Environmental Conservation Measures

For the

Janus Solar Project

Prepared For:

Horus Energy

HORUS ENERGY

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October 2023

Introduction

As a national leader in solar energy development, Horus Energy is committed to implementing industry standard design features and Best Management Practices (BMPs) for the Project. In addition, the following environmental conservation measures would be implemented as applicable during the construction, operation, and decommissioning phases of the Project. These measures are meant to guide responsible and reliable Project construction and operation. Many measures can be revised as necessary in an adaptive management approach to achieve optimum environmental protection over the life of the Project.

Environmental protection measures are often captured in the form of implementation plans, such as erosion control plans or safety plans. These plans and others are developed as part of Project development, often by the Primary Contractor. The environmental conservation measures specified below mention a number of plans, however, this list is not comprehensive. Other plans and strategies may be developed during Project development and would be provided to the County and applicable agencies for approval prior to implementation.

Avoidance	Design Feature	Identifier	Resource	Phase	Measure	Responsibility/ Agency Coordination
	X	AIR-1	Air Quality	Construction	Use dust abatement techniques on unpaved, un-vegetated surfaces to minimize airborne dust. Water or chemical (non-petroleum) soil binders would be used to control dust within the Project area during construction in accordance with Federal, State, and local requirements. Use dust abatement or cover construction materials and stockpiled soils if they are a source of fugitive dust. Minimize potential environmental impacts from the use of dust palliatives by taking the necessary measures to keep the chemicals out of sensitive terrestrial habitats and streams. The application of dust palliatives must comply with Federal, State, and local laws and regulations.	Construction Contractor
	X	AIR-2	Air Quality	Construction	Use surface access roads, onsite roads, and parking lots with aggregates or that maintain compacted soil conditions to reduce dust generation. Post and enforce speed limits (e.g., 10 miles per hour [mph]) to reduce airborne fugitive dust. Comply with speed limits relative to wildlife protection measures.	Construction Contractor
	X	AIR-3	Air Quality	Construction	Soil disturbance activities and travel on unpaved roads would be suspended during periods of high winds. Site-specific wind speed thresholds would be set based on soil properties determined during site characterization.	Construction Contractor
	X	AIR-4	Air Quality	Post-construction	Stabilization activities such as post-seeding mulch would be used during reclamation at the discretion of landowners to mitigate and reduce potential for erosion and wind-blown dust. The stabilization would be performed as soon as it is possible or appropriate upon completion of Project activities to minimize potential fugitive dust generation as revegetation occurs.	Construction Contractor
	X	AIR-5	Air Quality	Construction	Verify that all heavy equipment meets emission standards specified by the State Code of Regulations and conduct routine preventive maintenance, including tune-ups to manufacturer specification for efficient combustion and minimum emissions. If possible, equipment with more stringent emission controls should be leased or purchased.	Construction Contractor
	X	AIR-6	Air Quality	Construction	Employ diesel fuel engines in facility construction and maintenance that use ultra-low sulfur diesel, with a maximum 15 parts per million (ppm) of sulfur content.	Construction Contractor
	X	AIR-7	Air Quality	Construction	Limit idling of diesel equipment to no more than 10 minutes at a time unless necessary for proper operation.	Construction Contractor
	X	AIR-8	Air Quality	Construction	Stage construction activities to limit the area of disturbed soils exposed at any one time.	Construction Contractor
	X	AIR-9	Air Quality	Construction	Install wind fences around disturbed areas if windborne dust is likely to impact sensitive areas beyond the site boundaries.	Construction Contractor
	X	AIR-10	Air Quality	Construction	Spray stockpiles of soil with water, cover with tarpaulins, and/or treat with appropriate dust suppressants, especially when high wind or storm conditions are likely. Vegetative plantings may also be used to limit dust generation for stockpiles that will be inactive for relatively long periods.	Construction Contractor
	X	AIR-11	Air Quality	Construction	Train workers to comply with speed limits; use good engineering practices; minimize the drop height of excavated materials; and minimize disturbed areas.	Construction Contractor
	X	AIR-12	Air Quality	Construction	Cover vehicles transporting loose materials when traveling on public roads, and/or keep loads sufficiently wet and below the freeboard of the truck to minimize wind dispersal.	Construction Contractor
	X	AIR-13	Air Quality	Construction	Inspect and clean tires of vehicles, as necessary, so they are free of dirt prior to entering paved public roadways. Minimize visible trackout or runoff dirt from the construction site from public roadways.	Construction Contractor

