Proposed Camera Details for Helicopter, Trap Site, and Temporary Holding Pens

TRAP SITE AND HOLDING PENS: OVERVIEW

The cameras that TCF suggests are small, unobtrusive and can easily be installed on the trap site and temporary holding pen panels. Cameras should be placed high enough to avoid being blocked by working personnel, etc. A camera monopod (i.e. pole) with zip ties or clamps would be used to temporarily affix the camera to the metal panels, and may be necessary to elevate the camera to avoid being obstructed.

- 1. Camera One should be placed at approximately 5 to 7 feet high on the trap panel that is adjacent to the trap wings (which are defined with jute material.) The camera would be pointed toward the mouth of the trap to film the horses as they are in the mouth of the trap. The camera will be connected to a battery pack that will supply enough energy for an undisturbed approximately 12-hour day of operation.
- 2. Camera Two should be placed on the backside of Camera One but pointed towards the trap pens.
- 3. Cameras Three and Four would be placed strategically to ensure all trap pens are covered. All cameras should be placed 5 to 7 feet high to avoid obstructions.
- 4. Camera Five would be placed strategically to ensure the loading chute is covered. The camera should provide a wide shot so that all actions of loading horses into trailers are captured.
- 5. Cameras Six and Seven would be placed at temporary holding, along with Cameras Eight and Nine which have night vision capabilities. These cameras would be affixed to the metal panels utilized to construct the temporary holding pens. These cameras should be placed 5 to 7 feet high to avoid obstructions; they should be placed strategically to ensure coverage of all areas where horses are kept.
- 6. Camera Ten would be placed at temporary holding to cover the sorting/loading chute to film activities that occur in that area.

The Cloud Foundation would work with the BLM to ensure safe installation and operation of these cameras, along with supplying any and all necessary equipment including but not limited to, cameras, mounts, batteries, SD cards, hard drives, cables, and other required items; in addition to providing trained personnel to safety install, operate, and maintain all cameras and devices.

The camera system The Cloud Foundation proposes is detailed below, and was specifically designed for this project by a world-class filmmaking team uniquely versed in commercial, military, aerial, and equine-safe cinematography. The consultants

include Disney director and producer Ashley Avis, one of Britain's top commercial and automotive cinematographers David Procter, as well as an expert specializing in dynamic aerial and remote ground camera operations, Rob Weidner. Personnel from the FAA have also provided guidance to the camera design team on this project.

The custom camera system for The Cloud Foundation will be created and supplied by a third party vendor, and is detailed as follows:

"THE CLOUD CAMERA SYSTEM"

HELICOPTER CAMERA SYSTEM ("CAMERA A")

The "Helicopter Camera System" consists of two small, lightweight GoPro10 cameras which can be quickly, easily, and safety attached to the skids of the helicopter using professional MyPilotPro mounts; and can be installed within minutes. These mounts can withstand G-force and extreme weather conditions.

The mounts used to affix the GoPro Cameras contain cotter pins which prevent the bail latches from coming undone during flight, locking the mounts securely into place once they are attached. The mounts have options in dimeter, to best fit the helicopter skids.

Both cameras will be attached in fixed positions, with one camera forward facing, and the second camera backward facing. This dual camera system will ensure maximum coverage of the horses during the helicopter operation.

The GoPro10 cameras are rugged and durable, and well suited for aerial photography. They are both waterproof and dust proof in the instance of rain or other elements. They provide 4K High Definition video on a wide angle lens, and have excellent low light resolution for early morning or early evening conditions. The cameras have internal stabilization to accommodate the movement and vibration on the helicopter.

The cameras will provide approximately 12 hours of uninterrupted recording through internal batteries, along with an external extended battery pack which can be affixed to the mount and helicopter skids, or housed in a durable pelican case within the storage compartment or back seat of the helicopter. This external battery will be connected to the cameras with neatly wrapped cables and safety chains.

The Helicopter Camera System has internal GPS capabilities that will provide detailed information such as the helicopter's path, speed, altitude, G-force, elevation gain, and more; giving the public a transparent look at the operation overall.

The GoPro10 cameras also have WiFi, with the option to perform media backups to a cloud server. The video will be recorded onto an internal SD card, which is easily downloadable by TCF personnel to an external hard drive. This system is easy to use, and to set up, by touchscreen and smartphone and can be updated following advancements in technology.

