

South Dakota Game, Fish and Parks
Draft Update to the Final Environmental Assessment
South Dakota Shooting Sports Complex
Meade County, South Dakota

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U.S. Fish and Wildlife Service

September 22, 2023

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NOTE: This Draft Update to the Final Environmental Assessment (EA) is intended to document the proposed changes in construction at the South End and North End Ranges at the South Dakota Shooting Sport Complex (previously known as the Rapid City Shooting Range) and provide another opportunity for all interested stakeholders to review and comment on the proposed changes. A summary of previous public involvement and comment opportunity is provided in Chapter 6: Public Involvement Process. The proposed changes to the project are summarized below:

Overall, the changes to the South End Range will remove one 100-yard bay (as the bay would be too close to the relocated section line), replace the stationary shotgun clay target area with three skeet fields, two fields will accommodate Olympic bunker traps, and alter the angle of ten shooting bays two degrees to the north to accommodate the Meade County shooting range ordinance. The proposed changes are further described in the Project Summary (1.4) and detailed in Figure 6.

Overall, the changes to the North End Range will remove the twelve shooting locations sporting clays course, relocate four of seventeen shooting bays to the south of the entrance road to alter the angle of the other thirteen shooting bays to accommodate the Meade County shooting range ordinance. The proposed changes are further described in the Project Summary (1.4) and detailed in Figure 7.

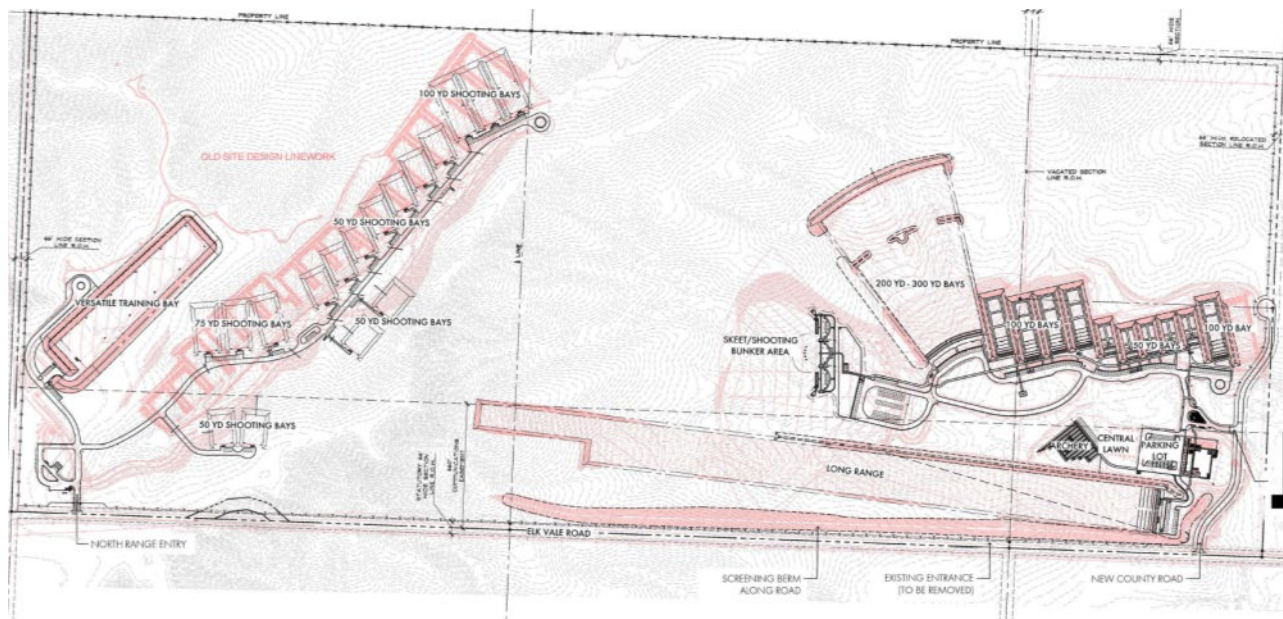


Figure 1. Overlay of the new range design (black) over the former design (pink), horizontal representation with the East end at the top.

CHAPTER 1: Need and Purpose for Proposed Action

1.1 NEED AND PURPOSE

An estimated population of 78,369⁵ in 2020 makes the City of Rapid City the second largest community in the State of South Dakota. A high concentration of shooting enthusiasts exists in this community and surrounding areas while access to safe places to shoot in the area are limited. Area shooting enthusiasts, members of the public and the City of Rapid City and surrounding areas, have all expressed support for a shooting range facility as a greatly needed, safe, controlled, patrolled, and accessible site for a variety of shooting disciplines.

Currently, there are no publicly owned and operated outdoor shooting facilities in the Rapid City area that include an outdoor range to accommodate pistol, rifle, and shotgun shooting activities in the same location. Existing shooting ranges are either private or offer shooting opportunities limited to short range rifle and pistol shooting. Shooting activity is also taking place on private land and scattered undeveloped public areas.

Therefore, the purpose of this project is to provide a range that is safe, confined, and a controlled location for shooting activities. Users of the range will include recreational shooters, hunters and other individuals and groups interested in shooting sports. All parts of the range will have ADA accessible areas.

1.2 BACKGROUND

In 2020, the South Dakota Game, Fish and Parks (GFP) put together a group to develop a strategic plan for the enhancement of shooting sports across South Dakota with an immediate goal of building a shooting range in the Rapid City area. GFP enlisted help from area realtors and others to search for property that could be suitable for a firearms range and in a location where the range would not impede neighboring landowners now and into the future. A stakeholder group was formed in February of 2021 consisting of shooting enthusiasts, city, county and state officials, local gun and shooting clubs, area retailers, and other interested parties. Following months of meetings, a draft Master Plan for the property was adopted. For more information on the Master Plan design visit https://gfp.sd.gov/userdocs/docs/southdakotashootingsportcomplex_booklet_spreads.pdf or Appendix A.

The property to be developed at the preferred site for this project was purchased from the 7 O Ranch LLC in 2021 by the South Dakota Parks and Wildlife Foundation (SDPWF). GFP purchased the property in March of 2022 from the SDPWF. The land was used primarily for agricultural and ranching purposes and only one minor improvement was made by the previous owner, an earthen berm created in one draw to collect water for cattle.

1.3 PROJECT LOCATION

The GFP proposes to construct a shooting range on property owned by GFP in Meade County, South Dakota (Figures 1 and 2). The proposed site is approximately 11 miles north of Rapid City on Elk Vale

Road and the legal description is W ½ Section 34, Township 4N, Range 8E and N ½ of NW ¼ Section 03, Township 3N, Range 8E with coordinates at North 44.261°, West -103.147°. The property is 400 acres of rolling prairie topography that is surrounded by rolling prairie (Figure 3).

