

Preliminary Location Field Review Report Northern Arizona Regional Shooting Facility

Prepared for:

Arizona Game and Fish Department



Prepared by:



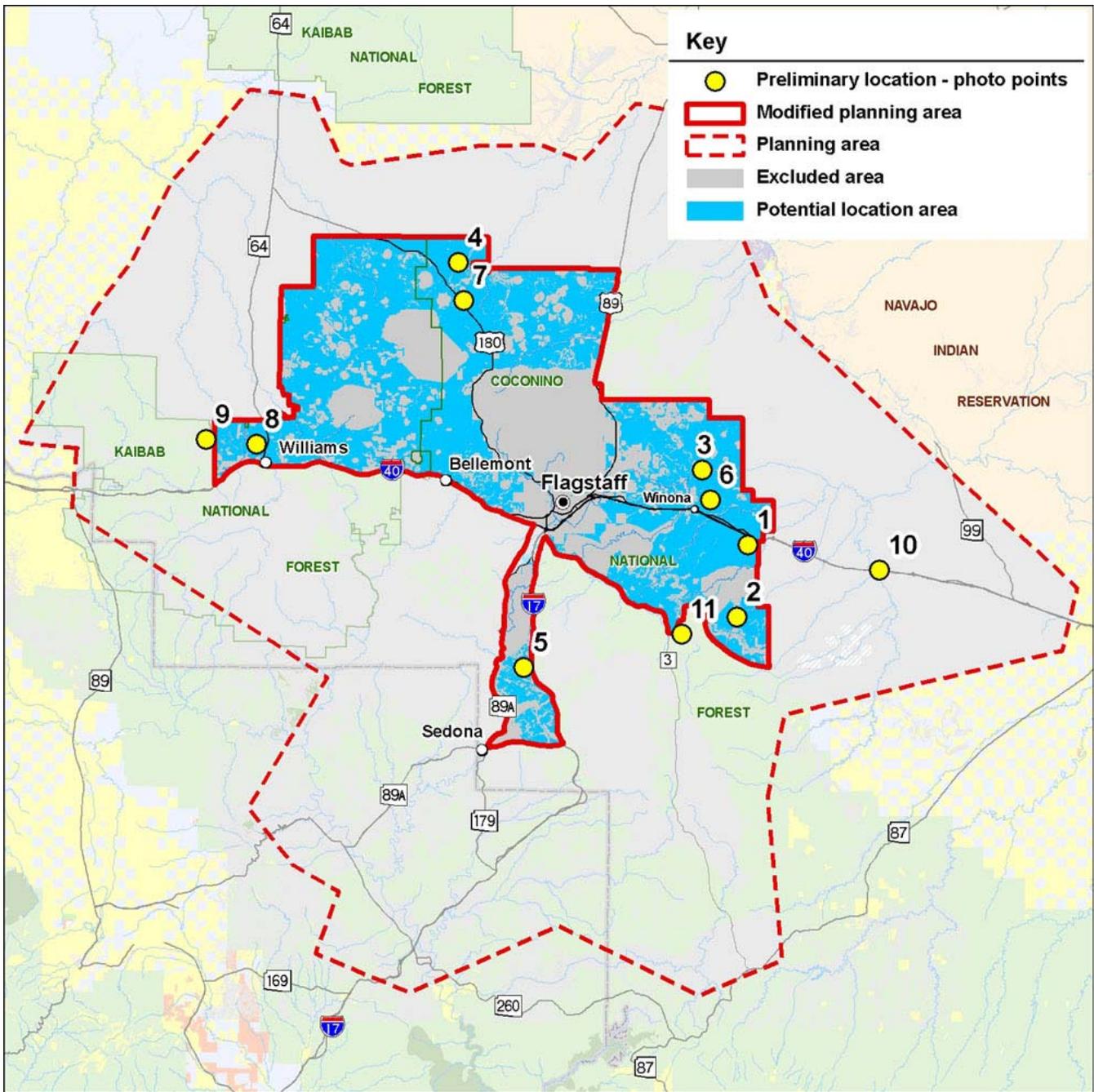
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DESIGN INC.