OPTIONAL LIVE STREAMING CAPABILITIES

The Helicopter Camera System also has the optional ability to live stream in real time with small attachments. With the use of a device called the Dejero EnGo along with an HDMI splitter, which can be included in the case that includes the extended battery, this setup will allow the public to watch the operation on a cloud link in 1080p HD resolution.

Further, in areas that are remote, the Dejero EnGo collects available cellular signals from all providers and merges them to most efficiently output video. While this does not fully guarantee the ability to live stream in remote locations, it significantly enhances it.

FAA COMPLIANCE & INSTALLATION

The Helicopter Camera System is to be installed in accordance with all acceptable methods, techniques, and practices approved by the FAA. The individual installing the camera and mounts must be a licensed mechanic with an airframe rating.

Per the FAA Memorandum for External Camera Mounts, TCF's proposed Helicopter Camera System does not require modification to the aircraft, and does not have an appreciable effect on the weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness. Further, the cameras do not tie into the electrical system of the aircraft, are at most considered "minor installations" per FAA published guidance. Therefore, they should not require approval from the FAA outside of normal maintenance practices.

The below text is extracted from the FAA External Camera Mounts Memorandum:

"Because of the varying installation possibilities of this equipment, the major vs. minor determination is done on a case-by-case basis and made by the installer. Major alterations are those that have an appreciable effect on the weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness. If the installation did affect one of the above listed variables, then the installation would be considered major and would require approved technical data prior to returning the aircraft to service.

Another consideration, in the case of this type of equipment, is the applicability of the term "alteration". FAA Order 8110.37E, defines an alteration as "a modification of an aircraft from one sound state to another sound state". The use of suction cups, or other temporary methods of attachment (not including permanent mechanical attachments to the aircraft), would not be considered a modification to the aircraft. These temporary attachments would not be subject to the regulatory purview of 14 CFR part 43."

HELICOPTER CAMERA SYSTEM SPECS:

GOPRO10 CAMERAS (x 2) Dimensions: 2.8" (L) x 2.2" (W) x 1.3" (D) Weight: 5.3 ounces

BATTERY (x 2) Dimensions: 3.9" (L) x 2.8" (W) x 1.3" (H) Weight: 10.9 ounces

CABLE (x 2) Dimensions: 15" inches (L) Weight: 6 ounces

PELICAN CASE (x 1) Dimensions: 22.0 (L) × 14.0 (W) × 9.0" (D) Weight: 9.9 lbs MOUNT (x 2) Dimensions: 6.5" (L) x 3.5" (W) x 1 3/8" (D) Diameter Options: .05" diameter to 2.5" diameter Weight: 5.5 ounces

DEJERO ENGO (x 1, Optional) Dimensions: 8.5" (H) x 12.6" (W) x 3.3" (D) Weight: 4.2 lbs

HDMI SPLITTER (x 1, Optional) Dimensions: 7.5 (L) x 4.5 (W) x 0.6" (D) Weight: 1.14 lbs

HELICOPTER CAMERA SYSTEM IMAGES:



GoPro10 Camera



Helicopter Mount





TRAPSITE GROUND CAMERAS ("CAMERA B")

The "Trapsite Ground Cameras" consist of multiple small, lightweight GoPro10 cameras which are durably constructed for harsh or rugged terrain, and are both waterproof and dust proof. They provide 4K High Definition video (so horse markings will be visible), and excellent low light resolution for early morning or early evening conditions.

The images are captured on a wide angle lens, and the camera has internal stabilization for instances of intense movement in the corrals or being shaken.

The Trapsite Ground Cameras will provide approximately 12 hours of uninterrupted recording through the use of internal batteries as well as external extended batteries which are connected by cable and housed in pelican cases to be weather resistant.

The videos are recorded to internal SD cards that can be easily removed and downloaded by TCF Personnel to an external hard drive. The cameras also have WiFi, so there is the possibility of remote upload to a cloud server.

The Trapsite Ground Cameras will be attached to monopods that can extend up to 7 feet in height, and can be easily affixed to and removed from fences or pipe corral in minutes by the use of cable "zip" ties or clamps.