Figure 2. State of South Dakota



Figure 3. Meade County, South Dakota

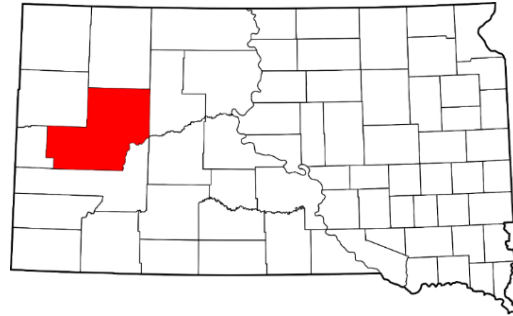


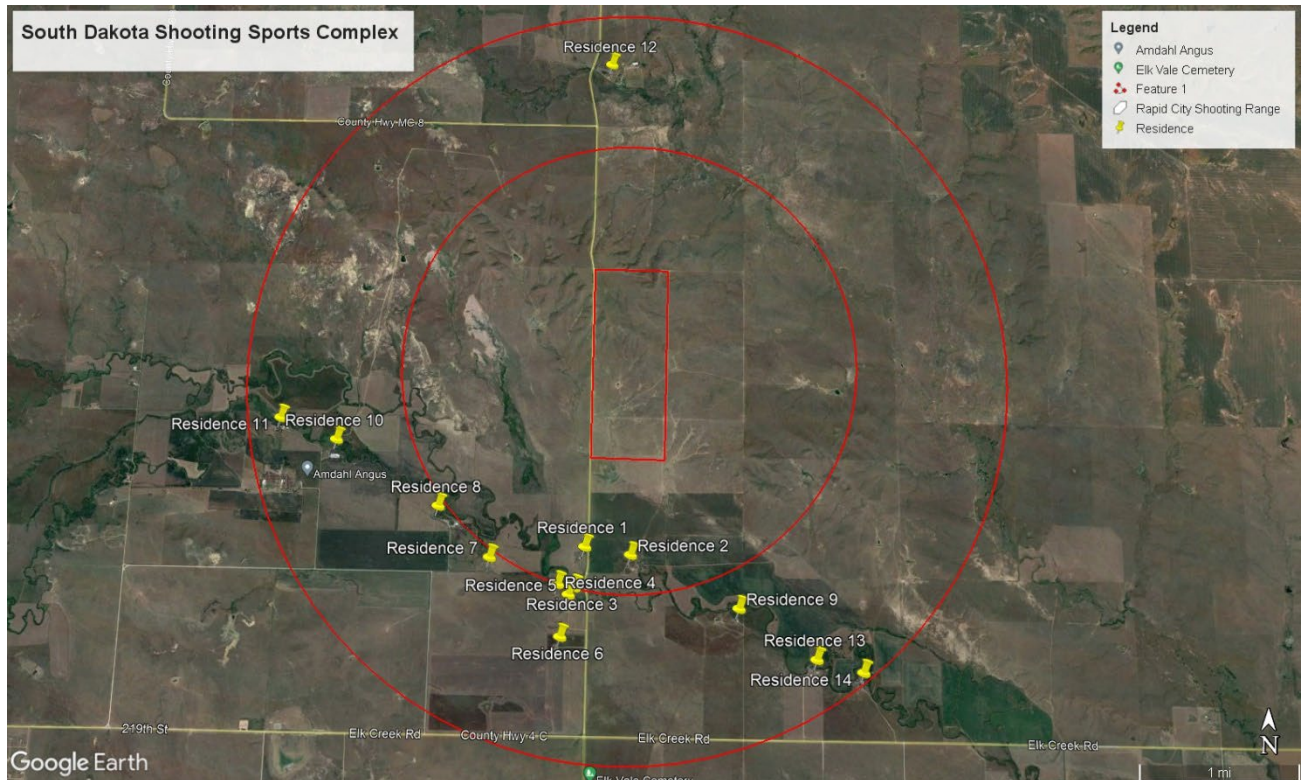
Figure 4. Project site for the proposed South Dakota Shooting Sport Complex



Two residences are located within a 1.5-mile radius from the center of the proposed shooting range property. There are fourteen residences located in a 2.5-mile radius from the center of the proposed range (Figure 4). The closest two residences are located to the south approximately .68 miles from the

southern property boundary of the proposed shooting range. Thirteen of the fourteen residences are located to the south of the property. There is one residence located approximately 1.5-miles from the northern property boundary.

Figure 5. Residences in relation to the proposed shooting range. (The smaller red circle is 1.5-mile radius from the center of the shooting range and the larger red circle is 2.5-mile radius from the center of the shooting range.)



The range will be designed with an east, northeast shooting direction on the south end of the range and east, southeast shooting direction on the north end. A site analysis was completed using wind roses to characterize the speed and direction of winds at this location. It was determined that during most months of the year the wind blows the greatest amount of time from a northwest direction (Appendix A, Master Plan).

1.4 PROJECT SUMMARY

The proposed improvements to be made at the site include an outdoor shooting range consisting of pistol and rifle ranges, three skeet fields with two Olympic/Bunker Trap areas, a 50 yard by 300-yard versatile training area, an archery range, and a Hunter Education Building that will include a twelve-lane indoor archery/air rifle range. Other amenities include sheltered shooting bays, parking areas near bays, storage space, sidewalks, and vault toilets throughout the property. The range will be staffed with GFP personnel and volunteers, and it will be open to the public with hours to be determined. GFP does not anticipate that there will be shooting activities at the complex all day on every day of the week, and they will implement hours of operation to ensure that shooting activities do not occur at inappropriate times.

While specific times will be determined in reaction to public need once the range is open, public shooting hours will not include hours after dusk or before dawn.

The improvements will be broken down into three areas, Long-Range, South End Range, and the North End Range. The Long Range area located on the southwest end of the property will consist of one bay with twenty lanes with two shooting positions in each lane. The bay will utilize various targets ranging from 300 yards to 1,200 yards in distance. A 20-lane archery shooting range will be included in the area that will range in distances from 30 yards to 80 yards. A Hunter Education Building is also included in the area. The range will be staffed by GFP personnel and volunteers both before and after the hunter education building is constructed. The Hunter Education building will house a staff office that has good visibility of the range and twelve indoor archery/air rifle lanes. A gravel parking lot with approximately 100 stalls will accommodate visitors and a green area for additional parking and outdoor activities (Figure 6).

The South End Range located on the southwest end of the property will consist of five 50-yard bays with five shooting lanes each, five 100-yard bays with ten shooting lanes each, a 200-300 yard shooting area with forty shooting positions, two Olympic bunker trap areas that can also be converted to a three skeet/5 stand clay target area, gravel roads and gravel parking spots to accommodate approximately 100 visitors, and vault toilets located throughout the area. Non-toxic shotgun shot will be encouraged for the shotgun shooting area (Figure 6).

The North End Range is located on the North end of the property and is protected by topography having a draw between it and the Long-Range and South End Range. The North End Range will consist of eleven 30 yards wide by 50 yards long bays, three 30 yards wide by 75 yards long bays, three 30 yards wide by 100 yards long bays, and one 50 yards wide by 300 yards long bay to be used as a versatile training bay. Gravel roads and gravel parking areas for each bay, will be constructed and vault toilets will be located throughout the area (Figure 7).

Figure 6. South End Range and Long-Range Layout (North end is at the top)

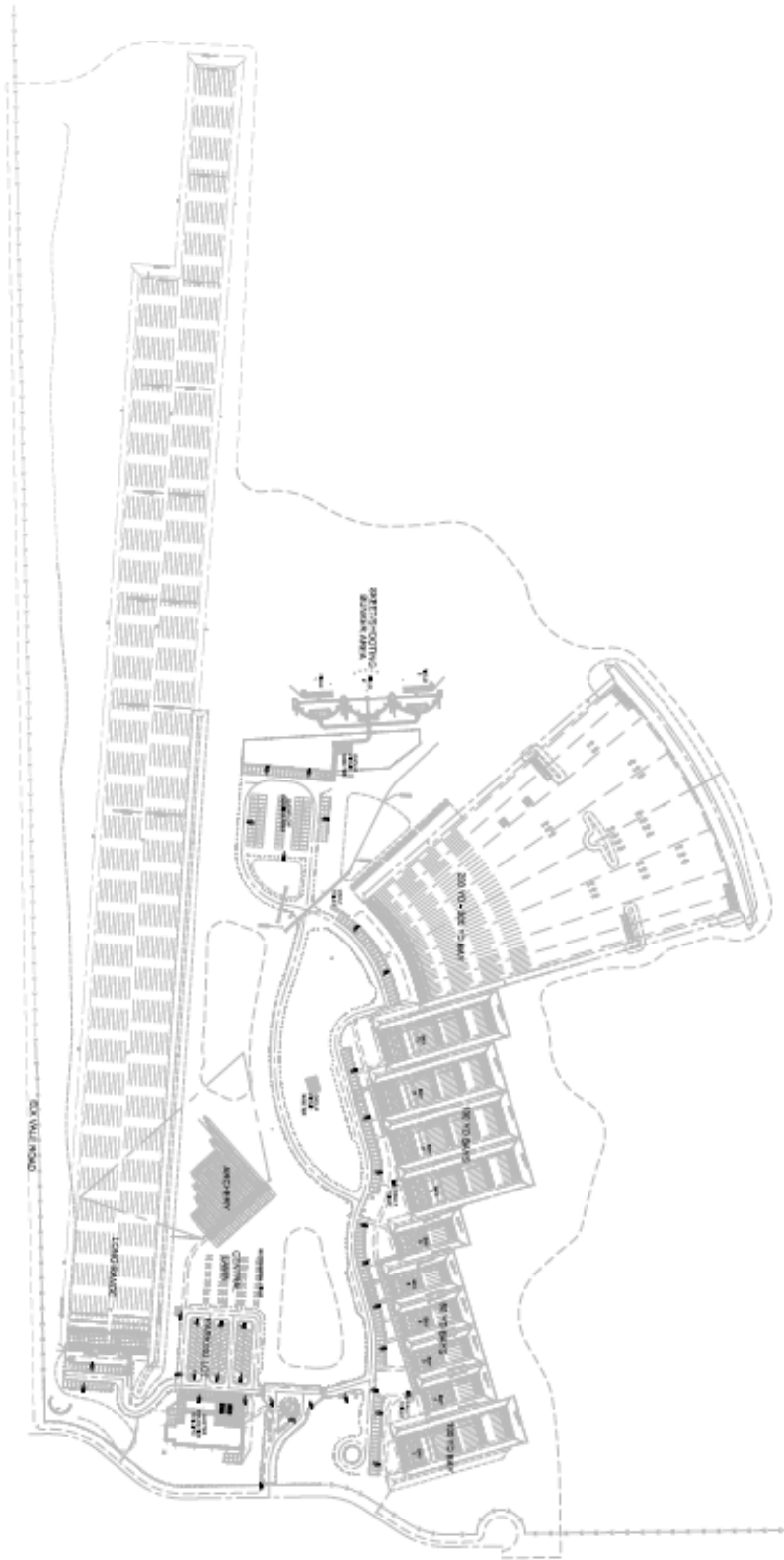


Figure 7. North End Range Layout (North end is at the top)



All shooting bays will be constructed with dirt side berms at a minimum height of 12' and minimum 20' end berm height. Berms will be constructed higher as needed to maintain safety at the range. The dirt berms will be constructed utilizing material that will come from within the boundaries of the project site.