Avoidance	Design Feature	Identifier	Resource	Phase	Measure	Responsibility/ Agency Coordination
	X	AIR-14	Air Quality	Construction	Water unpaved roads, disturbed areas (e.g., scraped, excavated, backfilled, graded, and compacted), and loose materials generated during Project activities as necessary to minimize fugitive dust generation.	Construction Contractor
X	X	CUL-1	Cultural Resources	Pre-construction	Determine the presence of archaeological sites and historic properties in the area of potential effect based on a records search of recorded sites and properties in the area and an archaeological survey. Archaeological sites and historic properties present in the area of potential effect would be reviewed to determine whether they meet the criteria of eligibility for listing on the National Register of Historic Places (NRHP). Sites that meet the criteria of eligibility for listing on the National Register of Historic Places (NRHP) would be avoided with fencing for the life of the Project or mitigated through State Historic Preservation Office (SHPO) approved data recovery plans.	Horus Energy
X	X	CUL-2	Cultural Resources	Pre-construction Construction	An Unanticipated Discoveries Plan for cultural resources would be developed for the Project that would be included in construction worker and operations staff training. It would include the protocols for unanticipated discoveries and the consequences of unauthorized collection and destruction of cultural artifacts or paleontological fossils. A strict policy that prohibits collection of these resources would be implemented.	Horus Energy SHPO
X	X	CUL-3	Cultural Resources	All Phases	In construction worker training and operations staff training, include the protocols for unanticipated discoveries and the consequences of unauthorized collection and destruction of artifacts. A strict policy that prohibits collection of these resources would be implemented.	Horus Energy Construction Contractor
X		CUL-4	Cultural Resources	Construction	Bring to the attention of the appropriate County or other authorized officer any unexpected discovery of eligible cultural or paleontological resources during construction. Work would be halted in the vicinity of the find to avoid further disturbance to the resources while the resource(s) is being evaluated and appropriate mitigation measures are being developed.	Horus Energy Construction Contractor
X	X	CUL-5	Cultural Resources	Construction	If cultural resources, including human remains, are discovered during Project construction, all work would stop in the area of the discovery and the procedures outlined in the Unanticipated Cultural Discoveries Plan would be followed. If the cultural resource is determined to be a historic property, and cannot be avoided, then appropriate mitigation measures would be developed in consultation with the SHPO. Written permission stating that work in this area no longer presents a hazard to cultural resources would be required before work could resume in the area of the discovery. If human remains are discovered, the Environmental Inspector would immediately stop construction in a 300-foot radius and notify the SHPO.	Horus Energy Construction Contractor
X		CUL-6	Cultural Resources	Construction	Cultural field monitors would be employed to monitor ground-disturbing activities (e.g., in geomorphic settings, such as in shifting sands, where buried deposits may be present) in cases. where the prior Class III inventory identified the potential of encountering buried cultural resources during construction.	Horus Energy
X	X	CUL-7	Cultural Resources	Pre-construction	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) would be prepared. This plan would address mitigation activities to be taken for cultural resources found at the site. Resources would be avoided to the extent practicable. Coordinate with Weld County and the State Historic Preservation Office (SHPO) on other mitigation measures.	Horus Energy
X	X	ECO-1	Ecological Resources	Pre-construction Construction	Conduct surveys for Federal- and/or State-protected species, and other species of concern (including special status plant and wildlife species) within the Project area and design the Project and construction activities to avoid (if possible), minimize, or mitigate impacts to these resources and habitats [e.g., locate the solar arrays and	Horus Energy CPW USFWS