TRAPSITE GROUND CAMERA SPECS:

GOPRO10 CAMERAS (x 5) Dimensions: 2.8" (L) x 2.2" (W) x 1.3" (D) Weight: 5.3 ounces

MONOPOD (x 5) Closed length: 28" (L) Extended length: 84.7" (L) Weight: 3.2 lbs

BATTERY (x 5) Dimensions: 3.9" (L) x 2.8" (W) x 1.3" (H) Weight: 10.9 ounces CABLE (x 5) Dimensions: 15" inches (L) Weight: 6 ounces

PELICAN CASE 1535TP (x 5) Dimensions: 22 (L) x 14.5 (H) x 9.5" (D) Weight: 8.7 lbs

TRAPSITE GROUND CAMERA IMAGES:



GoPro10 Camera



Monopod



TetherTools Battery Bank

Pelican Case

HOLDING PEN CAMERAS ("CAMERAS C & D")

The "Holding Pen Cameras" consist of several small, lightweight GoPro10 cameras which are durably constructed for harsh or rugged terrain, and are both waterproof and dust proof. These will be coupled with several small Reolink Duo Wifi Cameras which are specifically equipped to take clear video of the horses at night.

These cameras can be easily installed on camera monopods and temporarily affixed to corrals with zip ties or clamps. Installation and removal is simple and takes only a few minutes.

The GoPro10 cameras provide 4K High Definition video (so horse markings will be visible) and are excellent in low light for early morning or early evening conditions. The Reolink Duo Wifi Cameras uniquely provide night vision capabilities.

The Holding Pen Cameras will provide approximately 12 hours of uninterrupted recording through the use of internal batteries, as well as extended battery packs that will be attached with a cable and stored in durable pelican cases.

The videos are recorded to internal SD cards that can be easily removed and downloaded by TCF Personnel to an external hard drive. The GoPro10 cameras also have WiFi, so there is the possibility of remote upload to a cloud server.

HOLDING PEN "CAMERA C & D" SPECS

GOPRO10 CAMERAS (x 3) Dimensions: 2.8" (L) x 2.2" (W) x 1.3" (D) Weight: 5.3 ounces

REOLINK DUO WIFI CAMERA (x 2) Dimensions: 10" (L) x 6" (W) x 6" (D) Weight: 1.5 lbs

GOPRO10 EXTENDED BATTERY (x 3) Dimensions: 3.9" inches (L) x 2.8" (W) x 1.3" (H) Weight: 10.9 ounces

REOLINK DUO WIFI CAMERA BATTERY (x 2) Dimensions: 11.8" (W) x 7.6" (H) x 9.2" (D) Weight: 13.3 lbs MONOPOD (x 5) Closed length: 28" (L) Extended length: 84.7" (L) Weight: 3.2 lbs

CABLE (x 5) Dimensions: 15" inches (L) Weight: 6 ounces

PELICAN CASE (x 5) Dimensions: 22 (L) x 14.5 (H) x 9.5" (D) Weight: 8.7 lbs

HOLDING FACILITY CAMERA IMAGES ("CAMERA C"):



GoPro10 Camera



Monpod





TetherTools Battery Bank

Pelican Case

HOLDING FACILITY CAMERA IMAGES ("CAMERA D"):







Reolink Camera

Monopod

Battery

IN CLOSING:

The Cloud Foundation would need access to all cameras for installation, battery replacement, and SD card replacement every twelve hours. Cameras not in use overnight would only require battery and SD card replacement once a day.

If there are no horses in the pens, camera recordings are not needed. Camera installation is needed as the trap site or temporary holding pens are moved, and the setup time using this technology will be minimal. At the conclusion of the roundup activities, The Cloud Foundation would permanently remove the cameras.

The camera system would be created for The Cloud Foundation by an expert third party vendor, Rob Weidner, LLC.

The Cloud Foundation asks that the BLM allow these cameras, which have been uniquely tailored for the operations, on helicopters at the trap site, and at temporary holding facilities during roundup activities. These cameras, and the footage they collect will allow BLM personnel, the public, and media to monitor the treatment of wild horses and burros during government roundup activities.

There is tremendous concern by members of the public regarding the way wild horses and burros are treated at government roundups and the public has a constitutional right to see a complete visual depiction of these activities.