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Preliminary location field review

As part of the site selection process, preliminary locations identified in the public involvement process were reviewed in the field. The first field review of potential locations for the regional shooting facility was conducted on October 5th and 6th, 2005. Bob Broscheid of AGFD and Steve Fairaizl and Mark Meyer of Logan Simpson design reviewed five locations on October 5th and Bob and Steve reviewed an additional 4 sites on the 6th. Photographs and GPS points were taken at each location. The locations were evaluated from a general layout and constructability standpoint, with regard to terrain and landforms, vegetation, access and utilities, and potential orientation of the range facilities. The second field review was conducted on November 17th and 18th, 2005 by Bob Broscheid of AGFD and Steve Fairaizl of LSD. An additional 6 sites were evaluated.

This report contains the evaluations and perceived advantages and disadvantages of each location, based on this initial review. Overall general comments on the suitability of the locations are included. A map of the GPS points and the photographs from each location accompany the preliminary evaluation.



Field Review Locations

- | | |
|--------------------------------|----------------------|
| 1. Winona Pit | 7. Kendrick Park Pit |
| 2. Padre Canyon/Billy Bak Tank | 8. Williams Airport |
| 3. Cochrane Hill | 9. Forest Road 124 |
| 4. Cedar Tank | 10. Two Guns |
| 5. Willard Springs | 11. Anderson Mesa |
| 6. Telephone Range | |

Location 1

Location name:	Winona Pit	Date Reviewed:	10/05/2005
General access:	East of Flagstaff on I-40 to Winona exit and access frontage road on south side of highway. Travel east approximately 5 miles and follow dirt road south to pit area.		
Description:	Pit area consists of cinder cone landform surrounded by generally shallow sloped terrain. The landform is approximately $\frac{3}{4}$ to 1 mile south of I-40. Main pit area is on east side of landform extending east to a second small landform. Most of this area between the landforms is highly disturbed. No washes or drainage ways are visible on any side of landform and the flat terrain extends a long distance to the south. A Power line crosses area approximately $\frac{1}{4}$ mile north of main landform		
Assessment			
Issue	Advantages	Disadvantages	
Access	Good access,		
Approx. travel distance/time	Approximately 20 min. from Flagstaff		
Topography	Generally flat terrain around landform		
Landforms	Isolated cinder cone dominates area. East side of landform disturbed from cinder removal.		
Vegetation	Pinyon/Juniper vegetation is moderately dense and evenly distributed.		
Drainage	No visible drainage features that would be jurisdictional waters or cause drainage problems		
Biological resources/ Sensitive species	None known		
Cultural resources		Substantial number of sites in the area	
Visual resources	Landform could screen some ranges and facilities from view from I-10	Improvements on north side of landform could be visible from I-10.	
Utilities	Good access to power. Existing line is located approximately $\frac{1}{4}$ north of cinder cone landform.		
Adjacent land use compatibility	No known land use conflicts but I-10 is reasonably close.	Proximity to I-10 could be an issue depending on ranges and orientation.	
Constructability	Good, buildable areas and road corridors established.		
Expansion potential	Large area open to south		
Overall Evaluation: Good. Difficult to orient high power rifle range to shoot north and use landform as backstop because of shooting towards highway. Proximity to I-40 could be perceived as potential hazard because of stray bullets. Substantial archaeology mitigation required.			



View to south from cinder cone summit



View to east from cinder cone summit

Location 2

Location name:	Padre Canyon/Billy Bak Tank	Date Reviewed:	10/05/2005
General access:	East of Flagstaff on I-40 to Twin Arrows exit and access road 126 on south side of highway. Travel south approximately 9 miles to Forest road 9119P (Closed due to fire). West on 9119P approximately ½ mile.		
Description:	The location is in somewhat rolling terrain with moderate sized areas of shallow slopes. FR 9119P to the site follows a large drainage wash and crosses it in several locations as the wash meanders. The area was burned in a fire in 2004 and much of the primarily pinyon-juniper vegetation is dead.		
Assessment			
	Advantages	Disadvantages	
Access	Drive on dirt road is fairly long though road is in good maintained condition.		
Approx. travel distance/time	Approximately 30 minutes from Flagstaff		
Topography	Rolling terrain could cause facilities to be spread out over a larger area.		
Landforms	North face of Anderson Mesa is approximately 1 mile south	No nearby landforms to serve as backstop for ranges.	
Vegetation	Dead vegetation reduces potential environmental impacts from clearing areas for facilities.		
Drainage	Proper construction of facilities could reduce potential erosion problems caused by the lack of vegetation.	Several drainages will likely be jurisdictional and require 404 permitting	
Biological resources/ Sensitive species	None known		
Cultural resources	Generally low site density		
Visual resources	Facilities would not be visible from roads or private property	Diminished natural setting because of fire.	
Utilities		Power source is approximately 7 to 8 miles away.	
Adjacent land use compatibility	Remote site with no development nearby.		
Constructability		Rolling terrain will require construction in many areas for facilities.	
Expansion potential	Lack of other uses nearby should make it possible to identify a large land area for future expansion.		
Overall Evaluation: Good. Need to look more closely at topography in surrounding area to determine if viable flat areas are available. Remoteness is a plus and access is generally easy. Road into facility will need careful design to minimize wash impacts and construction costs.			



