

Appendix E

Best Management Practices

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Best Management Practices

A. STIPULATIONS AND ENVIRONMENTAL BEST PRACTICES APPLICABLE TO OIL AND GAS LEASING AND OTHER SURFACE- DISTURBING ACTIVITIES

This appendix lists by alternative the stipulations for oil and gas leasing referred to throughout this Draft RMP and Draft EIS. These stipulations would also apply, where appropriate and practical, to other surface-disturbing activities (and occupancy) associated with land-use authorizations, permits, and leases issued on BLM lands. The stipulations would not apply to activities and uses where they are contrary to laws, regulations, or specific program guidance. The intent is to maintain consistency, to the extent possible, in applying stipulations to all surface-disturbing activities.

Surface-disturbing activities are those that normally result in more than negligible disturbance to public lands and accelerate the natural erosive process. Surface disturbance may, but does not always, require reclamation. These activities normally involve use and/or occupancy of the surface, cause disturbance to soils and vegetation, and are usually caused by motorized or mechanical actions. They include, but are not limited to: the use of mechanized earth-moving equipment; truck-mounted drilling and geophysical exploration equipment; off-road vehicle travel in areas designated as limited or closed to off-road vehicle use; vegetation treatments; construction of facilities such as power lines, pipelines, oil and gas wells; recreation sites, improvements for range and wildlife; new road construction; and use of pyrotechnics and explosives. Surface disturbance is not normally caused by casual-use activities. Activities that are not considered surface-disturbing include, but are not limited to: livestock grazing, cross-country hiking, minimum impact filming, and vehicular travel on designated routes.

DESCRIPTION OF STIPULATIONS

The following tables show resources of concern and stipulations including exceptions, modifications, and waivers by alternative. Three types of stipulations could be applied to land-use authorizations: 1) no surface occupancy (NSO), 2) timing limitations (TL), and 3) controlled surface use (CSU). Although not a stipulation, areas that are closed to oil and gas leasing and other surface-disturbing activities are also identified in the tables. All other areas are open to oil and gas leasing subject to standard terms and conditions.

Areas identified as NSO are open to oil and gas leasing but surface-disturbing activities cannot be conducted on the surface of the land. Access to oil and gas deposits would require horizontal drilling from outside the boundaries of the NSO areas. NSO areas are avoidance areas for rights-of-way; no rights-of-ways would be granted in NSO areas

unless there are no feasible alternatives. Where necessary in the future, NSO areas could be recommended for withdrawal from operations conducted under the mining laws.

A NSO stipulation cannot be applied to operations conducted under the mining laws without a withdrawal. A withdrawal is not a land-use planning decision because it must be approved by the Secretary of Interior. Therefore, unless withdrawn, areas identified as NSO are open to operations conducted under the mining laws subject only to TL and CSU stipulations, which are consistent with the rights granted under the mining laws. Areas identified as TL are open to oil and gas leasing but would be closed to surface-disturbing activities during identified time frames. This stipulation would not apply to operation and maintenance activities, including associated vehicle travel, unless otherwise specified.

Areas identified as CSU are open to oil and gas leasing but would require proposals for surface-disturbing activities to be authorized only according to the controls or constraints specified.

EXCEPTIONS, MODIFICATIONS, AND WAIVERS

For all surface disturbing activities, stipulations/best management practices could be excepted, modified, or waived by the authorized officer. An exception exempts the holder of the land-use authorization document from the stipulation on a one-time basis. A modification changes the language or provisions of a surface stipulation, either temporarily or permanently. A waiver permanently exempts the surface stipulation. The environmental analysis document prepared for site specific proposals such as oil and gas development (i.e., APDs, sundry notices) also would need to address proposals to exempt, modify, or waive a surface stipulation.

ENVIRONMENTAL BEST MANAGEMENT PRACTICES (BMP) FOR OIL AND GAS OPERATIONS

Best Management Practices (BMP) are state-of-the-art mitigation measures applied on a site-specific basis to reduce, prevent, or avoid adverse environmental or social impacts. BMPs are applied to management actions to aid in achieving desired outcomes for safe, environmentally sound, resource development by preventing, minimizing, or mitigating adverse impacts and reducing conflicts. For each proposed action, a number of BMPs may be applied as necessary to mitigate expected impacts. The following typical environmental BMPs will be applied on individual Applications for Permit to Drill and associated rights-of-way in the South Coast Planning Area. These procedures are consistent with current national guidance and the Surface Operating Standards and Guidelines for Oil and Gas Development (Gold Book), 2007. This list is not comprehensive and may be modified over time as conditions change and new practices are identified.

- Interim reclamation of the well and access road will begin as soon as practicable after a well is placed in production. Facilities will be grouped on the pads to allow for maximum interim reclamation. Interim reclamation will include road cuts and fills and will extend to within close proximity of the wellhead and production facilities.
- All aboveground facilities including power boxes, building doors, roofs, and any visible equipment will be painted a color selected from the latest national color charts that best allows the facility to blend into the background.
- All new roads will be designed and constructed to a safe and appropriate standard, “no higher than necessary” to accommodate intended vehicular use. Roads will follow the contour of the land where practical. Existing oil and gas roads that are in eroded condition or contribute to other resource concerns will be brought to BLM standards within a reasonable period of time.
- Final reclamation of all oil and gas disturbance will involve re-contouring of all disturbed areas, including access roads, to the original contour or a contour that blends with the surrounding topography and re-vegetating all disturbed areas.
- Raptor perch avoidance devices will be installed on all new power lines and existing lines that present a potential hazard to raptors.
- All power lines to individual well locations (excluding major power source lines to the operating oil or gas field) and all flow lines would be buried in or immediately adjacent to the access roads.
- In developing oil and gas fields, all production facilities would be centralized to avoid tanks and associated facilities on each well pad.
- The use of submersible pumps would be strongly encouraged, especially in VRM Class I, II or III areas or any area visible by the visiting public.
- The use of partial or completely below-grade wellheads will be strongly encouraged in high visibility areas or mitigated in accordance with VRM Class designations.
- Noise reduction techniques and designs will be used to reduce noise from compressors or other motorized equipment.
- Light reduction techniques and designs will be used to reduce light sources that are highly visible and have the ability to affect the behavior patterns of nocturnal wildlife.
- The placement of production facilities on hilltops and ridgelines will be prohibited where they are highly visible.

- Monitoring of wildlife will occur to evaluate the effects of oil and gas development.
- The placement of production facilities on hilltops and ridgelines will be avoided.
- Facilities will be screened from view.
- Oil field wastes and spills will be bio-remediated.
- Common utility or right-of-way corridors containing roads, power lines, and pipelines will be used.

Resources of Concern and Stipulations Including Exceptions, Modifications, and Waivers by Alternative							
Resource of Concern	Applicable Area	Stipulation Code	Alternative				Best Management Practice Description
			A	B	C	D	
Floodplains, Riparian Areas, Springs, and Public Water Reserves	Planning Area	Open	X	X	X	X	<p>Allow no surface-disturbing activities within 100 year floodplains or within 200 meters of riparian areas. Also, no surface-disturbing activities within public water reserves.</p> <p>Purpose: To protect floodplains, riparian areas, springs, and public water reserves.</p> <p>Exception: An exception could be authorized if: (a) there are no practical alternatives, (b) impacts could be fully mitigated, or (c) the action is designed to benefit and enhance the resource values.</p> <p>Modification: None</p> <p>Waiver: None</p>
River Corridors	Santa Clara River	Open NSO	X		X	X	<p>Where the NSO area is physically inaccessible to oil and gas drilling by current directional drilling technology (1 mile from outside the NSO area), it would be not be closed to oil and gas leasing. These lands would also remain NSO for all other surface-disturbing activities.</p> <p>Purpose: To protect riparian, wildlife, scenic, and recreational values along the major river corridors.</p> <p>Exception: An exception could be authorized if the use is consistent and compatible with protection or enhancement of the resource values or the use would provide suitable opportunities for public enjoyment of the applicable resources. No exception for oil and gas leasing.</p>
River Corridors	Santa Clara River	Closed		X			<p>There would be no surface-disturbing activities within the area of the Santa Clara River mineral withdrawal.</p> <p>Purpose: To protect riparian, wildlife, scenic, and recreational values along the major river corridors.</p> <p>Exception: An exception could be authorized if the use is consistent and compatible with protection or enhancement of the resource values or the use would provide suitable opportunities for public enjoyment of the applicable resources.</p>

Resources of Concern and Stipulations Including Exceptions, Modifications, and Waivers by Alternative							
Resource of Concern	Applicable Area	Stipulation Code	Alternative				Best Management Practice Description
			A	B	C	D	
Sensitive Soils/ Slopes	Planning Area	Closed Open	 X	X 	X 	X 	Surface-disturbing proposals involving construction on slopes greater than 30% would be avoided. Purpose: To protect fragile soils on slopes. Exception: If the action cannot be avoided, rerouted, or relocated, then a proposal would include: an erosion control strategy, reclamation and a site plan with a detailed survey and design completed by a certified engineer. This proposal must be approved by the BLM prior to construction and maintenance.
SPECIAL STATUS SPECIES (FAUNA)							
Bell's sage sparrow	Habitat of Bell's sage sparrow:	CSU		X	X	X	Prevent or avoid activities that fragment, reduce, or eliminate coastal sage scrub habitat or cause habitat type conversion, due to the introduction of non-native invasive plant species. Purpose: To prevent degradation of habitat for the Bell's sage sparrow, a California Species of Special Concern. Exception: None Modification: None Waiver: A waiver may be granted if it is determined that there is no habitat for the sparrow within the leasing area.
Burrowing owl	Native grass and shrublands, containing perches and burrows which provide habitat used for foraging and shelter.	CSU TL		X	X	X	No surface disturbances or occupancy would be conducted during the breeding season (March 1 to August 31) for the burrowing owl. Purpose: To protect habitat for the designated BLM Sensitive burrowing owl. Exception: An exception would be granted if surveys determined that nesting sites, breeding territories, and winter roosting areas are not occupied. Modification: The Authorized Officer may modify the boundaries of the stipulation area if portions of the area do not include habitat or are outside the current defined area. Waiver: A waiver may be granted if it is determined that the species or its habitat are not present in the leasing area.

