
Applicant Cost Share Funds (Include in-kind value. Non-federal contributions must total at least 25% of total project cost.)	\$9,539.65

Applicant Cost Share Funds – funding contributors (must equal line above; include all grants received (re: NRA, etc.))	
Applicant Contribution (cash, in-kind, donations) Carson City Personnel and equipment	\$9,827.12
Other:	
Other:	
Other:	

# Range Task Force

## Carson Rifle and Pistol Range **PRIORITIES**

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*Based on tasks recommended by two independent range evaluations conducted by the National Rifle Association and Tactical Services Group*

### **PRIMARY NEEDS: Immediate tasks required to open the ranges**

#### **1. Long Range**

- 1.1. Redesign to include 8 foot lateral berms that extend beyond the firing lines
- 1.2. Remove the old exposed concrete target frame holders
- 1.3. Redesign backstop and construct per NRA Range Source Book Standards (Minimum 20 foot high, 90% compaction, rock free impact face, 1:1 to 1:1.5 bullet impact slope NRA source book Section 2, Article 2.04
- 1.4. Regrade range floor to a consistent slope not to exceed 2% to reduce occurrence of ricochets. Grading should begin on level with the firing line, so there is not a five foot drop (the firing line should not be elevated above the range floor.
- 1.5. Intermediate ground berms be placed behind the 50, 100 and 200 yard targets to stop rounds from striking the floor of range.

#### **2. Short Range**

- 2.1. Range should be redesigned to include 8 foot lateral berms on both sides of the range that extend beyond the firing line.
- 2.2. Redesign backstop and construct per NRA Range Source Book Standards (Minimum 20 foot high, 90% compaction, rock free impact face, 1:1 to 1:1.5 bullet impact slope NRA source book Section 2, Article 2.04.

#### **3. Shooting Bays**

- 3.1. Target Placement Zones be indicated on each bay which prohibits the positioning of targets farther than 15 yards from backstop.
- 3.2. Indicate acceptable firing line locations.
- 3.3. Backstops and lateral berms are constructed to NRA Range Source Book Minimum Standards.

## **SECONDARY NEEDS: Short term tasks for range improvements**

### **1. Entire Facility**

- 1.1. It is suggested that areas that allow off road unauthorized vehicle access, be fenced off with barbless wire fencing with signs that state "No Trespassing, Carson City Rifle and Pistol Range" may suffice. In areas where there is no vehicle access, vertical carsonite style signs that state "No Trespassing, Carson City Rifle and Pistol Range" may suffice. Fencing and no trespassing signs should be in harmony with "NRS 207.200 unlawful trespass on land.
- 1.2. Development of an Environmental Stewardship Plan (ESP) and implemented which addresses the management and prevention of migration from the site of any potential hazards and includes lead and metal recycling and scheduled monitoring and maintenance tasks.

### **2. Long Range**

- 1.1. Analysis and possible installation of an overhead safety baffle near the firing line that would prevent/block rounds that may go over the backstops.
- 1.2. Install a concrete eyebrow (Horizontal Bullet Catcher) above the 300 yard backstop – NRA source book section 2, Article 2.06.3
- 1.3. Range floor be graded to a 2% upward slope and 2% western slope to allow water to drain south and west of the west side access road. Water should then be carried across the roadway into a catchment basin per the ESP.
- 1.4. Target frame holders should accommodate approved target frames to be provided at 50, 100, 200, 300 yards and centered on each firing position. Target frame holders should be established 10 feet from the toe of the backstop
- 1.5. Target frame holders should be designed to accommodate the specified target frames and not protrude above ground but level with the grounds surface. Minimum design should accommodate the NRA 300 yd. rifle target

### **3. Short Range**

- 3.1. A lateral block/cement wall between the Long Range and Short Range so that shooters on the firing lines cannot see the shooters on the adjacent range.
- 3.2 Range floor be graded to a 2% upward slope and 2% western slope to allow water to drain south and west of the west side access road. Water should then be carried across the roadway into a catchment basin per the ESP.
- 3.3 Install a concrete eyebrow (Horizontal Bullet Catcher) above the backstop – NRA source book section 2, Article 2.06.3.