View to south



View to east

Location 3

Location name:	Cochrane Hill	Date Reviewed:	10/05/2005
General access:	East of Flagstaff on I-40 to Winona exit. Travel northwest along Winona road approximately 3 miles to Leupp Road. Travel east on Leupp Road approximately 5 miles to MP 433 and turn north into site.		
Description:	Location is a small valley between Cochrane Hill to the east and XX Hills to the west. There is Ponderosa pine in the lower, shallow sloped areas, transitioning into Pinyon-Juniper up on a small ridge extending to the base of Cochrane Hill.		
Assessment			
Issue	Advantages	Disadvantages	
Access	Good access. Paved roads to site entry.		
Approx. travel distance/time	About 30 minutes from Flagstaff		
Topography	Shallow slopes in several areas are very developable and create several distinct areas for facilities.		
Landforms	Hills to west provide buffer. Two cinder cone landforms that could be use for range backstops.		
Vegetation	Ponderosa pine in some areas and Pinyon-Juniper others creates a diverse setting and the Ponderosa areas provide spaces camping and events.		
Drainage		Low areas in Ponderosa vegetation could be subject to drainage flows.	
Biological resources/ Sensitive species	None known		
Cultural resources		Known cultural resource issues from initial selection as a site during the Bellemont project.	
Visual resources	Most facilities and ranges should not be visible from Leupp Road. Good visual setting for activities and facilities.		
Utilities	Power is available near site just off of Leupp Road.		
Adjacent land use compatibility		Access roads provide access to private property to the north, which could cause conflicts with increased traffic use for range.	
Constructability	Good, shallow slope areas for development		
Expansion potential	A property large enough for expansion could be identified		
Overall Evaluation: Good Substantial archaeology mitigation required. Highly developable area with good separation of venues, easy access on a paved road from Flagstaff.			



View of Cochrane Hill looking east



View of Ponderosa area at FS 783

Location 4

Location name: Cedar Tank		Date Reviewed: 10/05/2005
General access: Northwest of Flagstaff along US 180. Northeast on FS road 417 that is located approximately MP 248.		
Description: Gently rolling hills covered with dense pinyon-juniper. Rocky ridge on the east makes a good backstop.		
Assessment		
Issue	Advantages	Disadvantages
Access	Good access road to site, but will require building roads to individual venues.	US 180 has short term snow closures.
Approx. travel distance/time		Driving time is nearly one hour from central Flagstaff.
Topography	Relatively flat terrain would make a good long distance shooting facility.	
Landforms	Rocky ridge on east side of area	
Vegetation		Substantial cedar tree removal required.
Drainage	No major drainage corridors. Some drainage will come off of landform to east.	
Biological resources/ Sensitive species		Active grazing permit in area.
Cultural resources	No known archaeology issues.	
Visual resources	Vegetation provides good screening possibilities and creates good setting for facilities. Should not be visible from US180.	
Utilities		No know source of electricity in area.
Adjacent land use compatibility	Remote site with no housing developments but does adjoin the Babbit Ranch on the east.	
Constructability	Generally good areas for construction	
Expansion potential		Would require coordination with Babbit Ranch
Overall Evaluation: Good. On the edge of acceptable drive time.		