Resources of Concern and Stipulations Including Exceptions, Modifications, and Waivers by Alternative							
Resource of Concern	Applicable Area	Stipulation Code	Alternative				Best Management Practice Description
			A	B	C	D	
California condor	Crevices, overhanging ledges for nesting; open terrain of foothill grasslands and oak savannahs for foraging; cliffs, tall conifers, dead snags for roosting.	CSU TL		X	X	X	Avoid human intrusion and noise within one mile of known occurrences, especially during the nesting season: December through spring months. Eliminate sources that could cause deaths: contaminants such as oil and antifreeze, drowning in uncovered oil sumps, powerline collisions. Purpose: Provide protection for endangered species. Exception: None Modification: None Waiver: None
Coastal California gnatcatcher (FT)	Coastal sage scrub almost exclusively, occasionally chaparral.	NSO	X	X	X	X	No destruction or modification of critical habitat or any other habitat which supports known populations or occurrences of the coastal California gnatcatcher. Purpose: Protection of the threatened coastal California gnatcatcher and its habitat. Exception: None. Modification: None Waiver: This stipulation may be waived for the entire lease area if the authorized officer, in consultation with the USFWS and conference with CDFG, determines that the areas protected by the stipulation is no longer habitat for this species or that this species is declared recovered and such protection is no longer needed.

Resources of Concern and Stipulations Including Exceptions, Modifications, and Waivers by Alternative							
Resource of Concern	Applicable Area	Stipulation Code	Alternative				Best Management Practice Description
			A	B	C	D	
Least Bell's Vireo (FE), southwestern willow flycatcher (FE)	Riparian Woodland	NSO	X	X	X	X	<p>No surface occupancy would be allowed within ¼ mile of riparian areas.</p> <p>Purpose: to protect breeding sites of least Bell's vireo and southwestern willow flycatcher, both of which are federally listed as endangered.</p> <p>Exception: An exception may be granted if BLM determines that the proposed action will not affect the least Bell's vireo/ southwestern willow flycatcher or their habitat. If BLM determines the action would have an adverse effect, the operator may submit a plan demonstrating that the impacts can be mitigated. This plan must be approved by BLM in consultation with the USFWF and conference with the CDFG.</p> <p>Modification: The boundaries of the stipulated areas may be modified if the authorized officer, in consultation with USFWS and conference with CDFG, determines that such portion of the riparian area does include Least Bell's Vireo or southwestern willow flycatcher nesting habitat.</p> <p>Waiver: This stipulation may be waived if the authorized officer, in consultation with the USFWS and in conference with CDFG, determine that none of the riparian areas within the leasehold include least Bell's vireo nesting habitat.</p>
<p>Bat species (BLMS):</p> <p>Townsend's big-eared bat, western mastiff bat, small footed myotis, long-eared myotis, fringed myotis, Yuma myotis, pallid bat, spotted bat.</p>	Foraging, roosting, maternity, and hibernating sites for bat species.	NSO		X	X	X	<p>No surface/subsurface disturbance prior to investigation and evaluation of abandoned mines that may serve as hibernacula, maternity roosts, or night roosts for bats. Mines and associated habitat for bats would be protected in compliance with BLM policy and the BLM Abandoned Mines Program.</p> <p>Purpose: Protection and preservation of bat habitat for numerous California Species of Special Concern and BLM Sensitive bat species.</p> <p>Exception: None</p> <p>Modification: None</p> <p>Waiver: None</p>

Resources of Concern and Stipulations Including Exceptions, Modifications, and Waivers by Alternative							
Resource of Concern	Applicable Area	Stipulation Code	Alternative				Best Management Practice Description
			A	B	C	D	
Stephen's kangaroo rat (FE/SE), San Bernardino kangaroo rat (FE)	SKR Core Reserves and other habitat for the Stephens' kangaroo rat in western Riverside and San Bernardino counties. USFWS designated critical habitat for the SBKR. Habitat for the SBKR in western Riverside and San Bernardino counties.	NSO	X	X	X	X	<p>No surface occupancy within SKR Core Reserves or USFWS designated critical habitat for the San Bernardino kangaroo rat. Outside SKR Core Reserves and critical habitat, no surface occupancy would be allowed within a setback of 200 meters of any areas occupied by either species of kangaroo rat.</p> <p>Purpose: To protect habitat of Stephen's kangaroo rat and San Bernardino kangaroo, both of which are federally listed threatened species.</p> <p>Exception: An exception may be granted if BLM determines that the proposed action would not affect either species of kangaroo rat or their habitat. If BLM determines the action would have an adverse effect, the operator may submit a plan demonstrating that impacts can be mitigated. This plan must be approved by BLM in consultation with USFWS and in conference with CDFG.</p> <p>Modification: The boundaries of the stipulated areas may be modified if the authorized officer, in consultation with the USFWS and conference CDFG, determines that protection of such area is not critical to either species of kangaroo rat.</p> <p>Waiver: This stipulation may be waived for the entire lease area if the authorized officer, in consultation with USFWS and conference with CDFG, determines that the area protected by the stipulation is no longer habitat for either species of kangaroo rat, or the Stephen's kangaroo rat or San Bernardino kangaroo rat is declared recovered and this stipulation is no longer needed to protect habitat.</p>

Resources of Concern and Stipulations Including Exceptions, Modifications, and Waivers by Alternative							
Resource of Concern	Applicable Area	Stipulation Code	Alternative				Best Management Practice Description
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Unarmored threespine stickleback (FE)	Critical habitat along the Santa Clara River for the unarmored three-spine stickleback.	NSO	X	X	X	X	<p>No surface occupancy would be allowed within ¼ mile of portions of the Santa Clara River identified as USFWS designated critical habitat for the unarmored three-spine stickleback.</p> <p>Purpose: To prevent degradation of habitat for the unarmored threespined stickleback.</p> <p>Exception: An exception may be granted if BLM determines that the proposed action would affect the unarmored three-spine stickle or its critical habitat. If BLM determines the action would have an adverse effect, the operator may submit a plan demonstrating that the impacts can be mitigated. This plan must be approved by BLM in consultation with USFWS and conference with the CDFG.</p> <p>Modification: The boundaries of the stipulated areas may be modified if the authorized officer, in consultation with USFWS and conference with CDFG, determines that protection of such area is not critical to the unarmored three-spined stickleback.</p> <p>Waiver: This stipulation may be waived for the entire lease area if the authorized officer, in consultation with USFWS and conference with CDFG, determines that the area protected by the stipulation is no longer habitat for unarmored three-spined sticklebacks or that unarmored three-spined sticklebacks are declared recovered and this stipulation is no longer needed to protect their habitat.</p>
Unarmored three-spined stickleback (FE)	Habitat for the unarmored three-spine stickleback.	CSU	X	X	X	X	<p>Prior to surface disturbance of areas within identified zone of influence, a surface use/oil spill contingency plan must be submitted to the authorized officer that demonstrates the following:</p> <ul style="list-style-type: none"> • Accidental spills would be contained on-site • On-site and off-site areas would be adequately protected from accelerated erosion; such as sheet rilling, gullyng and landslides. <p>Purpose: To prevent degradation of habitat of the unarmored three-spined stickleback, a federally and State listed endangered species.</p> <p>Exception: None.</p> <p>Modification: None</p> <p>Waiver: This stipulation may be waived for the entire lease area if the authorized officer, in consultation with the USFWS and conference with CDFG, determines that the areas protected by the stipulation is no longer habitat for this species or that this species is declared recovered and such protection is no longer needed.</p>

Resources of Concern and Stipulations Including Exceptions, Modifications, and Waivers by Alternative							
Resource of Concern	Applicable Area	Stipulation Code	Alternative				Best Management Practice Description
			A	B	C	D	
Santa Ana sucker (FT)	Santa Ana, San Gabriel, and Santa Clara Rivers; drainages with rocky substrates, good algae cover with little leafy vegetation.	NSO		X	X	X	No surface occupancy in areas of known occurrence. Maintain a functioning hydrological system that experiences peaks and ebbs in the water volume reflecting seasonal variation in precipitation throughout the year, with water temperatures less than 30 degrees C. Purpose: None Exception: None Waiver: This stipulation may be waived for the entire lease area if the authorized officer, in consultation with the USFWS and conference with CDFG, determines that the areas protected by the stipulation is no longer habitat for this species or that this species is declared recovered and such protection is no longer needed.
Arroyo toad (FE)	Habitat of arroyo toad: washes, arroyos, sandy riverbanks with stable terraces for burrowing, scattered vegetation for shelter, and areas of quiet water or pools free of silt for breeding.	NSO		X	X	X	No surface disturbance within critical habitat and no surface disturbance within one kilometer of any other habitat for the arroyo toad: Purpose: Protection of habitat for the endangered arroyo toad. Exception: None Modification: Waiver: This stipulation may be waived for the entire lease area if the authorized officer, in consultation with the USFWS and conference with CDFG, determines that the areas protected by the stipulation is no longer habitat for this species or that this species is declared recovered and such protection is no longer needed.
Western spadefoot toad (BLMS)	Habitat for the western spadefoot toad: oak woodlands, grasslands, chaparral scrub, temporary shallow rain pools.	CSU TL		X	X	X	Avoid or eliminate activities in areas of potential or known occurrence, especially during the breeding season (October to May); during summer storms; or during evenings with elevated substrate moisture levels. Avoid disturbance to temporary shallow rain pools where breeding occurs. Purpose: To protect the western spadefoot toad and prevent further loss of habitat for this California Species of Special Concern and BLM Sensitive Species. Exception: An exception may be granted if BLM determines that the proposed action will not affect the toad or its habitat. Modification: None Waiver: None

