

303.d.3.J Applicant-proposed Best Management Practices (BMPs) SG Interests I, Ltd, Montrose, Colorado

Overall Practices

- Areas designated as Sensitive Wildlife Habitat will be constructed and operated in compliance with the requirements of the COGCC Rule 1203, General Operating Requirements in Sensitive Wildlife Habitat and Restricted Surface Occupancy Areas unless the Director has granted a waiver from one of these requirements.
- Projects will be constructed and operated in compliance with the terms and stipulations applied to permits including those issued by the Colorado Air Quality Control Division, Colorado Water Quality Control Division, and US Bureau of Land Management.
- Treat and control noxious weeds on new and existing facilities, roads, pipeline corridors, and well pads.
- Enforce policies that protect wildlife such as prohibiting firearms and dogs from all project-related areas and by educating employees on wildlife protection practices.
- Dispose of trash appropriately. Instruct employees not to feed wildlife or otherwise attract them to project sites.
- Instruct employees and contractors to drive at safe speeds and to be alert to wildlife and livestock on roadways whenever driving for a project-related reason.

Project Planning Phase BMPs

- Conduct wildlife and vegetation surveys to determine presence of any Threatened, Endangered, or sensitive species or their habitat in the project vicinity. Take appropriate protection measures as indicated by the results of these surveys.
- When siting access roads, pads, pipelines, and facilities consider impacts to wildlife habitat, agriculture, water resources, recreation, and visual resources. Consider visual impact of cut and fill slopes.
- Minimize the number, size and distribution of well pads as practicable.
- Locate pads and facilities near existing roads and pipelines where possible.
- Minimize pipeline right-of-way and access road width as much as possible while maintaining safe construction and use conditions.
- Adequately size pipelines, well pads, and facilities to accommodate both current and expected gas production.
- Engage local stakeholders and landowners in the planning process to reduce landuse conflicts.
- Choose reference areas that are representative of the pre-construction conditions and that are relatively free of noxious weeds. Document the area during the growing season so that an appropriate seed mix can be chosen for reclamation activities

Construction Phase BMPs

- Schedule construction in streams and rivers at low water periods to minimize disturbance to this habitat.
- Appropriately maintain roads by surfacing, crowning, and maintaining ditches to prevent runoff from damaging water quality.
- Apply water or other dust suppressant to roads and other work sites as needed to control fugitive dust.
- Limit speeds on access roads and work sites to prevent road damage and dust problems.
- Install energy dissipation structures at culvert outfalls to prevent soil erosion.
- Install and maintain check dams or other structures in road ditches to slow flowing water and prevent scouring and sedimentation.
- Use and maintain erosion and sedimentation control devices at all disturbed areas as described in the project-specific or field-wide stormwater management plan.

- Reduce right-of-way width as much as possible and use equipment mats when crossing wetlands and streams with pipelines.
- Complete waterbody and wetland crossings within 24 hours if possible. Use trench breakers when needed to prevent water from flowing from waterbodies into pipeline trenches.
- Construct water bars along pipeline ROWs to prevent erosion on hillsides. Install trench breakers around the pipe to prevent water from flowing along the buried pipe and causing trench subsidence.
- Crown pipeline trenches to allow for soil compaction over time and prevent subsidence.
- Construct fences and netting that are appropriately sized and reinforced to function in the environmental conditions and for the species of the region.
- Line pits to protect groundwater.
- Salvage and store topsoil from the surface of all construction areas for use during interim and final reclamation.
- Protect soil and spoil piles during storage with sediment barriers until stabilized. Use temporary seeding on piles that will be stored for long-term.
- Encourage car pooling to the project site and restrict parking to designated parking areas.
- Educate employees and contractors about weed issues. Clean trucks and equipment of weeds, seeds and weed propagules prior to bringing this equipment on site.
- When scheduling projects in Elk Winter Concentration Areas, SG will make reasonable attempts to observe a winter timing restriction on heavy activity in these areas from December 1st through April 15th.