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					access roads in the least environmentally sensitive areas (i.e., away from wetlands, drainages, or critical wildlife habitats]).	
X	X	ECO-2	Ecological Resources	Pre-construction	Coordinate with CPW, throughout the planning, preconstruction, construction, operation, and decommissioning of the Project, as needed, to minimize impacts to wildlife species. Identify important, sensitive, or unique habitats in the vicinity of the Project and design the Project to avoid (if possible), minimize, or mitigate impacts to these resources and habitats.	Horus Energy CPW
X	X	ECO-3	Ecological Resources	Pre-construction	Evaluate avian use of the Project area and design the Project to minimize or mitigate the potential for bird strikes. Design the Project to discourage use of facility structures as perching or nesting substrates by birds to the extent practicable. These structures primarily include transmission structures, substation, and switchyard components.	Horus Energy CPW USFWS
X	X	ECO-4	Ecological Resources	Pre-construction	A Property Management Plan and an Erosion Control Plan would be developed to avoid (if possible), minimize, or mitigate negative impacts on vulnerable wildlife while maintaining or enhancing habitat values for other species. The plans would identify revegetation, soil stabilization, and erosion reduction measures that would be implemented to ensure that all temporary use areas are restored. The plans would 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 hasten the recovery to natural habitats.	Horus Energy Construction Contractor CPW
X	X	ECO-5	Ecological Resources	Pre-construction	Comply with the Endangered Species Act, and consult with USFWS, as needed, on the effects of the Project on listed species and migratory birds. Develop procedures to mitigate potential impacts to special status species. Such measures could include avoidance of Project structures or seasonal and spatial restrictions during construction.	Horus Energy USFWS
X	X	ECO-6	Ecological Resources	Pre-construction Construction	Educate/instruct all employees, contractors, and site visitors to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. Prior to construction, the contractor would be instructed regarding areas of environmental sensitivity within the Project area and those areas where a wildlife or cultural resources monitor must be present during construction. No dogs/pets would be allowed in the Project area. Establish and implement wildlife protection policies that would prohibit hunting, feeding, or harassment of wildlife.	Horus Energy Construction Contractor CPW
X	X	ECO-7	Ecological Resources	Operations	A post-construction Wildlife Monitoring Plan would be prepared in coordination with CPW. Maintenance staff would regularly (at least monthly) inspect the solar facility for birds and entrapped mammals. For each species of bird or mammal found dead on or at the facility, maintenance staff would photograph it and keep a running mortality list of such birds and/or mammals. This list would be submitted to CPW and Weld County once a year for three years. The purpose of this list is to understand what wildlife species may be negatively impacted and better managed by the Project. Discuss corrective measures with CPW. If the maintenance staff finds injured birds or mammals on the site that may be candidates for rehabilitation, they would notify the CPW's Fort Collins Office at (970) 472-4300 (Monday – Friday 8am – 5pm) or *CSP on the weekend to locate the on-call wildlife officer. For after-hours emergencies they would call the Colorado State Patrol at (303) 239-4501.	Horus Energy CPW Weld County
X	X	ECO-8	Ecological Resources	Construction Operation	The Project would be fenced to restrict wildlife from entering. Coordination with CPW is ongoing regarding exclusion fencing for the Project area. Perimeter fencing would be designed, constructed, and maintained according to Project security requirements and CPW recommendations for fencing that is safe for wildlife (CPW 2009). The facility would also be marked with warning and no trespassing signage on fences, gates, and electrical	Horus Energy CPW Construction Contractor

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					equipment. All gates, access doors, and ports would always be locked. Entrapped wildlife would be released through gates, in coordination with CPW.	
X		ECO-9	Ecological Resources	Construction	Proper trash removal and storage procedures would be implemented, such as using secured containers and periodic emptying on the Project site to reduce attraction of scavengers, such as common ravens and coyotes.	Horus Energy Construction Contractor CPW
X		ECO-10	Ecological Resources	Construction	If construction occurs during the typical migratory bird breeding season in northern Colorado (generally February 1 to July 31), preconstruction surveys would be performed for active nests, including raptor nests, to avoid disrupting migratory birds during the breeding season. Eagles and owls begin breeding activities earlier than other species (prior to February 1). Surveys for these species would be conducted as appropriate depending on construction timeframes. A qualified biologist would survey the Project area for nesting migratory birds within five days prior to any ground disturbing activity. To minimize impacts to migratory birds (including raptors), active nest sites would be avoided during construction activities, in coordination with CPW. If surveys or other available information indicate a potential for take of migratory birds, their eggs, or active nests, activities would be suspended within a 300-foot-radius buffer around passerine nests. Raptor nests would be buffered in coordination with CPW and according to CPW 2020 “Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors”. Contact CPW and the USFWS for further coordination on the extent of the impact, as needed.	Horus Energy CPW USFWS
	X	ECO-11	Ecological Resources	Pre-construction	The electrical component locations and all aboveground electrical facilities would be designed to provide raptor and migratory bird protection in compliance with the standards described in Avian Powerline Interaction Committee (APLIC) documents: APLIC 2006 and APLIC 2012.	Horus Energy CPW USFWS
X		ECO-12	Ecological Resources	Construction	Preconstruction wildlife surveys would be conducted, as appropriate. Wildlife monitoring by a qualified biologist would be conducted to ensure that no disturbance would occur to wildlife during construction. The following species-specific avoidance measures would be implemented. In coordination with CPW, seasonal and spatial wildlife avoidance recommendations would be implemented, as appropriate. No human encroachment, surface disturbance, or construction activity would occur: • Within 0.25-mile of an active maternal swift fox den site from March 15 through June 15. • Within and over black-tailed prairie dog colonies from February 1 through July 31. • Within a 0.5-mile buffer around an active or alternate ferruginous hawk nest from February 1 through July 15. • Within a 0.5-mile buffer around an active golden eagle nest from December 15 through July 15. • Within a 0.5-mile buffer around an active prairie falcon nest from March 15 through July 15. • Within a 0.25-mile buffer around an active Swainson’s hawk nest from April 1 through July 31. • Within a 660-foot buffer around an active burrowing owl nest from March 15 through August 15. These avoidance measures were developed using CPW recommendations provided in the 2021 Colorado Parks and Wildlife Best Management Practices for Solar Energy Development; 2020 Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptor documents; and 2021 Recommendations to Avoid and Minimize Impacts to Wildlife from Land Use Development in Colorado.	Horus Energy Construction Contractor CPW USFWS