Resources of Concern and Stipulations Including Exceptions, Modifications, and Waivers by Alternative							
Resource of Concern	Applicable Area	Stipulation Code	Alternative				Best Management Practice Description
			A	B	C	D	
Coast horned lizard (BLMS)	Coastal sage scrub, valley-foothill hardwood, conifer and riparian habitats, annual grasslands, sandy open areas.	CSU		X	X	X	Avoid disturbance to lands contiguous with open sandy areas with ant nests. Purpose: To protect habitat and food source of declining populations of the coast horned lizard, a BLM Sensitive Species. Exception: An exception may be granted if BLM determines that the proposed action will not affect the coast horned lizard or its habitat. Modification: None Waiver: None
Western pond turtle (BLMS)	Aquatic habitat: permanent or nearly permanent water in a wide variety of habitat types.	CSU TL		X	X	X	No surface disturbance within 500 feet of ponds, lakes, streams, irrigation ditches or permanent pools along intermittent streams during spring or early summer when turtles are migrating overland to egg-laying sites. Purpose: Species protection and protection of habitat. Exception: An exception may be granted if BLM determines that the proposed action will not affect the turtle or its habitat. Modification: None Waiver: None
Quino checkerspot butterfly (FE)	Coastal sage scrub/chaparral containing larval host plants: plantain, owl's clover, white snapdragon, Chinese houses, threadleaf bird's beak.	NSO		X	X	X	No surface disturbance in areas of known occurrence of Quino checkerspot butterfly and associated larval host plants and nectar sources. Purpose: Protection of the federal endangered butterfly, its nectar species and its requisite larval host plants. Exception: None Modification: None Waiver: This stipulation may be waived if it is determined that the butterfly has been extirpated from leasing areas.
Riverside fairy shrimp (FE)	Vernal pools and ephemeral ponds within coastal prairie landscapes	NSO		X	X	X	No surface disturbance in vernal pool basins and their associated essential watershed. No surface disturbance or destruction of critical habitat for the Riverside fairy shrimp. Purpose: Protection of the endangered Riverside fairy shrimp and its habitat. Exception: None Modification: None Waiver: This stipulation may be waived if it is determined that the fairy shrimp does not occur within the leasing area.

Resources of Concern and Stipulations Including Exceptions, Modifications, and Waivers by Alternative							
Resource of Concern	Applicable Area	Stipulation Code	Alternative				Best Management Practice Description
			A	B	C	D	
SPECIAL STATUS SPECIES (FLORAL)							
Greata's aster (BLMS), Mount Gleason paintbrush (Rare/BLMS), round-leaved filaree (BLMS).	Upland forest, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodlands, valley/ foothill grasslands.	CSU		X	X	X	Special stipulations may be proposed for use to protect unique resources or values where it may be necessary to modify surface activities beyond authorities contained under the standard lease terms (43 CFR 3103.1-3). The Conditional Surface Use stipulations allow BLM, in consultation with the applicant, to extend modification of development proposals beyond the standard 200 meters and 60 day conditions. The BLM and applicant may use modify development proposals to entirely avoid or significantly minimize surface disturbing effects.
Robinson's pepper grass (BLMS), Santa Suzanna tarplant (Rare/BLMS).	Chaparral, coastal scrub.	CSU		X	X	X	Time frames for processing applications may be delayed beyond established standards to allow for species surveys, and consultation or conferencing with the U.S. Fish and Wildlife Service. Surface disturbing activities may be moved or modified, and some activities may be prohibited during seasonal time periods. Surface disturbing activities would be prohibited on the lease only where:
Long-spined spineflower (BLMS), Parry's spineflower (BLMS), slender Mariposa lily (BLMS).	Chaparral, coastal scrub, meadows and seeps, valley and foothill grasslands, vernal pools (clay).	CSU		X	X	X	1.the proposed action is likely to jeopardize the continued existence of a listed or proposed species, or 2. the proposed action is inconsistent with the recovery needs of a listed species as identified in an approved U.S. Fish and Wildlife Service Recovery Plan. Prior to the authorization of any surface disturbing activities, a preliminary environmental review will be conducted to identify the potential presence of habitat for these species. Authorizations may be delayed until completion of the necessary surveys during the appropriate time period for these species.
Nevin's barberry (FE/SE),	Chaparral, foothill woodlands, coastal sage scrub, riparian scrub (sandy or gravelly), alluvial scrub.	NSO		X	X	X	No surface disturbance or occupancy in areas of known or expected occurrence or within critical habitat for this species. Purpose: Protection of a federal and CA state endangered species. Exception: None Modification: None Waiver: This stipulation may be waived if the species does not occur within the lease area.

Resources of Concern and Stipulations Including Exceptions, Modifications, and Waivers by Alternative							
Resource of Concern	Applicable Area	Stipulation Code	Alternative				Best Management Practice Description
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Santa Monica Mountains dudleya (FT)	Chaparral and coastal sage scrub	NSO		X	X	X	No surface disturbance or occupancy in areas of known or expected occurrence. Purpose: Protection of a federal threatened species and its habitat. Exception: None Modification: None Waiver: This stipulation may be waived if the species does not occur within the lease area.
Santa Ana River woolly star (FE/SE)	Alluvial fan sage scrub: new sand deposits within the Santa Ana River	NSO	X		X	X	No surface disturbance within the Santa Ana River flood plain reserved for the Santa Ana River woolly star. Purpose: Protection of the State and federal endangered Santa Ana River woolly star and its habitat. Exception: None Modification: None Waiver: None
Slender horned spineflower (FE/SE)	Chaparral, cismontane woodland, coastal scrub, alluvial fans, flood plains, stream terraces.	NSO	X		X	X	The slender horned spineflower also occurs in the Santa Ana river flood plain and in areas with alluvial fans, stream washes, in silty soils with low nutrient levels. No surface occupancy or disturbances within areas of known or suspected occurrences or within critical habitat for this species. Purpose: Protection of the federal endangered and CA threatened slender horned spineflower. Exception: None Modification: None Waiver: None
Spreading navarretia (FT), California Orcutt's grass (FE)	Playas, vernal pools	NSO		X	X	X	No surface disturbance or surface occupancy in vernal pool, wetland/grassland areas. Purpose: Protection of federal and state threatened and endangered species and their habitat. Exception: None Modification: None Waiver: This stipulation may be waived if the species does not occur within the lease area.
Thread-leaf brodiaea (FT/SE)	Chaparral, cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools-often clay.	NSO		X	X	X	Same as above.

B. ENVIRONMENTAL BEST MANAGEMENT PRACTICES (BMP) FOR OTHER SURFACE DISTURBING ACTIVITIES

- Areas subject to surface disturbance should be evaluated for the presence of cultural resources or values.
- Areas subject to surface disturbance would be evaluated for the presence of threatened, endangered, or candidate animal or plant species.
- Special design and reclamation measures may be required to protect scenic and natural landscape values. These measures may include transplanting trees and shrubs, mulching and fertilizing disturbed areas, and painting to minimize visual contrasts.
- Above ground facilities requiring painting should be designed to blend in with the surrounding environment.
- Reclamation should be implemented concurrently with construction and site operations to the extent possible.
- Fill material should be pushed into cut areas and up over back slopes. Depressions should not be left that would trap water or form pools.

Road Design and Maintenance

- Keep access roads to a minimum, using them only when necessary.
- Design roads to minimize total disturbance, to conform to topography, and to minimize disruption of natural drainage patterns.
- Construct roads for surface drainage by using outslopes, crowns, grade changes, drain dips, waterbars, and/or insloping to ditches as appropriate.
- Construct roads when soils are dry and not frozen.
- Retain vegetation between roads and streams to filter runoff caused by roads.
- Use culverts that pass at a minimum, a 50 year storm event.

Rights-of-Way and Utility Corridor

- Rights-of-way (ROW) and utility corridors should use areas adjoining or adjacent to previously disturbed areas whenever possible.
- Disturbed areas within road ROWs and utility corridors should be stabilized by vegetation practices designed to hold soil in place and minimize erosion.

- Sediment barriers should be constructed when needed to slow runoff, allow deposition of sediment, and prevent transport from the site.

Reducing Impacts on Visual Resource Management Class II and Class III Areas

- Bury distribution powerlines and flow lines in or adjacent to access roads. Galvanized steel on utility structures should be darkened to prevent glare.
- Repeat form, line, color, and texture elements to blend facilities with the surrounding landscape.
- Paint all above-ground structures not requiring safety coloration an environmental color that is two shades darker than the surrounding environment. Colors should reflect those of the landscape, not the sky.
- Perform final reclamation recontouring of all disturbed areas, including access roads, to the original contour or a contour that blends with the surrounding topography.
- Avoid facility placement on steep slopes, ridgetops, and hilltops.