View of ridge to east



View to north

Location 5

Location name: Willard Springs		Date Reviewed: 10/06/2005
General access: South of Flagstaff along I-17 to Willard Springs exit		
Description: Gently rolling terrain in Ponderosa forested area.		
Assessment		
Issue	Advantages	Disadvantages
Access	Excellent access from I-17. Accessible from Phoenix.	Road Closures during fire season. Possible Snow closures.
Approx. travel distance/time	20 minutes from Flagstaff	
Topography	Rolling terrain with good flat areas for facilities	
Landforms	Landforms available for back stops	
Vegetation	Some Ponderosa Pine removal required.	
Drainage	No known issues. No major drainage ways.	
Biological resources/ Sensitive species	None known	
Cultural resources	Most of area surveyed and few sites exist.	
Visual resources	Good visual setting for facility and ridges screen views from I-40.	
Utilities	Electricity close by	
Adjacent land use compatibility		Active grazing permit in area.
Constructability	Good locations for facilities but with space between.	
Expansion potential	Good area available for expanding but limited to east because of I-17.	
Overall Evaluation: Good: will require some tree removal.		



View near Blowout tank area



View near Blowout tank area

Location 6

Location name:	Telephone Range	Date Reviewed:	10/06/2005
General access:	East of Flagstaff along I-40 to Winona exit. Two track dirt trail to site.		
Description:	Flat terrain with primarily grassland vegetation surrounds a cinder cone landform.		
Assessment			
Issue	Advantages	Disadvantages	
Access		3 miles of road needs to be built to access site.	
Approx. travel distance/time	Approximately 30 minutes from Flagstaff.		
Topography	Flat open terrain		
Landforms	Cinder cone for back stop		
Vegetation	No vegetation removal needed		
Drainage	No major drainage washes or corridors		
Biological resources/ Sensitive species	None known		
Cultural resources		Substantial known archaeological resources in area.	
Visual resources	Open views to surrounding area.		
Utilities	Close to source of electricity.		
Adjacent land use compatibility	Existing 500 yard range		
Constructability	Good buildable areas and flat terrain would allow for compact design.		
Expansion potential	Large land area available to allow for expansion.		
Overall Evaluation: Good: but will require archaeology mitigation.			



View to northwest



View to south

Location 7

Location name: Kendrick Park Pit		Date Reviewed: 10/05/2005
General access: Northwest of Flagstaff along US 180. North on dirt access road that is located approximately MP 242.7.		
Description: Pit area consists of a small landform surrounded by generally shallow sloped terrain. The landform is approximately 1/2 mile north of US 180. Main pit area is on southwest side of landform. The vegetation of the surrounding area is primarily dense Ponderosa pine of a single age class. No washes or drainage ways are visible on any side of landform and the flat terrain extends a long distance to the north.		
Assessment		
Issue	Advantages	Disadvantages
Access	Easy access off US 180	Short Term snow closures of US 180
Approx. travel distance/time	Approximate driving time of 45 minutes.	
Topography	Generally flat topography around base of cinder cone good for long range shooting events.	
Landforms	Cinder cone makes good backstop.	
Vegetation	Ponderosa forest setting. Forested areas could provide buffer between venues	Dense ponderosa pine will require substantial logging.
Drainage	No major drainage areas apparent	
Biological resources/ Sensitive species	None known	
Cultural resources	Generally low cultural site density.	Some potential for sites east and northeast of pit area.
Visual resources		Close to US 180 and some facilities and ranges could be visible.
Utilities		No known source of electricity in area.
Adjacent land use compatibility	Remote area with no known housing development.	
Constructability	Good flat areas around cinder cone	
Expansion potential	A large enough site could be identified for expansion.	
Overall Evaluation: Moderate Large logging operation required.		