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X	X	ECO-13	Ecological Resources	Construction	Deep structure foundation holes and trenches would not be left open overnight and would be covered. Covers would be secured in place and would be strong enough to prevent wildlife from falling in. Trenches left open overnight would be checked for wildlife prior to work commencing. No open posts or poles would be left on site. All posts and poles would be capped or filled with sand to prevent entrapment of wildlife.	Construction Contractor CPW
	X	ECO-14	Ecological Resources	Construction	Restore ecological resources in accordance with the Property Management Plan and Erosion Control Plan as soon as possible after completion of construction activities to reduce the amount of habitat converted at any one time and to hasten the recovery to natural habitats.	Horus Energy Construction Contractor
	X	ECO-15	Ecological Resources	All Phases	Minimize fencing to the maximum extent practicable, and use wildlife-friendly fencing as much as possible. For specific wildlife exclusion fencing specifications around the Solar Project, CPW recommends that any installed fencing should be eight feet in height, have round-capped posts (e.g., so wildlife isn't impaled), smooth top wire to the fence (e.g., no top barbed wire) (or if two top strands are needed, ensure they are at least six inches apart). The bottom wire can be barbed but should be four inches or less from the ground. Also, CPW recommends that other non-security fencing in the immediate vicinity is removed to the extent practicable and with landowner consent. CPW recommends that the solar facility is checked weekly (or escape structures are installed inside the fenced area) to allow deer to escape if one becomes trapped within the facility.	Horus Energy Construction Contractor CPW
	X	ECO-16	Ecological Resources	Preconstruction	Incorporate at least one north-south movement corridor along Sand Creek in the final site plans. Note, 250 feet should be considered the bare minimum width and the longer the proposed corridor, the wider the corridor should be. Furthermore, corridor entrances should not be 90-degree angles, but more of an inviting funnel.	Horus Energy CPW
	X	EXC-1	Excavation and Blasting Activities	Construction	Gain an understanding of the local hydrogeology (see Drainage Plan). Areas of groundwater discharge and recharge and their potential relationships with surface water bodies would be identified. Avoid creating hydrologic conduits between two aquifers during foundation excavation and other activities.	Horus Energy Construction Contractor
	X	EXC-2	Excavation and Blasting Activities	Construction	Backfill trenches with originally excavated material as much as possible. Excess excavation materials would be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities. Obtain borrow material only from authorized and permitted sites and existing sites may be used instead of new sites.	Construction Contractor
	X	GEN-1	General	All Phases	Utilize existing roads and utility corridors to the maximum extent feasible and minimize the number and length/size of new roads, lay-down areas, and borrow areas. Access roads would be designed and constructed to the appropriate standards and would follow natural contours to the extent practicable. Excessive grades on roads, road embankments, ditches, and drainages would be avoided if practicable, especially in areas with erodible soils. Abandoned roads and roads that are no longer needed would be re-contoured and revegetated to increase infiltration and reduce soil compaction.	Horus Energy Construction Contractor
	X	GEN-2	General	All Phases	Develop "good housekeeping" procedures to ensure that during operation the site would be kept clean of debris, garbage, fugitive trash or waste, and graffiti; to prohibit scrap heaps and dumps.	Horus Energy Construction Contractor
X	X	GEN-3	General	Construction Operation	A Stormwater Pollution Prevention Plan (SWPPP) would be developed prior to Project construction and implemented to prevent impacts to soil and water resources from off-site migration of sediment and to control erosion during construction. The Project would utilize erosion controls to comply with County, State, and Federal standards. Best Management Practices (BMPs) would be applied near disturbed areas on an as-needed basis. The Project would ensure that all control and mitigation measures and resource-specific management plans are maintained and implemented throughout the construction phase, as appropriate. These control and mitigation	Horus Energy Construction Contractor Weld County