Developed Recreation Sites

- Construct recreation sites and provide appropriate sanitation facilities to minimize impacts on resource values and public health and safety and to minimize user conflicts of approved activities and access within an area as appropriate.
- Use public education and/or physical barriers (such as rocks, posts, and vegetation) to direct or preclude uses and to minimize impacts on resource values.

C. BEST MANAGEMENT PRACTICES FOR RAPTORS

Raptors, or *Birds of Prey*, are found on public lands throughout the South Coast Field Office. Approximately 28 species of raptors utilize public lands for at least a portion of their life cycle.

All raptors in the South Coast Planning Area are considered to be Special Status Species by the BLM, and currently receive enhanced protection, in addition to the regulatory authority provided by the Migratory Bird Treaty Act (MBTA), which covers all raptor species.

Future raptor management on BLM lands in South Coast Planning Area will be guided by the use of these Best Management Practices (BMPs).

These Best Management Practices, or specific elements of the BMP's which pertain to a proposal, should be attached as Conditions of Approval to all BLM use authorizations which have the potential to adversely affect nesting raptors, or would cause occupied nest sites to become unsuitable for nesting in subsequent years.

Raptor management is a dynamic and evolving science, and consequently, as the science evolves, these BMP's will undergo subsequent revision. As more information becomes available through implementation of these BMP's, and as our knowledge of raptor life cycle requirements increases, findings will be incorporated into future revisions of the BMP document.

To adequately manage raptors and their habitats, and to reduce the likelihood of a raptor species being listed under the Endangered Species Act (ESA), BLM-authorized or proposed management activities and/or land disturbing actions would be subject to the criteria and processes specified within these BMPs. The implementation of raptor spatial and seasonal buffers under the BMPs would be consistent with the guidelines provided in Attachment 2. As specified in the guidelines, modifications of spatial and seasonal buffers for BLM-authorized actions would be permitted, so long as protection of nesting raptors was ensured. State and/or Federally-listed, proposed, and candidate raptor species, as well as BLM state-sensitive raptor species, should be afforded the highest level of protection through this BMP process; however, all raptor species would continue to receive protection under the Migratory Bird Treaty Act. Modification of the buffers for threatened or endangered species would be considered pending results of Section 7 Consultation with USFWS.

As stated in the guidelines, spatial and seasonal buffers should be considered as the best available recommendations for protecting nesting raptors under a wide range of activities state-wide. However, they are not necessarily site-specific to proposed projects. Land managers should evaluate the type and duration of the proposed activity, the position of topographic and vegetative features, the sensitivity of the affected species, the habituation of breeding pairs to existing activities in the proposed project area, and the local raptor nesting density, when determining site-specific buffers. The BLM would be encouraged to informally coordinate with CDFG and USFWS anytime a site-specific analysis shows that an action may have an adverse impact on nesting raptors. The coordination would determine if the impact could be avoided or must be mitigated, and if so, to determine appropriate and effective mitigation strategies.

Potential modifications of the spatial and seasonal buffers identified in the guidelines may provide a viable management option. Modifications would ensure that nest protection would occur, while allowing various management options which may deviate from the suggested buffers within the guidelines which, if adequately monitored, could provide valuable information for incorporation into future management actions.

Seasonal raptor buffers from Attachment 2 should be reviewed by local raptor nesting authorities who are knowledgeable of raptor nesting chronologies within their local area. For those nesting raptors for which local nesting chronologies remain uncertain, the seasonal buffers provided in Attachment 2 should serve as the default. However, for those raptor species whose known nesting chronologies differ from the seasonal buffers

provided in Attachment 2, the local seasonal buffers may be utilized as a modification of the guidelines.

Criteria that would need to be met, prior to implementing modifications to the spatial and seasonal buffers in the guidelines would include the following:

1. Completion of a site-specific assessment by a wildlife biologist or other qualified individual. See example (Attachment 1).
2. Written documentation by the BLM Field Office Wildlife Biologist, identifying the proposed modification and affirming that implementation of the proposed modification(s) would not affect nest success or the suitability of the site for future nesting. Modification of the guidelines would not be recommended if it is determined that adverse impacts to nesting raptors would occur or that the suitability of the site for future nesting would be compromised.
3. Development of a monitoring and mitigation strategy by a BLM biologist, or other raptor biologist. Impacts of authorized activities would be documented to determine if the modifications were implemented as described in the environmental documentation or Conditions of Approval, and were adequate to protect the nest site. Should adverse impacts be identified during monitoring of an activity, BLM would follow an appropriate course of action, which may include cessation or modification of activities that would avoid, minimize or mitigate the impact, or, with the approval of CDFG and USFWS, BLM could allow the activity to continue while requiring monitoring to determine the full impact of the activity on the affected raptor nest. A monitoring report would be completed and forwarded to CDFG for incorporation into the California Natural Diversity Database (CNDDDB) database.

HABITAT ENHANCEMENT

As recommended in the guidelines raptor habitat management and enhancement, both within and outside of buffers, would be an integral part of these BMPs, with the understanding that in order for raptors to maintain high densities and maximum diversity, it is necessary that the habitat upon which they and their prey species depend be managed to promote healthy and productive ecosystems. Habitat loss or fragmentation would be minimized and/or mitigated to the extent practical and may include such measures as; drilling multiple wellheads per pad, limiting access roads and avoiding loop roads to well pads, effective rehabilitation or restoration of plugged and abandoned well locations and access roads that are no longer required, rehabilitation or restoration of wildland fires to prevent domination by non-native invasive annual species, vegetation treatments and riparian restoration projects to achieve Rangeland Health Standards, etc.

In some cases, artificial nesting structures, located in areas where preferred nesting substrates are limited, but where prey base populations are adequate and human disturbances are limited, may enhance some raptor populations, or may serve as mitigation for impacts occurring in other areas.

PROTECTION OF NEST SITES AND BUFFER ZONES

As stated in the guidelines protection of both occupied and unoccupied nests is important since not all raptor pairs breed every year, nor do they always utilize the same nest within a nesting territory. Individual raptor nests left unused for a number of years are frequently reoccupied, if all the nesting attributes which originally attracted a nesting pair to a location are still present. Nest sites are selected by breeding pairs for the preferred habitat attributes provided by that location.

Raptor nest buffer zones are established for planning purposes because the nest serves as the focal point for a nesting pair of raptors. The buffer should serve as a threshold of potential adverse affect to nest initiation and productivity. Actions proposed within these buffer zones are considered potentially impacting and, therefore, trigger the need for consideration of site-specific recommendations.

Seasonal (temporal) buffer zones are conservation measures intended to schedule potentially impacting activities to periods outside of the nesting season for a particular raptor species. These seasonal limitations are particularly applicable to actions proposed within the spatial buffer zone of a nest for short duration activities such as, pipeline or powerline construction, seismic exploration activity, vegetative treatments, fence or reservoir construction, permitted recreational events, etc., where subsequent human activity would not be expected to occur.

Spatial buffer zones are those physical areas around raptor nest sites where seasonal conservation measures, or surface occupancy restrictions may be applied, depending on the type and duration of activity, distance and visibility of the activity from the nest site, adaptability of the raptor species to disturbance, etc. Surface occupancy restrictions should be utilized for actions which would involve human activities within the buffer zone for a long duration (more than one nesting season) and which would cause an occupied nest site to become unsuitable for nesting in subsequent years.

UNOCCUPIED NESTS

All Activities, including All Mineral Leases: Surface-disturbing activities, occurring outside of the breeding season (seasonal buffer), but within the spatial buffer, would be allowed during a minimum three-year nest monitoring period, as long as the activity would not cause the nest site to become unsuitable for future nesting, as determined by a wildlife biologist. Facilities and other permanent structures would be allowed, if they meet the above criteria.

Some examples of typical surface disturbing actions, occurring outside of the seasonal buffer, which may not be expected to affect nest production or future nesting suitability, would include; pipelines, powerlines, seismographic exploration, communication sites, an oil or gas well with off-site facilities which does not require routine visitation, recreation events, fence or reservoir construction, vegetative treatments, and other actions with discreet starting and ending times, and for which subsequent human activity or heavy equipment operation within the spatial buffer would not be expected to occur, or could be scheduled outside of the seasonal buffer in subsequent years.

Surface disturbing activities that would be expected to potentially affect nest production or nest site suitability, include; oil and gas facilities requiring regular maintenance, sand and gravel operations, road systems, wind energy projects, mining operations, and other actions requiring continual, random human activity, or heavy equipment operation during subsequent nesting seasons.

A nest site which does not exhibit evidence of use, such as; greenery in the nest, fresh whitewash, obvious nest maintenance or the observed presence of adults or young at the nest, for a period of three consecutive years, (verified through monitoring), would be deemed abandoned and all seasonal and spatial restrictions would cease to apply to that nest. All subsequent authorizations for permanent activities within the spatial buffer of the nest could be permitted. If the nest becomes reoccupied after authorized activities are completed, conservation measures would be considered to reduce potential adverse affects and to comply with the Migratory Bird Treaty Act and the Eagle Protection Act.

Because prey base populations are known to be cyclic, and because raptor nest initiation or nesting success can be affected by drought and other random natural events, care should be taken when applying the 3-year non-activity standard. The 3-year nest occupancy monitoring requirement should be viewed as a minimum time period during those years of optimal raptor nesting conditions. During sub-optimal raptor nesting years, when nesting habitat may be affected by drought, low prey base populations, fire, or other events, the monitoring standard should be increased to allow raptors the opportunity to reoccupy nesting sites when nesting conditions become more favorable.