Figure 8. Overlay of the new range design (black) over the former design (pink), horizontal representation with the West end at the top

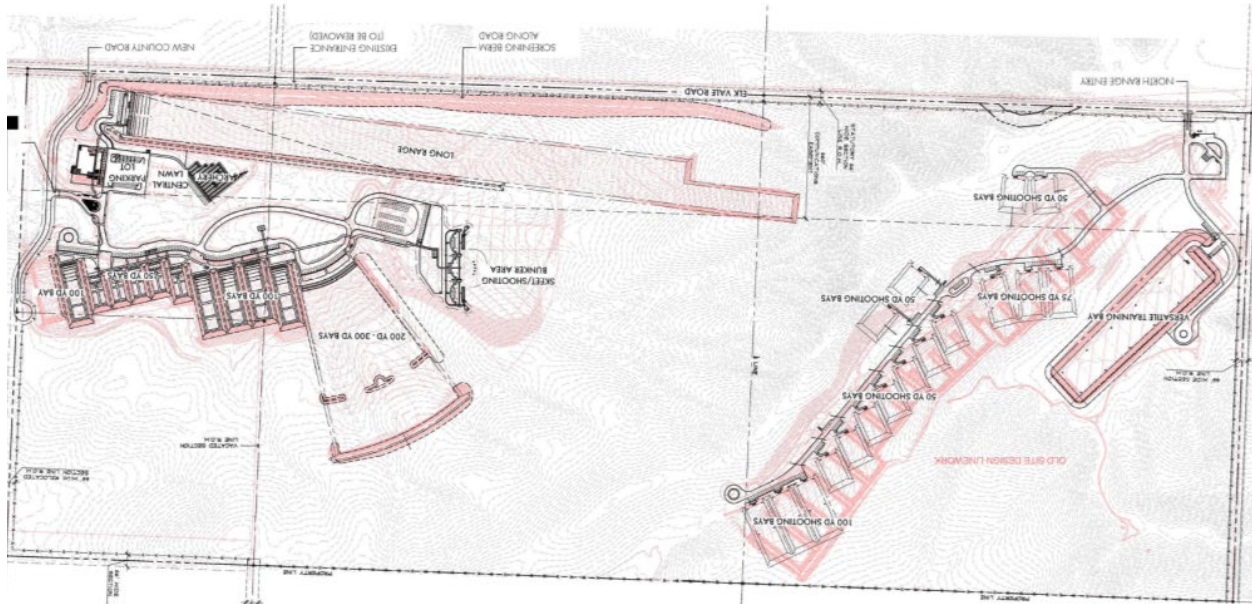


Figure 9. Previous Range Layout of the SD Shooting Sports Complex



Lead management guidelines in the EPA's Best Management Practices for Lead at Outdoor Shooting Ranges manual (Revised June 2005)¹ will be implemented at this site. In the design of the range the BMPs that will be implemented will be utilizing clay-based soils that are naturally present at the shooting range site that will act as a barrier to control the mobility of soluble lead. The side and end berms of each shooting bay will also control the flow of surface water so lead particles will remain within each shooting bay.

GFP will also implement engineered runoff controls to slow the speed of surface water runoff. This will effectively help filter any lead material out of the water if it were to escape the bermed shooting bays. The engineered runoff controls will include small dams and dikes, leveled shooting bays and areas, and swales to lengthen the runoff area to further let lead settle out within the footprint of the shooting range. This range will also utilize vegetation as another control to slow the speed of surface water runoff. GFP is committed to keep all lead contamination within the property boundaries of the range.

Per the Interstate Technology and Regulatory Council's Environmental Management at Operating Outdoor Small Arms Firing Ranges, vegetative controls; "reduce the eroding impact of heavy rain on the soil surface, slows down the flow of surplus water over its surface, binds the soil more tightly through the root systems, and filters out lead particles or other constituents of concern from runoff water."³ In a study conducted by EA Engineering, Science and Technology, Inc. "Lead Mobility At Shooting Ranges"⁴, in summary it stated "metallic lead is slowly oxidized to forms that dissolve and becomes slightly mobile in the environment. The rates at which metallic lead will oxidize and migrate to the water column is therefore very slow. Complete corrosion of bullets and shot through oxidation and dissolution may take as much as 100-300 years or longer."

1.5 OPERATION AND MAINTENANCE

Operation and Maintenance of the gun range property will be the responsibility of GFP. GFP currently operates and maintains seven firearms shooting facilities around the state of South Dakota and is well versed in operating and maintaining shooting ranges. GFP also partners with several third-party entities to help with operation and maintenance of shooting ranges. GFP is also well versed in the proper operation and maintenance of vault toilets. With properly maintained vault toilets, the smell disperses through a vent pipe and is dispersed into the fresh air in a relative short distance. Vault toilets that are pumped and recharged regularly will significantly reduce the smell in the immediate area of the vault toilets. GFP operates and maintains numerous vault toilets on other GFP properties including parks, campgrounds, and lake access areas.

GFP will also routinely implement lead recycling and recovery activities such as raking and screening. Depending on the amount of usage at the range, GFP will hire a professional lead recycler to come in and clean the berms and shooting areas. All lead recovered will be disposed of properly at a lead recycler and will be documented at each occurrence.

1.6 FUNDING

Estimated project costs for the entire project will be approximately \$19,905,524. Funding sources for this proposed project are GFP, Pittman-Robertson Federal Aid in Wildlife Restoration Act funds administered through the U.S. Fish and Wildlife Service (USFWS), and private donations.

1.7 DECISIONS THAT NEED TO BE MADE

All local, state, and federal laws and regulations are being followed. GFP has consulted and is working closely with agencies such as the South Dakota Department of Agriculture and Natural Resources, United States Army Corps of Engineers, State Historic Preservation Office, and United States Fish and Wildlife Service to mitigate or address any potential environmental issues with this project. GFP is closely following and will continue to follow the EPA's Best Management Practices for Shooting Ranges¹.

GFP and the USFWS will select one of the alternatives reviewed in this environmental assessment and the USFWS's Regional Director will determine if this environmental assessment is adequate to support a finding of no significant impact decision or if an environmental impact statement will be required.

CHAPTER 2: ALTERNATIVES

2.1 PROPOSED ACTION ALTERNATIVE

The site described in Project Location (Chapter 1.3) is the proposed action alternative because it had many of the desired amenities supportive of the strategic plan goal for building a shooting range in the Rapid City area that would be easily accessible to the public and that would provide a safe, confined, and controlled location for shooting activities. GFP has contracted with third-party engineers to properly engineer this shooting range to implement mitigation efforts as described in this document.

2.2 NO ACTION ALTERNATIVE

Under the no action alternative, the proposed project site would continue to be used as agriculture/ranch land and no additional shooting facilities would be constructed in the area. Recreational shooting at scattered sites in the area would continue to be the norm and basic shooting safety issues would continue to be an issue.

2.3 ALTERNATIVES CONSIDERED BUT DISMISSED

GFP has considered other locations to develop a public shooting range. Initially, a property was identified along SD Highway 44 by Caputa, SD and GFP partnered with third-party entities in hopes of purchasing this much larger tract of land to develop a public shooting range along with other amenities. However, due to funding issues and other circumstances, the tract of land was not able to be purchased and the tract of land was eventually sold to a different third-party that is utilizing the land as a ranch and could no longer be used as an alternative location for a shooting range.

A property south of New Underwood, SD was also identified. The property was land locked (meaning there was no available access road and had other property owners on all four sides of the property), neighbors were located less than one quarter of a mile away to a potential shooting range, and the price per acre was much higher than the preferred location. For these reasons, this tract of land was not considered a viable for a shooting range.

GFP also investigated the alternative of expanding the Fall River Shooting Range located approximately 45 miles away from the southern portion of Rapid City, SD. The Fall River Shooting Range is also located approximately one hour of travel time away from the main population area GFP is attempting to reach along the I-90 corridor around Rapid City, SD to include but not limited to Summerset, SD, Blackhawk, SD, Sturgis, SD, Box Elder, SD, and Ellsworth AFB. However, the existing shooting range already utilizes the entire property as a shooting range. Therefore, GFP is not able to expand the existing shooting range and accommodate the main population area we are trying to reach, and therefore is not a viable alternative for this project.

CHAPTER 3: AFFECTED ENVIRONMENT

3.1 PHYSICAL ENVIRONMENT

The physical environment of the property is in a Semiarid Pierre Shale Plains on the Northwestern Great Plains. The preferred project site is located in rural Meade County and is currently used as grazing land for a cattle ranch. The preferred project site is currently surrounded by rolling plains and is utilized for agricultural/ranching purposes.