Drilling and Completion BMPs

- Maintain wildlife fencing and netting as needed.
- Limit days and hours of operations where practical to minimize disturbance resulting from activity and traffic.
- Promptly report spills to agencies as required.
- Store emergency spill response equipment at centralized locations so that it is readily available in the event of a spill.
- Instruct all employees on the aspects of the spill prevention and response plan relevant to their position at the start of their employment.
- Limit vehicle and equipment parking to designated parking areas.
- Screen water suction hoses to exclude fish and other aquatic life when necessary.
- Reduce noise by using effective sound dampening devices and/or techniques as needed.
- Use centralized frac'ing facilities where water is stored for reuse between operations. Connect water storage facilities to well sites with temporary pipelines to reduce truck traffic
- Use recycled flowback fluid where possible in additional frac'ing operations by storing it in a centralized tank or pit facility.
- Use produced water as much as possible in frac'ing operations to reduce use of fresh water.
- Whenever a pit is left open prior to reclamation, it will be fenced and covered with netting to prevent wildlife and birds from entering the pit. If it necessary to postpone pit closure due to winter conditions, excess water will be removed from the pit and solids in the pit will be fenced and tarped and will exclude wildlife and birds.

Production and Reclamation BMPs

- Gate access roads where necessary to minimize and control access and reduce disturbance.
- Install automated emergency response systems where appropriate to facilitate rapid response and prevent accidents.
- Control fugitive dust that could result from production and reclamation activities.

- Avoid direct discharge of pipeline hydrostatic test water to any lake, wetland, or natural stream or river. Use appropriate erosion and sedimentation devices as specified in the hydrostatic discharge permit/plan.
- Locate, design, and paint aboveground facilities to minimize the impact to visual resources.
- Control noxious weeds by following project specific weed management plans.
- Use locally adapted seed in reclamation efforts whenever available and approved by the landowner.
- Prepare the seedbed appropriately prior to seeding an area. Replace rocks on surface at density of surrounding areas.
- Seed at times of the year when germination and success is highest.
- Conduct stormwater inspections and document regrowth of vegetation on disturbed areas. Correct problem areas as they are noted.
- Reclaim disturbed areas that are not needed for long-term operations as quickly as possible in order to restore wildlife habitat value to areas surrounding projects.
- Remove all unnecessary equipment from project sites during the production phase.
- Reclaim pits as quickly as practical after use and ensure that pit contents do not contaminate soil. Verify soil condition with testing.
- Sample and test surface water and drinking water from select sites (considering state and local requirements) for comparison to baseline water quality conditions.
- Remediate spills on disturbed areas prior to reclamation.
- Whenever possible, complete final reclamation activities so that seeding occurs during the first optimal season following plugging and abandonment of wells and closure of facilities.
- Remove and properly dispose of degraded or unneeded silt fencing and erosion control materials in a timely fashion.
- Remove unneeded fencing (and cattle guards) on project sites. Replace degraded or hazardous fencing as needed.
- Remove and properly dispose of pit contents at an approved disposal facility. Dispose of or recycle pit liners at designated facilities.
- Apply weed free mulch and crimp or otherwise treat the mulch so that it remains in place thus preserving seeds and retaining moisture to enhance seed germination and seedling survival.
- Control weeds in areas surrounding reclamation areas when possible to prevent recolonization of recently reclaimed areas by weed species.
- When necessary, fence livestock and wildlife out of newly reclaimed areas until reclamation standards have been met and plants are capable of sustaining grazing and trampling.
- Monitor reclamation efforts as needed and make corrections when necessary.
- Keep records of inspections for state inspectors to review when requested.

Site-Specific BMPs for Federal 11-90-24 #3 well

- Drilling pits will be lined with an impervious liner.
- Fluids contained at a well site during drilling and completion operations will have secondary containment designed to hold 110% of the stored fluid volume.
- Maintain drainage features on the well pad to protect stormwater quality.
- Observe lease timing restriction on drilling activities (from 12/1 through 4/30) to protect elk and deer winter habitat.