OCCUPIED NESTS

All Activities: Land use activities which would have an adverse impact on an occupied raptor nest would not be allowed within the spatial or seasonal buffer.

CONSIDERATION OF ALTERNATIVES AND MITIGATION MEASURES

Alternatives, including denial of the proposal, should be identified, considered and analyzed in a NEPA document anytime an action is proposed within the spatial buffer zone of a raptor nest. Selection of a viable alternative that avoids an impact to nesting raptors should be selected over attempting to mitigate those impacts. If unavoidable impacts are identified, mitigation measures should be applied as necessary to mitigate adverse impacts of resource uses and development on nesting raptors. Monitoring of the effectiveness of the mitigation measures should be mandatory and should be included as a Condition of Approval.

SPECIFIC STRATEGIES TO BE IMPLEMENTED REGARDING OTHER RESOURCE USES

The following are management strategies designed to reduce or eliminate potential conflicts between raptors and other resource uses. This is a list of examples and is not

intended to be an all-inclusive list. In all cases, when an activity on BLM lands is proposed, and a NEPA document developed, the site-specific analysis process identified in Attachment 1 may be implemented to identify and either avoid or mitigate impacts to raptors from the proposal. These strategies apply to both BLM and applicant-generated proposals. The strategies are as follows:

Cultural Resources

Excavation and studies of cultural resources in caves and around cliff areas should be delayed until a qualified biologist surveys the area to be disturbed or impacted by the activity for the presence of raptors or nest sites. If nesting raptors are present, the project should be rescheduled to occur outside of the seasonal buffer recommended by the "Guidelines".

Hazardous Fuel Reduction/Habitat Restoration Projects

Hazardous fuels reduction projects and restoration projects would be reviewed for possible impacts to nesting raptors. Removal of trees containing either stick nests or nesting cavities, through prescribed fire, or mechanical or manual treatments, should be avoided.

It is important to note that certain raptor species are tied to specific habitat types, and that consideration must be made on a site-specific basis when vegetation manipulation projects are proposed, to determine which raptor species may benefit and which may be negatively affected by the vegetation composition post-treatment.

Livestock Grazing

Manage rangelands and riparian areas in a manner that promotes healthy, productive rangelands and functional riparian systems. Rangeland Health Assessments would be conducted on each grazing allotment, and rangeland guidelines should be implemented where Rangeland Health Standards are not being met, to promote healthy rangelands.

Season of use, kind of livestock, and target utilization levels of key species affect vegetative community attributes (percent cover, composition, etc.) and influence small mammal and avian species diversity and density. While not all raptor species would be affected in the same way, livestock management practices which maintain or enhance vegetative attributes, will preserve prey species density and diversity which will benefit the raptor resource.

OHV Use

When proposals for OHV events are received, the area to be impacted, would be surveyed by a qualified wildlife biologist to determine if the area is utilized by raptors. Potential conflicts would be identified and either avoided or mitigated prior to the issuance of any permit.

Oil and Gas Development

The Code of Federal Regulations (CFR), 43 CFR 3101.1-2, allows for well site location and timing to be modified from that requested by the lessee to mitigate conflicts at the proposed site, and states that the location can be moved up to 200 meters and the timing of the actual drilling can be delayed for up to 60 days to mitigate environmental concerns. The regulation also allows BLM to move a location more than 200 meters, or delay operations more than 60 days to protect sensitive resources, with supporting rationale and where lesser restrictions are ineffective. The Site Specific Analysis (Attachment 1) would provide the supporting rationale. Provisions are also present within Sections 3 and 6 of the Standard Lease Form which require compliance with existing laws and would allow the BLM to impose additional restrictions at the permitting phase, if the restrictions will prevent violation of law, policy or regulation, or avoid undue and unnecessary degradation of lands or resources.

Lands and Realty

Lands proposed for disposal which includes raptor nesting, roosting, or important foraging areas would be analyzed and evaluated for the relative significance of these resources before a decision is made for disposal or retention.

A priority list of important raptor habitat areas, especially for Federally listed or state sensitive raptor species, on state and private lands should be developed and utilized as lands to be acquired by BLM when opportunities arise to exchange or otherwise acquire lands.

Lands and realty authorizations would include appropriate conservation measures to avoid and/or mitigate impacts to raptors.

Recreation

Development of biking/ hiking trails near raptor nesting areas would not be developed.

Rock climbing activities would be authorized only in areas where there are no conflicts with cliff nesting raptors.

In high recreation use areas where raptor nest sites have been made unsuitable by existing disturbance or habitat alteration, mitigation should be considered to replace nest sites with artificial nest structures in nearby suitable habitat, if it exists, and consider seasonal protection of nest sites through fencing or other restrictions.

Dispersed recreation would be monitored to identify where this use may be impacting nesting success of raptors.

INVENTORY AND MONITORING

- Use of Seasonal Employees and volunteers, as well as "Challenge Cost Share" projects, should be utilized to augment the inventory and monitoring of raptor nests within a planning area, with the data entered into the above-mentioned databases at the

close of each nesting season. Project proponents, such as energy development interests, would be encouraged to participate and help support an annual raptor nest monitoring effort within their areas of interest.

- Active nest sites should be monitored during all authorized activities that may have an impact on the behavior or survival of the raptors at the nest site. A qualified biologist would conduct the monitoring and document the impacts of the activity on the species. A final report of the impacts of the project should be placed in the EA file, with a copy submitted to the CNDDDB. The report would be made available for review and should identify what activities may affect raptor-nesting success, and should be used to recommend appropriate buffer zones for various raptor species.
- As data are gathered, and impact analyses are more accurately documented, "adaptive management" principles should be implemented. Authorization of future activities should take new information into account, better protecting raptors, while potentially allowing more development and fewer restrictions, if data indicates that current restrictions are beyond those necessary to protect nesting raptors, or conversely indicates that current guidance is inadequate for protection of nesting raptors.

ATTACHMENT 1

Site Specific Analysis Data Sheet

Observer(s) _____ **Date** _____

1. Conduct a site visit to the area of the proposed action and complete the raptor nest site data sheet according to BLM data standards.

2. Area of Interest Documentation (**Bold** items require completion, other information is optional)

State Office _____ **Management Unit** _____

Project ID# _____

Location (Description)

Legal T _____, R _____, Sec. _____, 1/4, 1/4, or UTM Coordinates

Latitude _____ Longitude _____

Photos Taken Y() N()

Description of photos:

Raptor Species Confirmed Unconfirmed

Distance from Proposed Disturbance to:

Nest _____

Perch _____

Roost _____

Line of Site Evaluation from:

Nest _____

Perch _____

Roost _____

Extent of Disturbance: Permanent Temporary _____

Distance from Nest/Roost _____ Acreage _____

Length of Time Timing Variations Disturbance Frequency _____

Other Disturbance Factors: Yes No (If yes, explain what and include distances from nest to disturbances)

Approximate Age of Nest: New **Historical:** (Number of Years)

Evidence of Use (Describe):

Habitat Values Impacted:

Proportion of Habitat Impacted (Relate in terms of habitat available):

Estimated Noise Levels of Project (db): _____

Available Alternative(s) (e.g., location, season, technology): **Associated Activities:**

Cumulative Effects of Proposal and Other Actions in Habitat Not Associated With the Proposal:

Potential for site Rehabilitation: High Low _____

Notes/Comments:

Summary of Proposed Modifications:

Possible modifications to the spatial and seasonal buffers within the FWS "Guidelines" include the following:

Rationale:

Summary of Proposed Mitigation Measures:

Possible mitigation measures related to the proposal include the following:

Rationale:

Summary of Alternatives Considered

Possible alternatives to the proposal include the following:

Rationale:

Recommendation to FO Manager Based on Above Findings:

Field Office Wildlife Biologist

Date

Attachment 2 - Nesting periods and recommended buffers for raptors in South Coast Planning Area

Species	Spatial Buffer (miles)	Seasonal Buffer	Incubation Days	Brooding, Days Post-Hatch	Fledging, Days Post-Hatch	Post-fledge Dependency to Nest in Days
Bald eagle	1.0	1/1-8/31	34-36	21-28	70-80	14-20
Golden eagle	0.5	1/1-8/31	43-45	30-40	66-75	14-20
Red shouldered hawk	0.5	4/1-10/31	28-33	40	44	17-19 wks.
N. Harrier	0.5	4/1-8/15	32-38	21-28	42	7
Cooper's hawk	0.5	3/15-8/31	32-36	14	27-34	10
Ferruginous hawk	0.5	3/1-8/1	32-33	21	38-48	7-10
Red-tailed hawk	0.5	3/15-8/15	30-35	35	45-46	14-18
Sharp-shinned hawk	0.5	3/15-8/31	32-35	15	24-27	12-16
Swainson's hawk	0.5	3/1-8/31	33-36	20	36-40	14
Turkey vulture	0.5	5/1-8/15	38-41	14	63-88	10-12
California condor	1.0	NN yet	56-58	5-8 weeks	5-6 months	8 wks.
Peregrine falcon	1.0	2/1-8/31	33-35	14-21	35-49	21
Prairie falcon	0.25	4/1-8/31	29-33	28	35-42	7-14
Merlin	0.5	4/1-8/31	28-32	7	30-35	7-19
American kestrel	NN2	4/1-8/15	26-32	8-10	27-30	12
Osprey	0.5	4/1-8/31	37-38	30-35	48-59	45-50
Common barn owl	NN2	2/1-9/15	30-34	20-22	56-62	7-14
Burrowing owl	0.25	3/1-8/31	27-30	20-22	40-45	21-28
Flammulated owl	0.25	4/1-9/30	21-22	12	22-25	7-14
Great horned owl	0.25	12/1-9/31	30-35	21-28	40-50	7-14
Long-eared owl	0.25	2/1-8/15	26-28	20-26	30-40	7-14
N. saw-whet owl	0.25	3/1-8/31	26-28	20-22	27-34	7-14
Short-eared owl	0.25	3/1-8/1	24-29	12-18	24-27	7-14
CA spotted owl	0.5	3/1-9/1	28-32	8-10	32-36	40-45
N. pygmy owl	0.25	4/1-8/1	27-31	10-14	28-30	7-14
W. screech owl	0.25	3/1-8/15	21-30	10-14	30-32	7-14