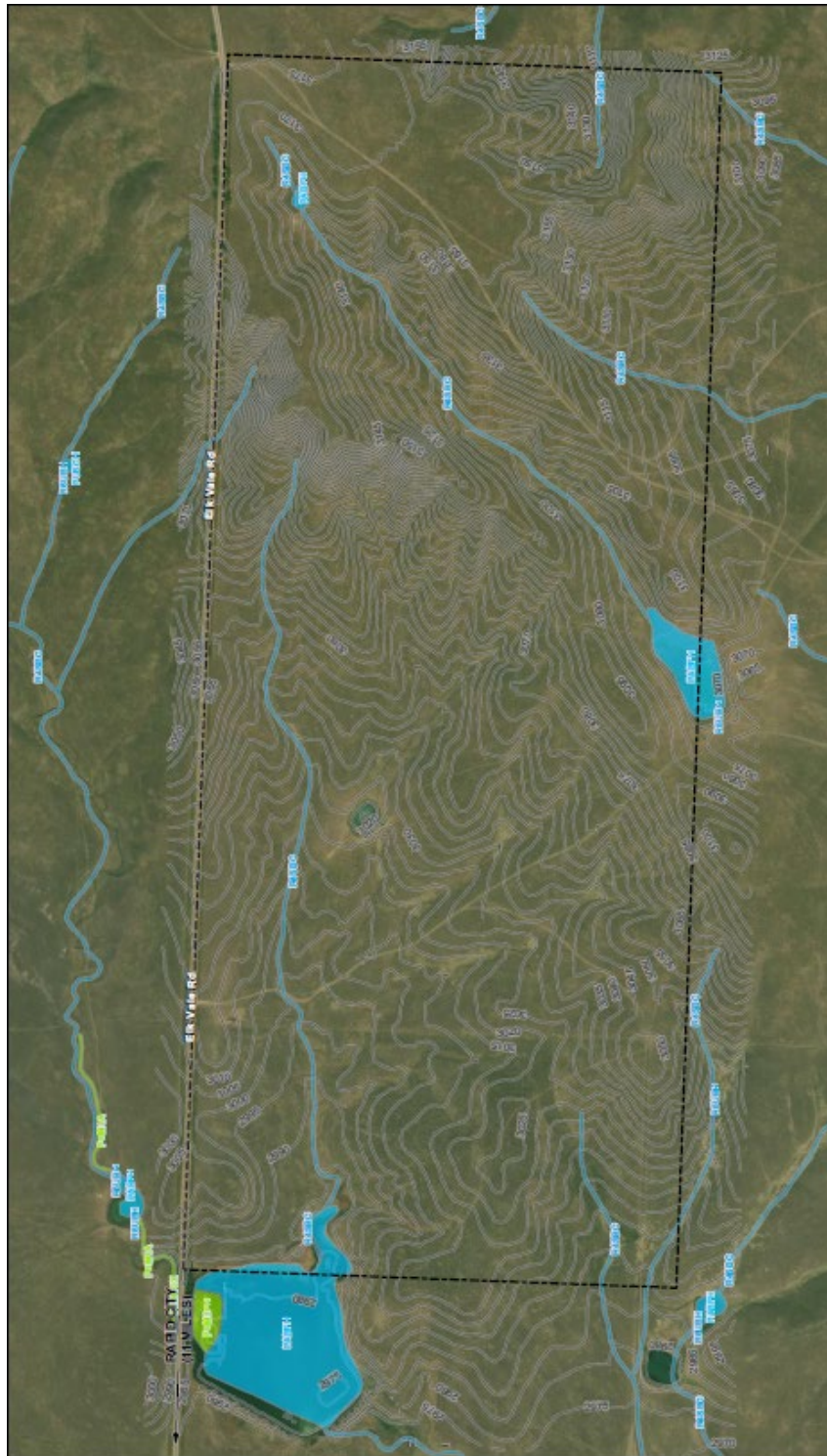
3.2 WATER

An evaluation by FMG Engineering staff using field observations on November 16, 2021, desktop review of aerial imagery, NRCS soil data, and National Wetland Inventory data, determined that there are four areas of runoff streambeds within the project scope that are considered R4SBC which means they are riverine, intermittent streambeds that seasonally flood. There is also one small manmade impoundment that is considered PABFh which means it is a palustrine, aquatic bed that is semi permanently flooded diked/impoundment. (Figure 10). The intermittent seasonally flooded areas inside the project area will be minimally impacted as the design of the range incorporates the intermittent seasonally flooded areas.

While reviewing the wetland areas and the topographical maps, engineers were able to identify two major drainage basins (Appendix E). This helped identify where water will flow, and the engineers were able to design proper runoff controls to keep lead contaminated water confined within the property boundaries. There are currently no designated floodplains on the property per Federal Emergency Management Agency (FEMA) Flood Hazard Boundary Map (Appendix F). According to the National Oceanic and Atmospheric Administration (NOAA), on average this area only receives around 17.44 inches of moisture per year⁷ (Appendix H).

Some of the riverine areas may need to be crossed. Culverts covered by gravel will be utilized to protect the flow of the riverine areas. A jurisdictional determination was completed by the Army Corps of Engineers and they have determined that there are no waters of the United States within the review area (Appendix E).

Figure 10. Water Resources

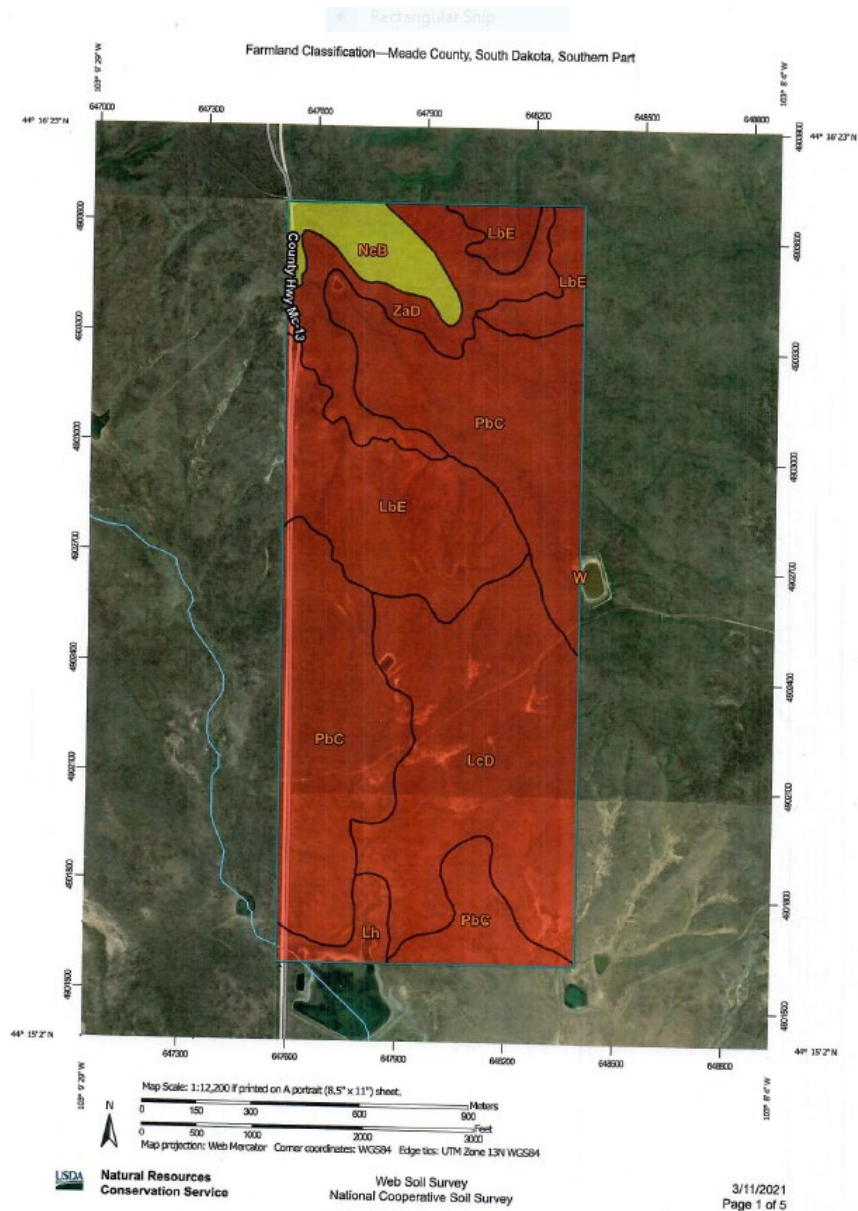


Note. The image depicts a USFWS, NWI Wetlands Map overlaid with the topography and property boundary lines and demonstrates the surveyed highwater marks during historically wet years.

3.3 SOILS

Soil types present in the construction areas include: KbB: Kyle clay, 2 to 6 percent slopes (0.0%), LbE: Lismas clay, 10 to 40 percent slopes (18.6%), LcD: Lismas-Winler clays, 6 to 25 percent slopes (27.1%), Lh: Lohmiller and Glenberg soils, channeled (2.4%), Ncb: Nunn clay loam, 2 to 6 percent slopes (4.3%), PbC: Pierre clay, 6 to 20 percent slopes (38.3%), ZaD: Zigweid-Nihill complex, 6 to 15 percent slopes (9.1%), W: Water (0.1%). Nun clay loam (NcB) encompasses 4.3% of the soil type and is considered prime farmland if irrigated per the National Resources Conservation Service (NRCS) (Figure 11).