View from cinder cone to south



Ponderosa area on south side

Location 8

Location name:	Williams Airport	Date Reviewed:	11/17/2005
General access:	West of Flagstaff on I-40 to Williams exit, north on US 64.		
Description:	Rolling terrain with several large rocky ridges in background. Parts covered with dense pinyon-juniper.		
Assessment			
Issue	Advantages	Disadvantages	
Access	Good Access from paved roads		
Approx. travel distance/time		Drive time from Flagstaff approximately one hour	
Topography	Generally flat areas available for facilities		
Landforms		Several rocky ridges would make good back stop.	
Vegetation	Limited tree removal could be required depending on location of facilities.		
Drainage	No known issues		
Biological resources/ Sensitive species	None known		
Cultural resources	Unknown archaeological resources		
Visual resources	Developed facilities already in area.		
Utilities	Electricity close by.		
Adjacent land use compatibility	Strong support from community of Williams.	Area located within 1 mile of airport	
Constructability	Good buildable areas with all utilities available.		
Expansion potential		Proximity to airport could limit possibilities for certain facilities.	
Overall Evaluation: Moderate , Excessive drive time, extensive coordination with the Kaibab National Forest required and Kaibab interest level unknown.			



View from site to Northeast toward Williams airport



View from site to west

Location 9

Location name: Forest Road 124		Date Reviewed: 11/17/2005
General access: West of Flagstaff on I-40 to second Williams Exit. North past Williams Golf Course to FS Road 124 northwest to site.		
Description: Mostly flat terrain with some dense patches of pinyon-juniper		
Assessment		
Issue	Advantages	Disadvantages
Access	Paved road to within 4 miles of site. Well maintained County gravel road to site.	
Approx. travel distance/time		Drive time from Flagstaff approximately one hour.
Topography	Generally flat with shallow slopes in some areas.	
Landforms	Large rocky ridge to south for back stop	
Vegetation	Minimal tree removal.	
Drainage	No known issues. No major drainage ways.	
Biological resources/ Sensitive species	None known	
Cultural resources	Unknown archaeological resources.	
Visual resources		
Utilities		No know source of electricity in area.
Adjacent land use compatibility	Strong support from the community of Williams.	
Constructability	Good areas for facilities.	
Expansion potential	Good amount of area available for site expansion.	
Overall Evaluation: Moderate , Excessive drive time, extensive coordination with the Kaibab required.		



View of meadow south of FS 124



Cinder pit along FS124 in Williams Corner

Location 10

Location name:	Two Guns	Date Reviewed:	11/30/2005
General access:	East of Flagstaff along I-40 at Two Guns interchange.		
Description:	Old trading post site with remnants of facilities. Approximately 640 acres of private land owned by the Babbitt Corporation.		
Assessment			
Issue	Advantages	Disadvantages	
Access	Easy access off I-40		
Approx. travel distance/time	Approximately 40 minute drive time		
Topography	Flat terrain for long range shooting events.		
Landforms		No landforms available for back stop	
Vegetation	Vegetation community primarily grassland.		
Drainage	Adjacent to Diablo Canyon which will likely drain part of site.		
Biological resources/ Sensitive species	None known		
Cultural resources		Substantial historic and prehistoric resources in the area.	
Visual resources		Proximity to I-40 will make many facilities visible.	
Utilities	Existing source of electricity		
Adjacent land use compatibility		Adjoining private land owned by Hopis	
Constructability		Hauling of large quantities of dirt required. Major Haz Mat clean up associated with old gas station.	
Expansion potential		Adjacent land owned by the Hopi nation and State Land Department.	
Overall Evaluation: Poor. Major clean up costs and adjoining landowner concerns.			



View from Two Guns interchange to north



View from site looking west at Diablo Canyon (note historic ruins)

Location 11

Location name:	Anderson Mesa	Date Reviewed:	11/17/2005
General access:	Access from Lake Mary Road, southeast of Flagstaff.		
Description:	Top of Anderson Mesa at Pickett Lake. Flat terrain surrounded by wet meadow.		
Assessment			
Issue	Advantages	Disadvantages	
Access	Easy access from Flagstaff along paved roads	Short Term snow closures.	
Approx. travel distance/time	Approximate drive time 30 minutes.		
Topography	Flat Terrain		
Landforms		No landforms for backstops	
Vegetation	Little tree removal.		
Drainage		Site is in or near wet meadows.	
Biological resources/ Sensitive species		Substantial big game issues.	
Cultural resources	No known archaeology issues.		
Visual resources			
Utilities		None known in the area	
Adjacent land use compatibility		All FS land under active management for big game.	
Constructability			
Expansion potential		Limited because of adjacent wet meadows.	
Overall Evaluation: Poor Wet meadows is limiting factor.			



Pickett Lake on Anderson Mesa looking east



Pickett Lake on Anderson Mesa looking north