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					measures would 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 would be kept to a minimum.	
	X	GEN-4	General	Construction	As practicable, salvage and reapply the topsoil from excavations and construction activities during reclamation.	Horus Energy Construction Contractor
	X	GEN-5	General	Construction	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). As practicable, avoid creating excessive slopes during excavation and blasting operations. Special construction techniques would be used, where applicable, in areas of steep slopes, erodible soil, and stream channel crossings.	Horus Energy Construction Contractor
	X	GEN-6	General	Construction	During periods of heavy precipitation, construction activities may be temporarily halted, barring an emergency situation.	Construction Contractor
X	X	GEN-8	General	All Phases	Develop an Environmental Construction Compliance Monitoring Program to ensure that environmental conditions are monitored during construction and decommissioning of the Project. The monitoring program requirements, including adaptive management strategies, would be established to ensure that potential impacts are mitigated.	Horus Energy Construction Contractor
	X	GEN-9	General	Decommissioning	Develop a Decommissioning Plan that would be approved by Weld County. The Decommissioning Plan would include a Site Reclamation Plan and monitoring program.	Horus Energy
	X	GEN-10	General	All Phases	Gates will be placed at the entrance of the construction footprint to prevent unauthorized public access onto the Project. Gates will remain closed and always locked. Gates will be designed to ensure that passage of a 4x4 on-highway vehicle is restricted. Gates will be installed in such a manner that a safety hazard is not created. Use of combination locks is required.	Horus Energy Construction Contractor
	X	HAZ-1	Hazardous Materials and Waste Management	Construction	To minimize leaks of motor oils, hydraulic fluids, and fuels, construction equipment and operations and maintenance vehicles would be appropriately maintained.	Construction Contractor
	X	HAZ-2	Hazardous Materials and Waste Management	Construction	Develop a Spill Prevention, Control, and Countermeasure (SPCC) Plan. In accordance with this plan, Horus Energy would ensure that secondary containment is provided for all on-site hazardous materials and waste storage, including fuel kept at stationary locations. Fuel storage (for construction vehicles and equipment) would be a temporary activity occurring only for as long as is needed to support construction activities.	Horus Energy Construction Contractor
	X	HAZ-3	Hazardous Materials and Waste Management	Construction	Ensure that waste is properly containerized and removed periodically for disposal at appropriate off-site permitted disposal facilities, as per the practices outlined in the Project's SPCC. Hazardous materials and waste storage areas and facilities would be designated, and access would be limited to authorized personnel only.	Horus Energy Construction Contractor
	X	HAZ-4	Hazardous Materials and	Construction	In the event of an accidental release to the environment, follow procedures outlined in the Project's SPCC and Hazardous Materials Management Plan. Documentation of the event would be provided to the appropriate County	Horus Energy Construction Contractor