Figure 11. NRCS Soil Survey, March 11, 2021



3.4 AIR QUALITY

The project area is in a rural area and has no known air quality measurements.

3.5 TOPOGRAPHY

Elevations at the preferred site (Figures 12 and 13) show an increase of approximately 175 feet in elevation from the south end of the range to the north end of the range. The Long Range and South End Range will be constructed on the south end of the property where there is minimal elevation change while utilizing a ridge that runs from the northwest side of the property into the middle section of the property as a natural berm. The North End Range will be constructed on the backside of the ridge that has minimal decrease in elevation running northwest to southeast. Construction of the ranges will utilize the natural elevation changes throughout the property to use as natural berms for shooting bays.

Figure 12. *Topography at South End of Range (5 Feet Contours)*

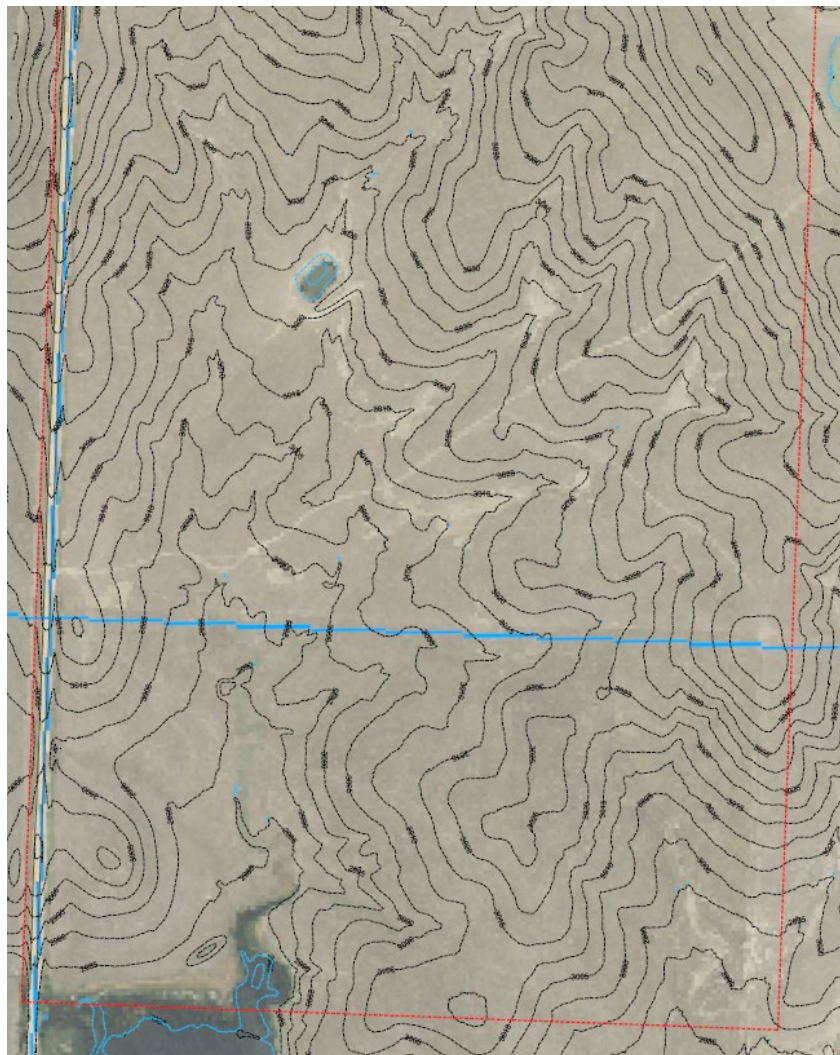
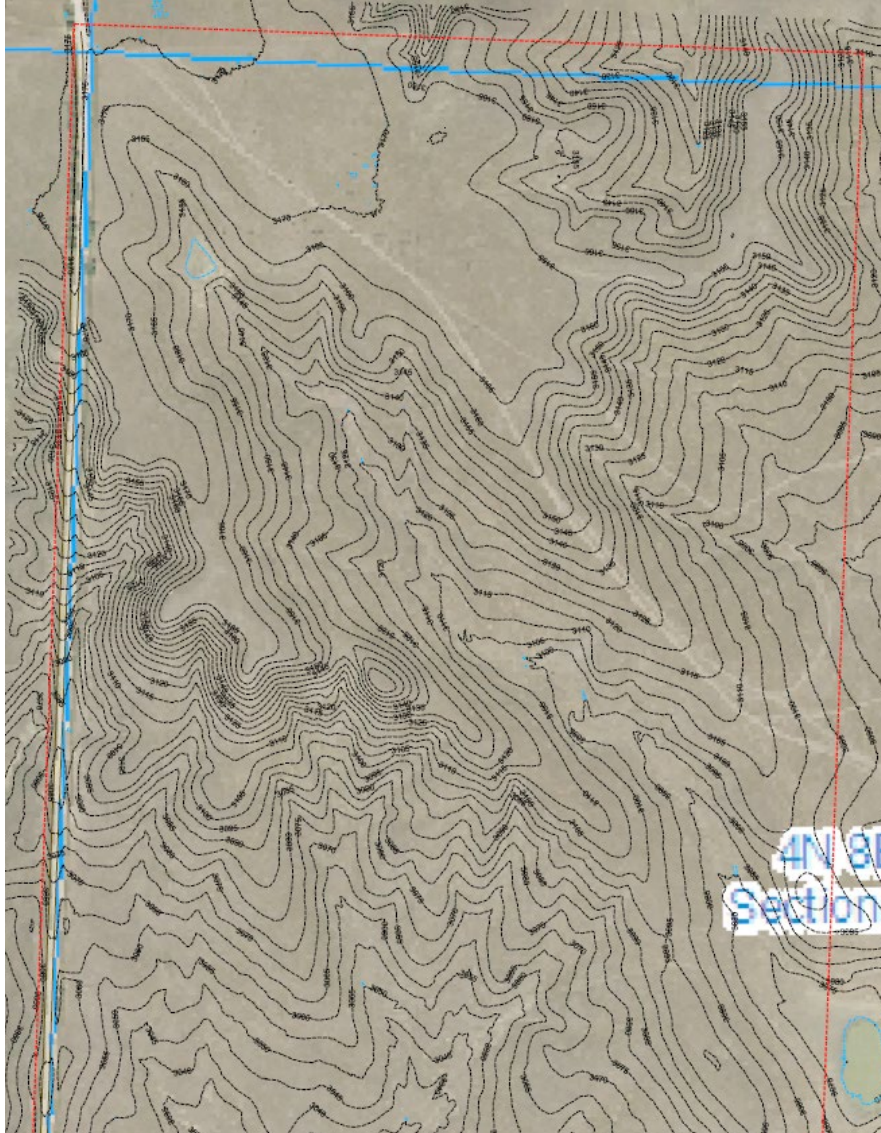


Figure 13. Topography of North End of Range (5 Feet Contours)



3.6 BIOLOGICAL RESOURCES

Biological resources at the preferred site are a mixture of vegetation typical to this part of South Dakota. The area contains a mixture of natural short prairie grasses which include blue gramma, buffalograss, little bluestem, prairie junegrass, and threadleaf sedge. The area has not been previously disturbed. The South Dakota Heritage Database states that there are not any threatened, endangered or candidate biological resources present at this location.

3.7 WILDLIFE

Wildlife at the preferred site is typical to this part of South Dakota. Bird species documented at the site include mourning dove, raptors, sharp-tailed grouse, and migratory songbirds. Common mammals found

on-site include mule deer, pronghorn, raccoon, skunk, badger, fox, coyote, jack rabbits and an occasional white-tailed deer. Reptiles utilizing the site include garter snakes, bull snakes, rattle snakes, painted turtles and snapping turtles during periods of high moisture. Birds of Conservation Concern (BCC) considered potentially affected by project activities per the USFWS' Information for Planning and Consultation (IPaC⁶) are bald eagles, lesser yellowlegs, and red-headed woodpeckers, however, these resources are not known to be present in the proposed project area. A search of the SD Heritage Database does not find any occurrences of these birds in the immediate project area.

3.8 FISH AND OTHER AQUATIC SPECIES

No fish and other aquatic species are deemed present at the preferred site. There is no year around water sources that are sustainable for fish and other aquatic species to inhabit the area permanently. Threatened, endangered or candidate fish and aquatic species are not known to be present. While stocking fish during wet times may provide fish and fishing opportunities for a limited time in these areas, it will not provide for sustainable fishery unless stocked routinely only during wet years when water is readily available (Figures 14-23). The previous landowner, who is also the landowner of the stock dams that are in and around the immediate vicinity of the proposed shooting range, stated he has never stocked the dams with fish. The landowner has owned the land since 2012.