D. POLICIES, BEST MANAGEMENT PRACTICES (BMPs) AND MITIGATION FOR WIND ENERGY DEVELOPMENT IN THE SOUTH COAST PLANNING AREA

The decisions attached herein adopt those developed in the national Wind Energy EIS. They include a number of policies not previously applied to public lands in the South Coast Planning Area. (See Note) They are intended to mitigate the development of wind energy resources on BLM-administered public lands in the South Coast Planning Area. The policies and BMPs will be applicable to all wind energy development projects on BLM-administered public lands. The policies address the administration of wind energy development activities, and the BMPs identify required operational and mitigation measures that would be incorporated into project-specific Plans of Development (PODs) and rights-of-way (ROW) authorization stipulations to be followed when projects are approved. Additional mitigation measures will be applied to individual projects, in the form of stipulations in the ROW authorization as appropriate, to address site-specific and species-specific issues.

[Note: These policies and BMPs have been previously analyzed through preparation of national Wind Energy PEIS (BLM 2005). The PEIS included detailed, comprehensive analysis of the potential impacts of wind energy development and relevant mitigation measures; reviews of existing, relevant mitigation guidance; and reviews of comments received during scoping and public review of the Draft PEIS. It is unnecessary to further analyze the following since their development and analysis in the South Coast Draft RMP/Draft EIS]

POLICIES

The BLM will not issue ROW authorizations for wind energy development on lands on which wind energy development is incompatible with specific resource values, policies, goals, or objectives. Specific lands that will be excluded from wind energy site monitoring, testing and development include designated areas such as Wilderness Areas, Area of Critical Environmental Concern, critical habitat, Wildlife Habitat Areas, Transportation and Utility Corridors, and on slopes greater than 30%. Additional areas of land may be excluded from wind energy development on the basis of environmental findings of resource impacts that cannot be mitigated and/or conflict with existing and planned multiple-use activities or land use plans. Approval or non-approval of any specific project would be based on a subsequent environmental assessment or environmental impact statement.

- Wind energy projects shall be developed in a manner that will not prevent or eliminate other land uses that are currently authorized by the land use plan, including minerals extraction, livestock grazing, recreational use, and other ROW uses.
- Entities seeking to develop a wind energy project on BLM-administered lands shall consult with appropriate federal, state, and local agencies regarding specific projects as early in the planning process as appropriate to ensure that all potential construction, operation, and decommissioning issues and concerns are identified and adequately addressed.

- The BLM will initiate government-to-government consultation with Indian Tribal governments whose interests might be directly and substantially affected by activities on BLM-administered lands as early in the planning process as appropriate to ensure that construction, operation, and decommissioning issues and concerns are identified and adequately addressed.
- Entities seeking to develop a wind energy project on BLM-administered lands, in conjunction with BLM Washington Office (WO) and Field Office (FO) staff, shall consult with the U.S. Department of Defense (DoD) regarding the location of wind power projects and turbine siting as early in the planning process as appropriate. This consultation shall occur concurrently at both the installation/field level and the Pentagon/BLM WO level. An interagency protocol agreement is being developed to establish a consultation process and to identify the scope of issues for consultation.
- The BLM will consult with the U.S. Fish and Wildlife Service (USFWS) as required by Section 7 of the Endangered Species Act of 1973 (ESA). The specific consultation requirements will be determined on a project-by-project basis.

The BLM will consult with the State Historic Preservation Office (SHPO) as required by Section 106 of the National Historic Preservation Act of 1966 (NHPA). The specific consultation requirements will be determined on a project-by-project basis. If programmatic Section 106 consultations have been conducted and are adequate to cover a proposed project, additional consultation may not be needed.

- The level of environmental analysis to be required under NEPA for individual wind power projects will be determined at the FO level. For many projects, it may be determined that a tiered environmental assessment (EA) is appropriate in lieu of an EIS. To the extent that the PEIS addresses anticipated issues and concerns associated with an individual project, including potential cumulative impacts, the BLM will tier off of the decisions embedded in the PEIS and limit the scope of additional project-specific NEPA analyses. The site-specific NEPA analyses will include analyses of project site configuration and micro-siting considerations, monitoring program requirements, and appropriate mitigation measures.

Public involvement will be incorporated into all wind energy development projects to ensure that all concerns and issues are identified and adequately addressed. In general, the scope of the NEPA analyses will be limited to the proposed action on BLM-administered public lands; however, if access to proposed development on adjacent non-BLM-administered lands is entirely dependent on obtaining ROW access across BLM-administered public lands and there are no alternatives to that access, the NEPA analysis for the proposed ROW may need to assess the environmental effects from that proposed development. The BLM's analyses of ROW access projects may tier off of the PEIS to the extent that the proposed project falls within the scope of the PEIS analyses.

- The Categorical Exclusion (CX) applicable to the issuance of short-term ROWs or land use authorizations may be applicable to some site monitoring and testing activities. The

relevant CX, established for the BLM in the DOI Departmental Manual 516, Chapter 11, Sec. 11.5, E(19) (DOI 2004), encompasses “issuance of short-term (3 years or less) rights-of-way or land use authorizations for such uses as storage sites, apiary sites, and construction sites where the proposal includes rehabilitation to restore the land to its natural or original condition.”

The BLM will require financial bonds for all wind energy development projects on BLM-administered public lands to ensure compliance with the terms and conditions of the rights-of-way authorization and the requirements of applicable regulatory requirements, including reclamation costs. The amount of the required bond will be determined during the rights-of-way authorization process on the basis of site-specific and project-specific factors. The BLM may also require financial bonds for site monitoring and testing authorizations.

- Entities seeking to develop a wind energy project on BLM-administered public lands shall develop a project-specific Plan of Development (POD) that incorporates all BMPs and, as appropriate, the requirements of other existing and relevant BLM mitigation. Additional mitigation measures will be incorporated into the POD and into the ROW authorization as project stipulations, as needed, to address site-specific and species-specific issues. The POD will include a site plan showing the locations of turbines, roads, power lines, other infrastructure, and other areas of short- and long-term disturbance.
- The BLM will incorporate management goals and objectives specific to habitat conservation for species of concern, as appropriate, into the POD for proposed wind energy projects.
- The BLM will consider the visual resource values of the public lands involved in proposed wind energy development projects, consistent with BLM Visual Resource Management (VRM) policies and guidance. The BLM will work with the ROW applicant to incorporate visual design considerations into the planning and design of the project to minimize potential visual impacts of the proposal and to meet the VRM objectives of the area.
- Operators of wind power facilities on BLM-administered public lands shall consult with the BLM and other appropriate federal, state, and local agencies regarding any planned upgrades or changes to the wind facility design or operation. Proposed changes of this nature may require additional environmental analysis and/or revision of the POD.
- The BLM’s Wind Energy Development Program will incorporate adaptive management strategies to ensure that potential adverse impacts of wind energy development are avoided (if possible), minimized, or mitigated to acceptable levels. The programmatic policies and BMPs will be updated and revised as new data regarding the impacts of wind power projects become available.

At the project-level, operators will be required to develop monitoring programs to evaluate the environmental conditions at the site through all phases of development, to establish metrics against which monitoring observations can be measured, to identify

potential mitigation measures, and to establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and project-specific stipulations.

Best Management Practices (BMPs)

The BMPs will be adopted as required elements of project-specific PODs and/or as ROW or authorization stipulations. They are categorized by the following development activities: Site Monitoring and Testing, Plan of Development, Construction, Operation, and Decommissioning.

SITE MONITORING AND TESTING

- The area disturbed by installation of meteorological towers (i.e., footprint) shall be kept to a minimum.
- Existing roads shall be used to the maximum extent feasible. If new roads are necessary, they shall be designed and constructed to the appropriate standard.
- Meteorological towers shall not be located in sensitive habitats or in areas where ecological resources known to be sensitive to human activities are present. Installation of towers shall be scheduled to avoid disruption of wildlife reproductive activities or other important behaviors.
- Meteorological towers installed for site monitoring and testing shall be inspected periodically for structural integrity.

PLAN OF DEVELOPMENT PREPARATION

- The BLM and operators shall contact appropriate agencies, property owners, and other stakeholders early in the planning process to identify potentially sensitive land uses and issues, rules that govern wind energy development locally, and land use concerns specific to the region.
- Available information describing the environmental and socio-cultural conditions in the vicinity of the proposed project shall be collected and reviewed as needed to predict potential impacts of the project.
- The Federal Aviation Administration (FAA)-required notice of proposed construction shall be made as early as possible to identify any air safety measures that would be required.
- To plan for efficient use of the land, necessary infrastructure requirements shall be consolidated wherever possible, and current transmission and market access shall be evaluated carefully.

