# **Restoration Activities - Standard Operating Procedures**

Routes in wilderness areas can be classified generally into the following categories. Category types are based on the probable origin of the route. Restoration needs will be assessed for each route.

 I. Graded/constructed routes - obviously built with the use of motorized/mechanized vehicles or equipment. These are characterized by the presence of a berm and the lack of any vegetation on the route surface. Generally, these types of routes will require mechanical ripping.

 II. Continual and heavy motorized vehicle use routes - established by repeated frequent motor vehicle use-- either by a 4WD or motorcycle. These are characterized by heavy to medium compaction and lack of vegetation on the route surface. These routes may or may not require mechanical ripping, depending on the degree of compaction.

III. Cross-country routes - either two-track jeep trail or single track motorcycle trail, established by infrequent motor vehicle use. Two-track jeep trails have a vegetated strip between the parallel tire tracks. Single-track motorcycle trails are very narrow. This category would also include routes through sandy washes. Mechanical ripping will not occur on these routes. All work will be completed by hand.

 IV. Hill climbs - generally steep and illegally created by motorcycles. Depending on the degree of steepness, these routes may require erosion control efforts, with the use of motorized vehicles and motorized/mechanized equipment.

Work will be completed by BLM staff with the assistance of volunteer hand crews. All restoration activities will be subject to the Operational Parameters in Part B. Actions will include and generally be conducted in the following order AS NEEDED:

(1) Decompaction: working the top few inches of the route surface to relieve soil compaction. In general, this action will be completed with the use of hand tools (soil spades, spading forks, McCloud rakes, pulaskis, shovels, etc.). Routes that are too heavily compacted to be practically or effectively worked with hand tools will be mechanically ripped (to a depth of approximately 6-10 inches) by a trail bulldozer with a ripper attachment. In some settings where the use of a trail bulldozer would not be practical, safe or the minimum necessary and hand tools would not be effective, compacted surfaces would be worked with other motorized/mechanized tools such as a power auger, power shovel. Such motorized/mechanized vehicles and equipment may be needed on steep slopes and heavily used hill climbs. Mechanical ripping will occur on the compacted route surface only. The site will be naturalized, using hand tools, to remove linear lines and any signs of motorized/mechanized equipment or vehicle use. NOTE: Category III routes will NOT be mechanically ripped.

(2) Scarifying/pitting: loosening and texturizing the impacted route surface to better capture water, organic debris and wind-blown seeds, thereby stimulating natural revegetation. This will be done with hand tools.

(3) Recontouring: reconfiguring/shaping the route to blend it with the adjacent relatively undisturbed desert. This will involve the creation of small hummocks and banks, where appropriate, to mimic the surrounding desert landscape. Berms will be pulled in and the soil distributed across the route surface. Vehicle tracks in sandy washes will be raked. This will lessen visual contrasts and provide a surface for natural revegetation. This action will be completed with hand tools.

(4) Permion (desert varnish colorant): spraying reclaimed surfaces to simulate the coloration of the surrounding desert varnish. Permion is a chemical compound comprised of manganese, salts and other ingredients used to simulate the natural desert varnish that occurs on rock surfaces in arid environments. Permion would be applied sparingly, with the use of a backpack sprayer, and only on disturbed rock surfaces that contrast sharply with the surrounding landscape. The Ridgecrest Field Office has successfully used Permion on restoration projects in the Rademacher Hills.

(5) Erosion control: placing sterile rice grass hay bales or creating light terracing/berms to reduce erosion and create barriers to vehicles on steep slopes. This is especially effective on hill climbs. The hay bales break down over time and provide additional organic debris to the restoration site. Transport of hay bales, each weighing 135 pounds, may require use of motorized vehicle (such as an ATV or pickup) inside wilderness, especially on steep slopes.

(6) Vertical mulching: dead and down vegetation is "planted" to obscure the entrance to the route. Additional dead vegetation, rock material and other organic matter may be distributed over the worked route surface to decrease visual contrasts, create sheltered sites to aid in natural revegetation and add organic debris. This will be done by hand.

(7) Barricading: placing large boulders, gates, blockades, fencing, posts, or any other sort of physical barrier at strategic locations on or across the route to help eliminate continued unauthorized motor vehicle access. Use of mechanized/motorized equipment or vehicles will be needed for the placement of most barriers, due to the weight and size of the barriers; however some barriers can and will be installed by hand tools. Most barriers will be located at the wilderness boundary and, therefore, outside of wilderness. In certain locations, barriers may need to be placed inside wilderness. Due to the nature of the desert terrain (open, flat land or driveable washes and canyons) and the unmanageable configuration of many of the Congressional wilderness boundaries, some of these routes cannot be closed directly at the wilderness boundary. In extreme cases, placement of a barrier within wilderness, generally only a few feet inside the boundary but in some cases up to a few hundred yards, will effectively eliminate this problem. Installation of barriers within wilderness will only be done as the minimum requirement for barrier effectiveness. In general, any barriers placed within wilderness will be limited to large rocks, dead and down vegetation or other natural objects that can be found in the area. In those locations where suitable natural objects are not available, barriers will be constructed of natural materials, such as wood.