Figure 14. July 2005



Figure 15. August 2006





Figure 16. April 2013

Figure 17. May 2017





Figure 18. *Aerial image of the property, Winter 2022.* Note. The image depicts the area after a snow showing the stock dams frozen out after a snow event.

Figure 19. *North Stock Dam*



Figure 20. *East Stock Dam (not on property but overflows onto proposed property)*



Figure 21. *South Stock Dam*



Figure 22. *South Stock Dam*



Figure 23. *Central Stock Dam (Not Claimed by USACE)*

3.9 THREATENED AND ENDANGERED SPECIES

There are no known occurrences of endangered, rare, or threatened species in the immediate project area. The U.S. Fish and Wildlife Service's system to identify potential species presence, IPaC⁶, indicated northern long-eared bats, red knots, whooping cranes, and monarch butterflies could be present. However, a search of the SD Natural Heritage Database does not find any occurrences of endangered, rare, or threatened species in the immediate project area (Appendix D).

3.10 HISTORIC AND CULTURAL RESOURCES

A Class I Cultural Resources Record Search was conducted by the Archaeological Research Center (ARC). There was no record of cultural or historical findings in the immediate project area. While there was no record of documented cultural or historical resources there has been no survey conducted in the immediate area. Due to the project area not being disturbed a Cultural and Historical Survey was ordered to ensure that no archaeological resources are present.

ARC was given the Rapid City Shooting Sports Complex (now referred to as South Dakota Shooting Complex) Master Plan to document where areas of disturbing the soil will be encountered. ARC completed a Class III Intensive Cultural Resources Survey on the proposed property. Investigators documented five new archaeological sites. Site 39MD1025 is an American Indian stone cairn site of unknown temporal or cultural affiliation. No cultural materials were observed in association with the features. No subsurface testing was conducted in the immediate area due to low buried site probabilities due to the type of soil. Sites 39MD1026, 39MD1027, and 39MD1028 are American Indian isolated finds of unknown temporal or cultural affiliation. Site 39MD1029 is an American Indian isolated find of Archaic or Late Prehistoric temporal affiliation. As a result of the survey, the isolated finds were found to possess little integrity and offer limited research potential to prehistoric procurement and modification activities in the region. Relative to site 39MD1025, the investigators recommended and SHPO concurred with the "No Historic Properties Affected" determination so long as all project activities avoid impacts to site 39MD1025 now and in the future (Appendix B).

3.11 LAND USE

The preferred site is currently being utilized as a pasture for grazing cattle. The previous owner of the parcel utilized the land for a large cow/calf ranch operation.

3.12 SOCIOECONOMIC CONDITIONS

The preferred project site is located in rural Meade County and is currently used as grazing land for a cattle ranch. The preferred project site is currently surrounded by rolling short grass plains and has not been developed for anything other than grazing cattle during certain times of the year. The land currently does not provide a substantial socioeconomic value past the previous landowner, as the general public was not allowed to utilize the land.

3.13 NOISE

Noise levels at the preferred site are considered generally low since the property has not been developed for uses that generate increased use or traffic and instead the site is used as pasture for grazing cattle. The nearest airport (Ellsworth Air Force Base) is located approximately seven miles away and the nearest railroad is located approximately eleven miles away. The preferred location is located along a county road that is paved but turns into gravel approximately one mile from the proposed shooting range. Regular shooting activities outside of hunting seasons do not currently occur in the preferred location.

There are 14 residences located in a 2.5-mile radius from the center of the proposed range. The closest two residences are located to the south approximately 0.68 miles from the southernmost property boundary. The remaining 12 residences are located approximately one mile or more away from the property boundaries.

CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

The Proposed Action Alternative is to construct a new public shooting range complex on 400 acres of rolling, short grass prairie that is currently being utilized for agricultural/ranching purposes. Three areas of the property will be converted from use as grazing land for a cattle ranch and developed into a shooting range facility to accommodate a greatly needed, safe, controlled, patrolled, and accessible site for a variety of shooting disciplines.

Environmental consequences of the proposed project will be examined in this section and the results will be identified as either “No Significant Impact” or “Mitigation Required”. A determination of “No Significant Impact” will be made if the proposed action will not significantly impact the environment. A determination of “Mitigation Required” will be made if the proposed action will have an impact on the environment and recommended mitigation measures will be identified to reduce the overall impact to the environment.

4.1 WATER

Alternative A – Proposed Action Alternative – Mitigation Required

Note: An updated Environmental Review was conducted by the SD Department of Agriculture and Natural Resources relative to the proposed changes in construction at the ranges and potential project impacts to natural resources. Based on the information provided, DANR still determined that the project is unlikely to have adverse effects on natural resources (Appendix C).

An Environmental Review was conducted by the South Dakota Department of Agriculture and Natural Resources (DANR) relative to the proposed project impacts to natural resources. DANR assessed project impacts to water resources including drinking water, ground water, and surface water among other potentially affected resources. DANR determined that the project will not have adverse environmental effects to drinking water in the area and that the project is unlikely to have adverse effects on ground water quality provided recommended design criteria and best management practices are followed

(Appendix C). Lead management guidelines in the EPA Best Management Practices for Lead at Outdoor Shooting Ranges manual (Revised June 2005)¹ will be implemented at this site to protect the ground water resources in this area. DANR also assessed the proposed project impacts on surface water and determined that at a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site. Lead management guidelines in the EPA Best Management Practices for Lead at Outdoor Shooting Ranges manual (Revised June 2005)¹ will be implemented at this site to protect the surface water resources in this area. Elk Creek is located approximately 0.75 miles from property boundary of the shooting range and GFP is committed to not allowing lead to exit the property boundaries of the range. GFP will follow all recommendations made by DANR and will apply for all pertinent permits prior to construction. During construction activities some of the riverine areas may need to be crossed. Culverts covered by gravel will be utilized to protect the flow of the riverine areas

The topographical survey conducted by third-party engineers (Figures 12 and 13) will help determine the direction of surface water runoff and the project will utilize engineered runoff controls to minimize potential runoff and also level areas to create shooting bays with berms on three sides to control the runoff from areas of shooting. Per EPA BMPs (Ch 2, pII-2)¹ annual precipitation is one of the most important factors that influence lead degradation and migration. This location only averages around 17.44 inches of moisture per year per NOAA⁷.

Additionally, DANR recommended that the shooting range facility should be designed with permanent measures to ensure that all storm water is contained and does not run off site or run to waters of the state. GFP officials and DANR officials met on November 22, 2021, to discuss the surface water and mainly the comment “Additionally, the shooting range facility should be designed with permanent measures to ensure that all storm water is contained and does not run off site or run to waters of the state.” After the discussion it was clarified that storm water may leave site, but contaminated storm water should not leave the site. As a result of this discussion, DANR recommended the use of BMP’s rather than retention ponds to keep lead out of any water that could get into waters of the state, and therefore the project will incorporate those BMPs (Appendix C). The hired contractor will apply for stormwater permits from DANR for the construction of the range only, in order to comply with the legal requirements.

Finally, DANR advised that impacts to tributaries, creeks, wetlands, and lakes should be avoided by the project assuming the waterbodies were identified as waters of the state. However, a jurisdictional determination was completed by the Army Corps of Engineers on January 26, 2022, and they have determined that there are no waters of the United States within the review area (Appendix E).

Alternative B – No Action Alternative – No Significant Impact to water if no action is taken.

4.2 SOILS

Alternative A – Proposed Action Alternative – Mitigation Required

All of the soil required to construct the shooting range will come from the existing soils within the project area. When earth shaping activities are finished and construction is complete then topsoil will be

placed in appropriate areas and seeded. In total 778,550 cubic yards of dirt will be moved to level, grade, and create vegetative swales for lead management and proper berm height to contain bullets.

To complete the Long Range and hunter education building portion of the shooting complex, approximately 180,550 cubic yards of dirt will be moved to grade the area for proper runoff and lead management of water runoff and to create 12 feet minimum side berms and 20 feet minimum end berm. All the dirt that will be moved will come from the area of the Long Range and hunter education building. To complete the South End Range, approximately 306,800 cubic yards of dirt will be moved to grade the area for proper runoff and lead management of the water runoff and to create 12 feet minimum side berms and 20 feet end berms. All the dirt that will be moved will come from the area of the South End Range. To complete the North End Range, approximately 291,200 cubic yards of dirt will be moved to grade the area for proper runoff and lead management of water runoff and to create 12 feet minimum side berms and 20 feet minimum end berms.

Lead management guidelines in the EPA Best Management Practices for Lead at Outdoor Shooting Ranges manual (Revised June 2005)¹ will be implemented at this site. Lead management will include the use of natural earthen backstops and natural vegetation to control and contain spent shot on the trap range. Lead migration will be prevented from reaching nearby waterways by leaving existing perimeter berms in place to keep all lead shot contained within the footprint of the outdoor shooting range. Lead shot will be removed and recycled from soils as needed by utilizing the services of a commercial lead recycler and documenting lead management activities will be the responsibility of GFP. GFP will also routinely test the soil pH and adjust utilizing Lime/Phosphate (lawn fertilizer) to adjust the pH as needed for substantial lead binding to the soils for reclamation.