- The project shall be planned to utilize existing roads and utility corridors to the maximum extent feasible, and to minimize the number and length/size of new roads, lay-down areas, and borrow areas.
- A monitoring program shall be developed to ensure that environmental conditions are monitored during the construction, operation, and decommissioning phases. The monitoring program requirements, including adaptive management strategies, shall be established at the project level to ensure that potential adverse impacts of wind energy development are mitigated. The monitoring program shall identify the monitoring requirements for each environmental resource present at the site, establish metrics against which monitoring observations can be measured, identify potential mitigation measures, and establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and BMPs.
- “Good housekeeping” procedures shall be developed to ensure that during operation the site will be kept clean of debris, garbage, fugitive trash or waste, and graffiti; to prohibit scrap heaps and dumps; and to minimize storage yards.

Wildlife and Other Ecological Resources

- Operators shall review existing information on species and habitats in the vicinity of the project area to identify potential concerns.
- Operators shall conduct surveys for federal and/or state-protected species and other species of concern (including special status plant and animal species) using approved survey protocols within the project area and design the project to avoid, minimize, or mitigate impacts to these resources.
- Operators shall identify important, sensitive, or unique habitats in the vicinity of the project and design the project to avoid, minimize, or mitigate impacts to these habitats (e.g., locate the turbines, roads, and ancillary facilities in the least environmentally sensitive areas; i.e., away from riparian habitats, streams, wetlands, drainages, or critical wildlife habitats or corridors).
- The BLM will prohibit the disturbance of any population of federal listed plant species.
- Operators shall evaluate avian and bat use of the project area and design the project to minimize or mitigate the potential for bird and bat strikes (e.g., development shall not occur in riparian habitats and wetlands). Scientifically rigorous avian and bat use surveys shall be conducted; the amount and extent of ecological baseline data required shall be determined on a project basis.
- Turbines shall be configured to avoid landscape features known to attract raptors, if site studies show that placing turbines there would pose a significant risk to raptors.
- Operators shall determine the presence of bat colonies and avoid placing turbines near known bat hibernation, breeding, and maternity/nursery colonies; in known migration corridors; or in known flight paths between colonies and feeding areas.

- Operators shall determine the presence of active raptor nests (i.e., raptor nests used during the breeding season). Measures to reduce raptor use at a project site (e.g., minimize road cuts, maintain either no vegetation or non-attractive plant species around the turbines) shall be considered.
- A habitat restoration plan shall be developed to avoid (if possible), minimize, or mitigate negative impacts on vulnerable wildlife while maintaining or enhancing habitat values for other species. The plan shall identify revegetation, soil stabilization, and erosion reduction measures that shall be implemented to ensure that all temporary use areas are restored. The plan shall require that restoration occur as soon as possible after completion of activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.
- Procedures shall be developed to mitigate potential impacts to special status species. Such measures could include avoidance, relocation of project facilities or lay-down areas, and/or relocation of biota.
- Facilities shall be designed to discourage their use as perching or nesting substrates by birds. For example, power lines and poles shall be configured to minimize raptor electrocutions and discourage raptor and raven nesting and perching.

Visual Resource Considerations

- The public shall be involved and informed about the visual site design elements of the proposed wind energy facilities. Possible approaches include conducting public forums for disseminating information, offering organized tours of operating wind developments, and using computer simulation and visualization techniques in public presentations.
- Turbine arrays and turbine design shall be integrated with the surrounding landscape. Design elements to be addressed include visual uniformity, use of tubular towers, proportion and color of turbines, nonreflective paints, and prohibition of commercial messages on turbines.
- Other site design elements shall be integrated with the surrounding landscape. Elements to address include minimizing the profile of the ancillary structures, burial of cables, prohibition of commercial symbols, and lighting. Regarding lighting, efforts shall be made to minimize the need for and amount of lighting on ancillary structures.

Roads

- An access road siting and management plan shall be prepared incorporating existing BLM standards regarding road design, construction, and maintenance such as those described in the BLM Manual 9100 (BLM 2008) and the *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development* (DOI and DOA 2006).

Ground Transportation

- A transportation plan shall be developed, particularly for the transport of turbine components, main assembly cranes, and other large pieces of equipment. The plan shall consider specific object sizes, weights, origin, destination, and unique handling requirements and shall evaluate alternative transportation approaches. In addition, the process to be used to comply with unique state requirements and to obtain all necessary permits shall be clearly identified.
- A traffic management plan shall be prepared for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan shall incorporate measures such as informational signs, flaggers when equipment may result in blocked throughways, and traffic cones to identify any necessary changes in temporary lane configuration.

Noise

- Proponents of a wind energy development project shall take measurements to assess the existing background noise levels at a given site and compare them with the anticipated noise levels associated with the proposed project.

Noxious Weeds and Pesticides

- Operators shall develop a plan for control of noxious weeds and invasive species, which could occur as a result of new surface disturbance activities at the site. The plan shall address monitoring, education of personnel on weed identification, the manner in which weeds spread, and methods for treating infestations. The use of certified weed-free mulching shall be required. If trucks and construction equipment are arriving from locations with known invasive vegetation problems, a controlled inspection and cleaning area shall be established to visually inspect construction equipment arriving at the project area and to remove and collect seeds that may be adhering to tires and other equipment surfaces.
- If pesticides are used on the site, an integrated pest management plan shall be developed to ensure that applications would be conducted within the framework of BLM and DOI policies and entail only the use of EPA-registered pesticides. Pesticide use shall be limited to non-persistent, immobile pesticides and shall only be applied in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.

Cultural/Historic Resources

- The BLM will consult with Indian Tribal governments early in the planning process to identify issues regarding the proposed wind energy development, including issues related to the presence of cultural properties, access rights, disruption to traditional cultural practices, and impacts to visual resources important to the Tribe(s).

- The presence of archaeological sites and historic properties in the area of potential effect shall be determined on the basis of a records search of recorded sites and properties in the area and/or, depending on the extent and reliability of existing information, an archaeological survey. Archaeological sites and historic properties present in the area of potential effect shall be reviewed to determine whether they meet the criteria of eligibility for listing on the *National Register of Historic Places* (NRHP).
- If cultural resources are present at the site, or if areas with a high potential to contain cultural material have been identified, a cultural resources management plan (CRMP) shall be developed. This plan shall address mitigation activities to be taken for cultural resources found at the site. Avoidance of the area is always the preferred mitigation option. Other mitigation options include archaeological survey and excavation (as warranted) and monitoring. If an area exhibits a high potential, but no artifacts were observed during an archaeological survey, monitoring by a qualified archaeologist could be required during all excavation and earthmoving in the high-potential area. A report shall be prepared documenting these activities. The CRMP also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of artifacts and destruction of property on public land.

Paleontological Resources

- Operators shall determine whether paleontological resources exist in a project area on the basis of the sedimentary context of the area, a records search for past paleontological finds in the area, and/or, depending on the extent of existing information, a paleontological survey.
- If paleontological resources are present at the site, or if areas with a high potential to contain paleontological material have been identified, a paleontological resources management plan shall be developed. This plan shall include a mitigation plan for collection of the fossils; mitigation could include avoidance, removal of fossils, or monitoring. If an area exhibits a high potential but no fossils were observed during survey, monitoring by a qualified paleontologist could be required during all excavation and earthmoving in the sensitive area. A report shall be prepared documenting these activities. The paleontological resources management plan also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of fossils on public land.

Hazardous Materials and Waste Management

- Operators shall develop a hazardous materials management plan addressing storage, use, transportation, and disposal of each hazardous material anticipated to be used at the site. The plan shall identify all hazardous materials that would be used, stored, or transported at the site. It shall establish inspection procedures, storage requirements, storage quantity limits, inventory control, non-hazardous product substitutes, and disposition of excess materials. The plan shall also identify requirements for notices to

federal and local emergency response authorities and include emergency response plans.

- Operators shall develop a waste management plan identifying the waste streams that are expected to be generated at the site and addressing hazardous waste determination procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste minimization procedures. This plan shall address all solid and liquid wastes that may be generated at the site.
- Operators shall develop a spill prevention and response plan identifying where hazardous materials and wastes are stored on site, spill prevention measures to be implemented, training requirements, appropriate spill response actions for each material or waste, the locations of spill response kits on site, a procedure for ensuring that the spill response kits are adequately stocked at all times, and procedures for making timely notifications to authorities.

Storm Water

- Operators shall develop a storm water management plan for the site to ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion.

Human Health and Safety

- A safety assessment shall be conducted to describe potential safety issues and the means that would be taken to mitigate them, including issues such as site access, construction, safe work practices, security, heavy equipment transportation, traffic management, emergency procedures, and fire control.
- A health and safety program shall be developed to protect both workers and the general public during construction, operation, and decommissioning of a wind energy project. Regarding occupational health and safety, the program shall identify all applicable federal and state occupational safety standards; establish safe work practices for each task (e.g., requirements for personal protective equipment and safety harnesses; Occupational Safety and Health Administration [OSHA] standard practices for safe use of explosives and blasting agents; and measures for reducing occupational electric and magnetic fields [EMF] exposures); establish fire safety evacuation procedures; and define safety performance standards (e.g., electrical system standards and lightning protection standards). The program shall include a training program to identify hazard training requirements for workers for each task and establish procedures for providing required training to all workers. Documentation of training and a mechanism for reporting serious accidents to appropriate agencies shall be established.
- Regarding public health and safety, the health and safety program shall establish a safety zone or setback for wind turbine generators from residences and occupied buildings, roads, rights-of-ways, and other public access areas that is sufficient to prevent accidents resulting from the operation of wind turbine generators. It shall identify requirements for temporary fencing around staging areas, storage yards, and

excavations during construction or decommissioning activities. It shall also identify measures to be taken during the operation phase to limit public access to hazardous facilities (e.g., permanent fencing would be installed only around electrical substations, and turbine tower access doors would be locked).