(8) Vegetative Restoration: This will involve planting, transplanting and/or seeding necessary to help stabilize soil, speed overall vegetative recovery and camouflage evidence of vehicle routes. Locally collected seeds may be broadcast on reclaimed surfaces to accelerate natural revegetation. This action will be completed by hand tools.

(9) Removal of trash, materials, and/or structures of nonhistorical value: A one-time vehicle access into wilderness will be authorized, in conjunction with and prior to final completion of restoration activities, in order to remove any items too large to be carried out by hand. The proposed removal of any materials or structures that may be of questionable age, (50 years or older) will be assessed for proper archeological clearances. Structures for rangeland and wildlife management purposes will not be disturbed.

(10) Maintenance: Restoration activities and barriers will need to be maintained. Natural or human-caused destruction of restoration efforts and movement or damage of barriers may occur. Continued motorized vehicle use of routes may also occur, with violators willfully driving around or vandalizing barriers. This will cause new and renewed surface disturbance. Restoration efforts and/or barriers will be re-implemented as necessary on a case-by-case basis, using the standard operating procedures and operational parameters established in this EA.

**Operational Parameters - Additional Environmental Protection Measures:**

This proposed action is further defined by the following Environmental Protection Measures that will serve as Operational Parameters. All restoration activities covered by this environmental assessment will be performed in full compliance with these Operational Parameters. If the proposed restoration involves actions beyond the scope of the described activities or issues outside these operational parameters, a separate site-specific NEPA compliance document will be prepared.

All routes will be subject to pre-work site-specific reviews by BLM personnel to evaluate restoration needs of each route, ensure compliance with the operational parameters, and identify any sensitive resources (cultural, wildlife, plant) to be avoided. ***These pre-work site-specific reviews will be documented with a separate NEPA document tiered from this initial programmatic assessment or through an administrative determination.***

(1) Routes identified as necessary for motorized vehicle access for private existing rights (such as private inholdings, valid mining claims) and authorized nonconforming uses (such as grazing, California State Fish and Game activities) will not be reclaimed. Any barricading of these routes will be by a locked gate, which will be placed outside wilderness unless the only effective and defensible location is within wilderness. Restoration actions will be completed on routes where access for private existing rights and authorized nonconforming uses is limited to nonmotorized means.

(2) Motorized vehicles and motorized/mechanized equipment will only be used in those areas where determined to be absolutely necessary and the minimum requirement for the successful and effective completion of proposed restoration activities. See Minimum Tool/Action Evaluation.

(3) Restoration activities will only be conducted on lands administered by the Ridgecrest Field Office of the Bureau of Land Management, unless prior approval is received from the non-public land owners or other administering agencies or BLM offices.

(4) Restoration activities in riparian areas and known raptor nesting areas will be conducted outside of the spring breeding season, specifically mid-March through mid-June.

(5) Category III routes and any other routes where prior disturbances were only minor in nature will not be mechanically ripped, no matter how compacted the surface, unless such has been analyzed in a previous plan or EA. The will minimize impacts to possible cultural resources lying under the surface of cross-country routes.

(6) Before ground disturbing activities occur, a cultural inventory of the project surface will be conducted as required by the protocol agreement between the Bureau of Land Management and the State Historic Preservation Office. Any identified cultural resources will be avoided. In the event that cultural or paleontological resources are discovered during restoration activities, operations in the vicinity of the discovered resources shall cease immediately and the operator will notify the Field Office Archaeologist. The Field Office Archaeologist will, as appropriate, evaluate the significance of the find and determine the need for mitigation. The operator shall not proceed with potentially disturbing activities until authorized.

(7) The proposed removal of any materials or structures that may be of questionable age, 45 years or older, will be assessed for proper archaeological clearances.

(8) Trail crews, volunteers and any agency personnel assisting in restoration activities will be oriented to any special wildlife, plant, cultural and wilderness resources and will be informed of the locations of wilderness boundaries. A cultural resources information sheet (see attachment) will be distributed to volunteers to ensure that participants do not inadvertently clean up an archaeological site (e.g. can dumps).

(9) BLM personnel will be present during all restoration activities involving use of motorized/mechanized vehicles or equipment.

(10) Mechanical ripping will not occur when wind speeds exceed 30 mph.

(11) All crew will be briefed before commencement of restoration activities on the following measures to protect the tortoise. In the unlikely event a tortoise does wander into the project area, the restoration crew will be responsible for complying with the following stipulations:

a) Only biologists authorized by the USFWS and the BLM shall handle desert tortoises.

b) Should a tortoise wander into the work area, work must stop around the animal until the tortoise is safely out of harm's way. Any dead tortoises encountered must be left in place and the BLM notified. Relocation of live or dead tortoises around the project site is NOT permitted under Federal and state law.

c) Workers are required to inspect underneath parked vehicles prior to moving them. If a tortoise is present, the worker shall carefully move the vehicle only if the tortoise will not be harmed or movement of the parked vehicle will allow the tortoise to move off on its own.

d) All trash and food items shall be promptly contained within closed, raven-proof containers. These should be regularly removed from the project site to reduce the attractiveness of the area to ravens and other tortoise predators.

(12) Prior to commencement of any restoration activities in the affected areas, the following will be completed:

a) The falcon nesting site near route SE-164 will be checked. This will not be necessary if work is done after mid-June or before mid-March.

b) Any routes within Sage Canyon will be walked to check for tortoises and legless lizards.