Alternative B – No Action Alternative – No Significant Impact to soils if no action is taken.

4.3 AIR QUALITY

Alternative A – Proposed Action Alternative – No Significant Impact

Note: An updated Environmental Review was conducted by the SD Department of Agriculture and Natural Resources relative to the proposed changes in construction at the ranges and potential project impacts to natural resources. Based on the information provided, DANR still determined that the project is unlikely to have adverse effects on natural resources (Appendix C).

DANR reviewed the preferred location on November 15, 2021, and stated there may be minor impacts to air quality in South Dakota (Appendix C). DANR determined that the impact would be through source and fugitive emissions potentially from the operating equipment with point source emissions. GFP will follow the guidance of DANR and apply for proper permits for the Rapid City Area. In addition, GFP discussed the issue with Meade County's Deputy Director of Planning and he stated that we will not need air quality permits for the proposed South Dakota Shooting Sports Complex.

Alternative B – No Action Alternative – No Significant Impact to air quality if no action is taken.

4.4 TOPOGRAPHY

Alternative A – Proposed Action Alternative – Mitigation Required

Natural existing berms within the current topography will be utilized for this project. During construction some material will be moved away to widen, lengthen, or increase the height of the natural topography. This alteration of the topography of the area will not significantly alter the character of the preferred location.

GFP determined this was a preferred site since the topography of the property follows EPA’s BMPs¹ in areas where construction will take place. While there are areas of extreme slope and rugged terrain, the construction will not take place in those areas. The construction is designed to utilize the topography to follow BMPs that include an earthen backstop that is generally between 15 and 20 feet high with a recommended slope as steep as possible (EPA BMP for Lead Outdoor Shooting Ranges, P III-2)¹. The BMPs also state that for shotgun range reclamation the area should be level and flat if possible PII-5)¹. The versatile training bay and the main shotgun areas will be constructed on relatively flat topography (Figures 24-29). We are also building gravel roadways for easily accessible shooting areas so heavy lead reclamation equipment can enter as needed.

Alternative B – No Action Alternative – No Significant Impact to topography if no action is taken.

Figure 24. *50 – 100 Yard Shooting Bays Area*



Figure 25. *200 – 300 Yard Shooting Bays Area*



Figure 26. *Long Range Shooting Area Side View*



Figure 27. *Olympic Bunker/Skeet/5-Stand Trap Area*



Figure 28. *Versatile Training Bay Area*



Figure 29. *Action Bay Area*



4.5 BIOLOGICAL RESOURCES

Alternative A – Proposed Action Alternative – No Significant Impact

Areas disturbed during construction of the shooting range at the preferred location will be seeded to permanent vegetation suitable for mowing and lead reclamation. Vegetation, once established, will not be disturbed beyond normal operation and maintenance activities such as lead reclamation to impact areas of the back berms of the shooting bays.

Alternative B – No Action Alternative – No Significant Impact if no action is taken.

4.6 WILDLIFE

Alternative A – Proposed Action Alternative – No Significant Impact

GFP environmental review staff visited the preferred location on October 21, 2021. The review determined that there is no anticipated significant impact to fish and wildlife resources at the preferred location (Appendix D). Further, there are no occurrences of endangered, rare or threatened species in the immediate project area. The project area is primarily pastureland that currently has heavy use from livestock grazing. There is very little suitable wildlife habitat on this property and very few documented occurrences of wildlife species in general (Chapter 3.7).

Alternative B – No Action Alternative – No Significant Impact if no action is taken.

4.7 FISH AND OTHER AQUATIC SPECIES

Alternative A – Proposed Action Alternative – No Significant Impact

No fish and other aquatic species are deemed present within the boundaries of the preferred location since there is no sustainable habitats for fish and other aquatic species within the project location. While there are two small impoundments in the area, they generally dry up during dry years making it uninhabitable for fish and other aquatic species to permanently occupy the preferred project site (Figures 14-23). The previous landowner who is also the landowner of the stock dams that are in and around the immediate vicinity of the proposed shooting range stated he has never stocked the dams with fish. The landowner has owned the land since 2012. GFP will utilize EPA's BMPs¹ to make sure spent rifle, pistol, and shotgun lead will be confined within the footprint of the shooting range and prevented from reaching nearby waterways by creating side and rear shooting range berms during construction and utilizing vegetation and lead recycling activities.

Alternative B – No Action Alternative – No Significant Impact if no action is taken.

4.8 THREATENED AND ENDANGERED SPECIES

Alternative A – Proposed Action Alternative – No Significant Impact

Species considered per the USFWS' IPAC⁶ environmental review tool are northern long-eared bats, red knots, whooping cranes, and monarch butterflies. A search of the SD Natural Heritage Database does not find any occurrences of endangered, rare, or threatened species in the immediate project area. GFP has reviewed the preferred location on April 6, 2021. GFP conducted a search of the SD Natural Heritage Database for the preferred location and did not find any occurrences of endangered, rare, or threatened species in the immediate project area (Appendix D).

Alternative B – No Action Alternative – No Significant Impact if no action is taken.

4.9 HISTORICAL AND CULTURAL RESOURCES

Alternative A – Proposed Action Alternative – No Significant Impact

Note: An updated Project Consultation was conducted by the SHPO relative to the proposed changes in construction at the ranges and potential project impacts to natural resources. Based on the information

provided, SHPO still concurred with the determination of “ No Historic Properties Affected” for the proposed undertaking (Appendix B).

A Class I Cultural Resources Record Search was conducted by the Archaeological Research Center (ARC). There was no record of cultural or historical findings in the immediate project area. While there was no record of documented cultural or historical resources there has been no survey conducted in the immediate area. Due to the project area not being disturbed a Cultural and Historical Survey was ordered to ensure that no archaeological resources are present. ARC completed a Class III Intensive Cultural Resources Survey on the proposed property during the period of October 4-8, 2021. The survey documented five new archaeological sites. Site 39MD1025 is an American Indian stone cairn site of unknown temporal or cultural affiliation. No cultural materials were observed in association with the features. No subsurface testing was conducted in the immediate area due to low buried site probabilities due to the type of soil. Sites 39MD1026, 39MD1027, and 39MD1028 are American Indian isolated finds of unknown temporal or cultural affiliation. Site 39MD1029 is an American Indian isolated find of Archaic or Late Prehistoric temporal affiliation. As a result of the survey, the isolated finds were found to possess little integrity and offer limited research potential to prehistoric procurement and modification activities in the region. Relative to site 39MD1025, the investigators recommended a Section 106 Finding of No Historic Properties Affected determination relative to the proposed construction provided that all project activities avoid impacts to site 39MD1025 now and in the future.

South Dakota’s State Historic Preservation Officer (SHPO) reviewed the Class III Intensive Cultural Resources Survey for the South Dakota Game Fish and Parks South Dakota Shooting Sport Complex on November 17, 2021, and concurred with the Section 106 Finding of No Historic Properties Affected for the proposed action on the preferred site provided that the following stipulations are met: 1. Eligible site 39MD1025 is avoided by all project activities 2. Future development or construction at the shooting range, even that without federal funding, should avoid impacts to 39MD1025 and its immediate surrounding, as such future impacts to the site could be an adverse effect to the site which is reasonably foreseeable and later in time from the proposed current federal undertaking 3. All necessary gravel for the undertaking should come from an existing commercial source (Appendix B).

GFP will follow all recommendations and stipulations put forth by SHPO to meet all Section 106 requirements. GFP will also take precautions to protect site 39MD1025 such as, but not limited to, installing fences in strategic areas to protect sensitive locations, develop signage to make sure people stay on designated trails, and to protect the site from construction and on-going activities of the shooting range (Appendix B).

Alternative B – No Action Alternative – No Significant Impact if no action is taken

4.10 LAND USE

Alternative A – Proposed Action Alternative – No Significant Impact

After publishing the previous Final EA in 2022, Meade County passed a shooting range construction ordinance to regulate the construction of shooting ranges. GFP has updated the design of the shooting

range to comply with the Meade County Shooting Range Ordinance. GFP has received the proper permits to construct a shooting range at the preferred location.

Alternative B – No Action Alternative – No Significant Impact if no action is taken

4.11 SOCIOECONOMIC CONDITIONS

Alternative A – Proposed Action Alternative

The proposed shooting range will increase usage of the area and will result in a positive impact to the local economy through the increased sales of goods and services to the users of the shooting range. Gun range users generally benefit the local economy by purchasing fuel, food, lodging and retail goods from area businesses. Increased sales of goods and services will also increase sales tax revenues to the City of Rapid City and the surrounding areas. Elevate Rapid City recently completed an Economic Impact Scenario for Rapid City and determined that Rapid City and the surrounding areas could see a potential increase of approximately \$1,865,075 in worker earnings, 55 more jobs, and an approximate increase of \$376,363 in taxes on production and imports. For more information on the potential economic impact to South Dakota generated from the proposed South Dakota Shooting Range Complex go to: https://gfp.sd.gov/userdocs/docs/southdakotashootingsportcomplex_booklet_spreads.pdf or Appendix A.