### **4. Shooting Bays**

- 4.1. Bays should be graded to provide 2% slope to the opening of the bays and 2% slope to the west for drainage. This water should then be carried across the roadway into a catchment basin per the ESP.

## **LONG TERM NEEDS:**

1. The future development of the City land fill is problematic for the long term future of the shooting range. Planning should begin for alternative site development some 15-20 years in the future.

## **OPERATIONAL NEEDS: Critical items in bold and highlighted in yellow**

### **1. Long Range:**

- 1.1. It is suggested that target frame holders be designed to accommodate the specified target frames and not protrude above ground but be level with the ground's surface. Most Public range frame for rifle ranges have an outside dimension of 48", and height is determined by the range standards. It is suggested that at minimum they be designed to accommodate the NRA 300 yard rifle target.

### **2. Short Range:**

- 2.1 It is suggested that target frame holders to accommodate approved target frames be provided at 5, 7, 15, 25, and 50 yards on six foot centers spacing. The 50 yard frames holders are approximately 10 feet from the toe of the backstop. It is suggested that rules be established that authorized target frames can only be placed in these provided holders.
- 2.2 It is suggested that target frame holders be designed to accommodate the specified target frames and not protrude above ground but be level with the ground's surface. Most Public range frame for pistol ranges have an outside dimension of 24", and height is determined by the range standards. It is suggested that at minimum they be designed to accommodate the target used for police qualification, and the target used to qualify for the CCW permit.

**2.3 At the present time, the short range and long range should both be in cease fire and live fire status at the same time. No one should be down range on the long range if firing is taking place in the short range.**

### **3. Shooting Bays:**

- 3.1 **It is recommended that shooting into the lateral berms be prohibited and all rounds impact the backstop**
- 3.2 Shooters must be encouraged to place target frames near the backstop. It is understood that "tactical" type events use steel targets at various distances, however any rounds that miss these targets must impact the backstop.
- 3.3 It is suggested the bays have target frame holders installed near the backstop. These can be four feet apart for pistol shooting and qualifications. The target frame size for this type bays is typically 24 inches wide and tall enough to hold the style targets used in police and CCW qualifications.

### **4. Overall Operations:**

- 4.1 **When open to shooting, the NRA range Technical Team suggests the range be supervised by a Range master, RSO or equivalent. The range master could be issued a radio for emergency communication with the City and supplied with a trauma management kit and an AED for first aid emergencies.**
- 4.2 It is suggested that safety flags be installed at the three different range areas, which allows the Range master to provide a visual indication that shooting is occurring.
- 4.3 It is suggested that the Range Master be trained in first aid and AED techniques as part of a developed and implemented Emergency Management Plan.
- 4.4 **It is suggested that all authorized users sign a use and safety agreement/waiver and provide insurance naming the city and the property management company as coinsured.**
- 4.5 It is recommended that the range operator considers establishment of an employee health protocol, including pre-employment/volunteer assignment and annual, lead and hearing testing.
- 4.6 It is suggested that the City design and construct a system that catches all water runoff from the ranges into a double weir catchment basin before flowing off property. In the double catchment

basin design, all water flows into a catchment basin whose outflow is via a weir. When the water flows over the weir it goes into another catchment basin with another weir outflow.

**4.7 A policy should be established and aggressively enforced that prohibits the shooting in any direction but down range.**

4.8 Range Safety Rules should be posted between every 4<sup>th</sup> shooting lane. Other safety related rules of operation or expected behavior signs should be positioned in appropriate numbers and locations to provide the best opportunity for all shooters to see.

**4.9 The range firearm safety rules and other safety signs are not adequate for the number of shooting positions in this bay.**

**4.10 The current range check in procedure is not adequate to provide an expectation of appropriate shooting range etiquette and safety rules knowledge and behavior.**

DRAFT