- Operators shall consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) shall be identified and addressed in the traffic management plan.
- If operation of the wind turbines is expected to cause significant adverse impacts to nearby residences and occupied buildings from shadow flicker, low-frequency sound, or EMF, site-specific recommendations for addressing these concerns shall be incorporated into the project design (e.g., establishing a sufficient setback from turbines).
- The project shall be planned to minimize electromagnetic interference (EMI) (e.g., impacts to radar, microwave, television, and radio transmissions) and comply with Federal Communications Commission [FCC] regulations. Signal strength studies shall be conducted when proposed locations have the potential to impact transmissions. Potential interference with public safety communication systems (e.g., radio traffic related to emergency activities) shall be avoided.
- The project shall be planned to comply with FAA regulations, including lighting regulations, and to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips.
- Operators shall develop a fire management strategy to implement measures to minimize the potential for a human-caused fire.

CONSTRUCTION

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the construction phase, as appropriate.
- The area disturbed by construction and operation of a wind energy development project (i.e., footprint) shall be kept to a minimum.
- The number and size/length of roads, temporary fences, lay-down areas, and borrow areas shall be minimized.
- Topsoil from all excavations and construction activities shall be salvaged and reapplied during reclamation.
- All areas of disturbed soil shall be reclaimed using weed-free native grasses, forbs, and shrubs. Reclamation activities shall be undertaken as early as possible on disturbed areas.

- All electrical collector lines shall be buried in a manner that minimizes additional surface disturbance (e.g., along roads or other paths of surface disturbance). Overhead lines may be used in cases where burial of lines would result in further habitat disturbance.
- Operators shall identify unstable slopes and local factors that can induce slope instability (such as groundwater conditions, precipitation, earthquake activities, slope angles, and the dip angles of geologic strata). Operators also shall avoid creating excessive slopes during excavation and blasting operations. Special construction techniques shall be used where applicable in areas of steep slopes, erodible soil, and stream channel crossings.
- Erosion controls that comply with county, state, and federal standards shall be applied. Practices such as jute netting, silt fences, and check dams shall be applied near disturbed areas.

Wildlife

- Guy wires on permanent meteorological towers shall be avoided, however, may be necessary on temporary meteorological towers installed during site monitoring and testing.
- In accordance with the habitat restoration plan, restoration shall be undertaken as soon as possible after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.
- All construction employees shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, pets shall not be permitted on site during construction.

Visual Resource Considerations

- Operators shall reduce visual impacts during construction by minimizing areas of surface disturbance, controlling erosion, using dust suppression techniques, and restoring exposed soils as closely as possible to their original contour and vegetation.

Roads

- Existing roads shall be used, but only if in safe and environmentally sound locations. If new roads are necessary, they shall be designed and constructed to the appropriate standard and be no higher than necessary to accommodate their intended functions (e.g., traffic volume and weight of vehicles). Excessive grades on roads, road embankments, ditches, and drainages shall be avoided, especially in areas with erodible soils. Special construction techniques shall be used, where applicable. Abandoned roads and roads that are no longer needed shall be recontoured and revegetated.

- Access roads and on-site roads shall be surfaced with aggregate materials, wherever appropriate.
- Access roads shall be located to follow natural contours and minimize side hill cuts.
- Roads shall be located away from drainage bottoms and avoid wetlands, if practicable.
- Roads shall be designed so that changes to surface water runoff are avoided and erosion is not initiated.
- Access roads shall be located to minimize stream crossings. All structures crossing streams shall be located and constructed so that they do not decrease channel stability or increase water velocity. Operators shall obtain all applicable federal and state permits.
- Existing drainage systems shall not be altered, especially in sensitive areas such as erodible soils or steep slopes. Potential soil erosion shall be controlled at culvert outlets with appropriate structures. Catch basins, roadway ditches, and culverts shall be cleaned and maintained regularly.

Ground Transportation

- Project personnel and contractors shall be instructed and required to adhere to speed limits commensurate with road types, traffic volumes, vehicle types, and site-specific conditions, to ensure safe and efficient traffic flow and to reduce wildlife collisions and disturbance and airborne dust.
- Traffic shall be restricted to the roads developed for the project. Use of other unimproved roads shall be restricted to emergency situations.
- Signs shall be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information. To minimize impacts on local commuters, consideration shall be given to limiting construction vehicles traveling on public roadways during the morning and late afternoon commute time.

Air Emissions

- Dust abatement techniques shall be used on unpaved, unvegetated surfaces to minimize airborne dust.
- Speed limits (e.g., 25 mph [40 km/h]) shall be posted and enforced to reduce airborne fugitive dust.
- Construction materials and stockpiled soils shall be covered if they are a source of fugitive dust.
- Dust abatement techniques shall be used before and during surface clearing, excavation, or blasting activities.

Excavation and Blasting Activities

- Operators shall gain a clear understanding of the local hydrogeology. Areas of groundwater discharge and recharge and their potential relationships with surface water bodies shall be identified.
- Operators shall avoid creating hydrologic conduits between two aquifers during foundation excavation and other activities.
- Foundations and trenches shall be backfilled with originally excavated material as much as possible. Excess excavation materials shall be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities.
- Borrow material shall be obtained only from authorized and permitted sites. Existing sites shall be used in preference to new sites.
- Explosives shall be used only within specified times and at specified distances from sensitive wildlife or streams and lakes, as established by the BLM or other federal and state agencies.

Noise

- Noisy construction activities (including blasting) shall be limited to the least noise-sensitive times of day (e.g. daytime only between 7 a.m. and 10 p.m.) and weekdays.
- All equipment shall have sound-control devices no less effective than those provided on the original equipment. All construction equipment used shall be adequately muffled and maintained.
- All stationary construction equipment (e.g., compressors and generators) shall be located as far as practicable from nearby residences.
- If blasting or other noisy activities are required during the construction period, nearby residents shall be notified in advance.

Cultural and Paleontological Resources

- Unexpected discovery of cultural or paleontological resources during construction shall be brought to the attention of the responsible BLM authorized officer immediately. Work shall be halted in the vicinity of the find to avoid further disturbance to the resources while they are being evaluated and appropriate mitigation measures are being developed.

Hazardous Materials and Waste Management

- Secondary containment shall be provided for all on-site hazardous materials and waste storage, including fuel. In particular, fuel storage (for construction vehicles and

equipment) shall be a temporary activity occurring only for as long as is needed to support construction activities.

- Wastes shall be properly containerized and removed periodically for disposal at appropriate off-site permitted disposal facilities.
- In the event of an accidental release to the environment, the operator shall document the event, including a root cause analysis, appropriate corrective actions taken, and a characterization of the resulting environmental or health and safety impacts. Documentation of the event shall be provided to the BLM authorized officer and other federal and state agencies, as required
- Any wastewater generated in association with temporary, portable sanitary facilities shall be periodically removed by a licensed hauler and introduced into an existing municipal sewage treatment facility. Temporary, portable sanitary facilities provided for construction crews shall be adequate to support expected on-site personnel and shall be removed at completion of construction activities.

Public Health and Safety

- Temporary fencing shall be installed around staging areas, storage yards, and excavations during construction to limit public access.

OPERATION

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the operational phase, as appropriate. These control and mitigation measures shall be reviewed and revised, as needed, to address changing conditions or requirements at the site, throughout the operational phase. This adaptive management approach would help ensure that impacts from operations are kept to a minimum.
- Inoperative turbines shall be repaired, replaced, or removed in a timely manner. Requirements to do so shall be incorporated into the due diligence provisions of the rights-of-way authorization. Operators will be required to demonstrate due diligence in the repair, replacement, or removal of turbines; failure to do so could result in termination of the rights-of-way authorization.

Wildlife

- Employees, contractors, and site visitors shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, any pets shall be controlled to avoid harassment and disturbance of wildlife.
- Observations of potential wildlife problems, including wildlife mortality, shall be reported to the BLM authorized officer immediately.

Ground Transportation

- Ongoing ground transportation planning shall be conducted to evaluate road use, minimize traffic volume, and ensure that roads are maintained adequately to minimize associated impacts.

Monitoring Program

- Site monitoring protocols defined in the POD shall be implemented. These will incorporate monitoring program observations and additional mitigation measures into standard operating procedures and BMPs to minimize future environmental impacts.
- Results of monitoring program efforts shall be provided to the BLM authorized officer.

Public Health and Safety

- Permanent fencing shall be installed and maintained around electrical substations, and turbine tower access doors shall be locked to limit public access.
- In the event an installed wind energy development project results in EMI, the operator shall work with the owner of the impacted communications system to resolve the problem. Additional warning information may also need to be conveyed to aircraft with onboard radar systems so that echoes from wind turbines can be quickly recognized.

DECOMMISSIONING

- Prior to the termination of the rights-of-way authorization, a decommissioning plan shall be developed and approved by the BLM. The decommissioning plan shall include a site reclamation plan and monitoring program.
- All management plans, BMPs, and stipulations developed for the construction phase shall be applied to similar activities during the decommissioning phase.
- All turbines and ancillary structures shall be removed from the site.
- Topsoil from all decommissioning activities shall be salvaged and reapplied during final reclamation.
- All areas of disturbed soil shall be reclaimed using weed-free native shrubs, grasses, and forbs.
- The vegetation cover, composition, and diversity shall be restored to values commensurate with the ecological setting