Alternative B – No Action Alternative No significant impact will happen to the socioeconomic conditions if no action is taken

4.12 NOISE

Alternative A – Proposed Action Alternative – Some Mitigation

Noise levels will temporarily increase with the shooting range construction and normal operations at the shooting range will increase noise levels at the site on an ongoing basis. Although shots will be audible on an occasional basis, increased noise levels are not expected to pose a threat or disturbance to the residents living nearby.

GFP has designed the range with several noise mitigation techniques including the orientation of the entire shooting range. The range will be designed with an east, northeast shooting direction on the south end of the range and east, southeast shooting direction on the north end, 10-20 feet tall earthen berms on three sides of each shooting bay, and strategic placement of each range within the terrain. Most of the usage of the range will happen at the Long Range and South End Range sections that sit in a basin that is lower in elevation and oriented towards a ridgeline of more than 100 feet of positive elevation change. Overhead shade structures over the line of fire will also assist to buffer the noise coming from the shooting ranges as will vegetation and noise reducing material that will be applied where necessary to dampen noise leaving the range. GFP does not anticipate that there will be shooting activities at the complex all day on every day of the week and will implement hours of operation to ensure that shooting activities do not occur at inappropriate times. While specific times will be determined in reaction to public need once the range is open, public shooting hours will not include

hours after dusk or before dawn. GFP will continue to do noise testing and will adjust noise mitigation strategies as needed.

There are very few studies on the impacts of sound to wildlife from shooting ranges. One study that was conducted at Ft. Benning, Georgia was the, Effects of Military Activity on Reproductive Success of Red-Cockaded Woodpeckers². In summary there were no records of any disturbance to reproducing Red-Cockaded Woodpeckers from nearby military operations. (Doresky et al., 2001). Beyond this, GFP has not observed any negative impacts to wildlife at other firearm ranges operated across South Dakota. There have been no documented sightings of Whooping Cranes or other threatened or endangered species in the proposed shooting range vicinity or for several miles around the property. SDGFP encourages all sightings of Whooping Cranes to be reported so that they may be documented. If there is a verified sighting of a Whooping Crane or other threatened or endangered species, all shooting activities on all ranges of the proposed shooting complex will stop until it is safe to resume activities.

Alternative B – No Action Alternative – No significant impact to noise levels if there is no action taken

4.13 CUMULATIVE IMPACTS

Alternative A – Proposed Action Alternative – Mitigation Required

Total area impacted within the preferred site consists of approximately 400 acres. Topography and soils will be altered during construction as we will utilize the existing topography and soils to construct berms and backstops within each of the bays. Within the design of the range minimal impacts will happen with the drainage as we will utilize the natural topography (slope) of the land to allow for natural drainage that currently exists at the site. Since EPA's Best Management Practices for Lead at Outdoor Shooting Ranges¹ will be utilized, no negative impact is expected to result from the construction and operation of the shooting range at the preferred site.

GFP currently operates and maintains seven firearms shooting facilities around the state of South Dakota and is well versed in operating and maintaining shooting ranges. GFP also partners with several third-party entities to help with operation and maintenance of shooting ranges. GFP is also well versed in the proper operation and maintenance of vault toilets. With properly maintained vault toilets, the smell disperses through a vent pipe and is dispersed in the fresh air in a relative short distance. Vault toilets that are pumped and recharged regularly will significantly reduce the smell in the immediate area of the vault toilets. GFP operates and maintains numerous vault toilets on other GFP properties including parks, campgrounds, and lake access areas.

Alternative B – No Action Alternative – No significant impacts will occur if no action is taken

CHAPTER 5: COORDINATION AND CONSULTATION

South Dakota GFP consulted with the following state, county, and federal agencies on this project and the relevant responses are addressed in the attached appendices. The coordination and consultation with Meade County can be found at <https://go.boarddocs.com/sd/meade/Board.nsf/Public>:

Office of Waste Management, South Dakota Department of Agriculture and Natural Resources
Office of Air Quality, South Dakota Department of Agriculture and Natural Resources
Office of Drinking Water, South Dakota Department of Agriculture and Natural Resources
Office of Surface Water, South Dakota Department of Agriculture and Natural Resources
Office of Ground Water, South Dakota Department of Agriculture and Natural Resources
South Dakota Game, Fish and Parks Terrestrial Section
South Dakota Game, Fish and Parks Aquatic Section
South Dakota Game, Fish and Parks Environmental Review Team
United States Fish and Wildlife Service Wildlife and Sport Fish Restoration Program
United States Army Corps of Engineers
National Resources Conservation Service
Meade County Office of Planning
Meade County Commission
South Dakota Archaeological Research Center (ARC)
South Dakota's State Historic Preservation Office

CHAPTER 6: PUBLIC INVOLVEMENT PROCESS

Area shooting enthusiasts, members of the public and the City of Rapid City and surrounding areas have all expressed support for this proposed facility as a greatly needed, safe, controlled, patrolled, and accessible site for a variety of shooting disciplines. Currently, there are no publicly owned and operated outdoor shooting facilities in the Rapid City area that include an outdoor range to accommodate pistol, rifle, and shotgun shooting activities in the same area.

GFP has and will continue to meet with neighbors to the proposed firearm range site, local and county governments, local legislators, and other interested parties. A stakeholder group was formed in February of 2021 consisting of shooting enthusiasts, city and state officials, local gun and shooting clubs, area retailers, and other interested parties (Appendix G). Beginning January 21, 2021, GFP met with public entities such as law enforcement, surrounding landowners, local industry partners, SD Game, Fish and Parks commission, the SD Parks and Wildlife Foundation. A stakeholder group was formed in May of 2021 and in July of 2021 a draft plan for the property was adopted (Appendix A) and presented to the Meade County Commission. GFP continues to meet with this stakeholder group to allow for public involvement and input on range design and construction. Once the proposed project is approved, updates will be completed monthly throughout construction and beyond and posted at the GFP website <https://gfp.sd.gov/>.

GFP also provided several ways for the public to learn about the proposed project, and for people to provide input. GFP continues to meet with the GFP Commission and also the Meade County Commission. During these meetings GFP will compile public comments that pertain to the South Dakota Shooting Sports Complex that are brought up during these meetings. Along with public meetings, news stories from various news outlets have also reported on the possibility of the shooting range. The news outlets include but are not limited to; South Dakota Public Broadcasting, KOTA News, Black Hills FOX News, KNBN News, Rapid City Journal, Black Hills Pioneer, and South Dakota Free Press.

The initial draft EA for this project was posted for public comment from February 18, 2022 through March 24, 2022, at <https://www.fws.gov/press-release/2022-02/proposed-shooting-range-rapid-city-south-dakota>) and a link was placed on the SDGFP website. Twenty-one individuals provided one or more comments during the comment period. South Dakota Game, Fish and Parks staff carefully reviewed the comments received during the public comment period and separated the issues into two groups; those key to the decision to be made and those considered to be other concerns (Appendix G). All comments received during the previous comment period were addressed within the context of the previous Final Environmental Assessment for the Rapid City Shooting Range Complex in Meade County, South Dakota, finalized on July 1, 2022. The Finding of No Significant Impact (FONSI) was signed on July 12, 2022.

This draft update to the previous Final EA is intended to document the proposed changes in construction at the South End and North End Ranges at the South Dakota Shooting Sport Complex (previously known as the Rapid City Shooting Range) that took effect after the posting of the Final EA and FONSI. A new public comment period will be announced to provide another opportunity for all interested stakeholders to review and comment on the proposed changes.

CHAPTER 7: LIST OF PREPARERS

Graham Larson, South Dakota Game, Fish and Parks, Grants and Loan Specialist
John Kanta, South Dakota Game, Fish and Parks, Terrestrial Section Chief
Mike Klosowski, South Dakota Game, Fish and Parks, Region 1 Regional Supervisor
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CHAPTER 8: WORKS CITED

1. EPA Best Management Practices for Lead at Outdoor Shooting Ranges manual (Revised June 2005) https://www.epa.gov/sites/default/files/documents/epa_bmp.pdf
2. Effects of Military Activity on Reproductive Success of Red-Cockaded Woodpeckers John Doesky, Ken Morgan, Laura Ragsdale, and Howard Townsend - <https://www.jstor.org/stable/4514591>
3. ITRC's Environmental Management at Operating Outdoor Small Arms Firing Ranges Technical Guideline (Revised February 2005) <https://connect.itrcweb.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=83c01740-bc23-4c71-9c81-7e650be98058>
4. Lead Mobility At Shooting Ranges EA Engineering, Science, and Technology, Inc. (5 January 1996) - <https://saami.org/wp-content/uploads/2018/05/Lead-Mobility.pdf>
5. City of Rapid City 2020 population estimate: <http://census.gov/>
6. IPaC – Information for Planning and Consultation – <https://ecos.fws.gov/ipac/>
7. National Oceanic and Atmospheric Administration NOAA - <https://www.weather.gov/wrh/Climate?wfo=unr>