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			Waste Management		authorized officer and other Federal and State agencies, as required, by the Project's SPCC and Hazardous Materials Management Plan.	
	X	HAZ-5	Hazardous Materials and Waste Management	Construction	Ensure that any wastewater generated in association with temporary, portable sanitary facilities would be periodically removed by a licensed hauler and introduced into an existing municipal sewage treatment facility. Temporary, portable sanitary facilities provided for construction crews would be adequate to support expected onsite personnel and would be removed at completion of construction activities.	Construction Contractor
	X	HAZ-6	Hazardous Materials and Waste Management	Pre-construction Construction	Develop an Environmental and 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 would address all solid and liquid wastes that may be generated at the site.	Horus Energy Construction Contractor
	X	HAZ-7	Hazardous Materials and Waste Management	Pre-construction	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 would establish inspection procedures, storage requirements, storage quantity limits, inventory control, nonhazardous product substitutes, and disposition of excess materials. The plan would also identify requirements for notices to Federal and local emergency response authorities and include emergency response plans.	Horus Energy
	X	HHS-1	Human Health and Safety	All Phases	Perform a safety assessment 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.	Horus Energy Construction Contractor
	X	HHS-2	Human Health and Safety	Pre-construction	Develop and implement a Health and Safety Plan to protect both workers and the general public during construction, operation, and decommissioning of the Project. Regarding occupational health and safety, the program would 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; establish fire safety evacuation procedures; and define safety performance standards (e.g., electrical system standards and lightning protection standards). The program would 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 would be established.	Horus Energy Construction Contractor
	X	HHS-3	Human Health and Safety	Pre-construction	Develop a fire management strategy to implement measures to minimize the potential for a human-caused fire. To prevent fire emergencies and deal with them quickly and effectively, all workers would be appropriately trained. Workers would have fire prevention equipment and consult with the local fire district/department when fire danger is high. During operation, workers would ensure that there are sufficient fire extinguishers and other safety devices available.	Horus Energy Construction Contractor
	X	HHS-4	Human Health and Safety	All Phases	No firearms would be allowed in the Project area.	Horus Energy Construction Contractor
	X	HHS-5	Human Health and Safety	All Phases	Maintain emergency response capabilities throughout the reclamation and decommissioning period if hazardous materials and wastes remain on-site.	Horus Energy

Avoidance	Design Feature	Identifier	Resource	Phase	Measure	Responsibility/ Agency Coordination
	X	HHS-6	Human Health and Safety	All Phases	General injury prevention would be identified and accounted for within the Health and Safety Plan, such as establishing personal protective equipment requirements, respiratory protection, hearing conservation measures, electrical safety considerations, hazardous materials safety and communication, housekeeping and waste handling, confined space identification, and rescue response and emergency medical support, including on-site first aid capability.	Horus Energy Construction Contractor
	X	MON-1	Monitoring	Operations	Ensure that any site monitoring protocols and plans associated with this Project would be implemented. These would incorporate monitoring program observations and additional mitigation measures into standard operating procedures and BMPs to minimize future environmental impacts. Provide the results of monitoring program efforts to the appropriate State, County, or other authorized officer.	Horus Energy Construction Contractor
	X	MON-2	Monitoring	Post-construction	A qualified Environmental Monitor will conduct environmental inspections to ensure that the construction of the Project meets the environmental commitments outlined in this 1041 Permit application.	Horus Energy
	X	MON-3	Monitoring	Post-construction	A qualified environmental professional will complete interim monitoring site assessments following construction, during operation at key milestones (e.g., retrofitting) and when any temporary reclamation activities occur. In addition, vegetation monitoring will be conducted for a minimum of three growing seasons after construction of the Project.	Horus Energy
	X	NOI-1	Noise	Construction	Limit noisy construction activities (including blasting) to the least noise-sensitive times of day (i.e., daytime only between 6 a.m. and 10 p.m.) and weekdays.	Horus Energy Construction Contractor
	X	NOI-2	Noise	Construction	Ensure that all construction equipment would have sound-control devices no less effective than those provided on the original equipment. All construction equipment used would be adequately muffled and maintained.	Horus Energy Construction Contractor
	X	NOI-3	Noise	Construction	Ensure that all stationary construction equipment (i.e., compressors and generators) would be located as far as practicable from nearby residences.	Horus Energy Construction Contractor
	X	NOI-4	Noise	Construction	Notify nearby residents in advance if blasting or other noisy activities are required during the construction period.	Horus Energy Construction Contractor
X		NOI-5	Noise	Construction	If lark buntings are documented to nest in the Project area, noise levels would be maintained at or below 49dBA from April 1 to June 30 within a 450-foot radius of the nesting area.	Horus Energy Construction Contractor CPW
	X	NOX-1	Noxious Weeds	Pre-construction	Develop and implement a Property Management Plan for control of noxious weeds and invasive species, which could occur because of new surface disturbance activities at the site. The plan would address monitoring, education, the way weeds spread, and methods for treating infestations. Trucks and construction equipment that are arriving from locations with known invasive vegetation problems would undergo a controlled inspection and a cleaning area would 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. Also see Vegetation and Reclamation measures below.	Horus Energy Construction Contractor
	X	NOX-2	Noxious Weeds	Pre-construction	Do not use pesticides on the site. Use non-persistent, immobile herbicides and apply herbicides in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications. Integrated weed management techniques such as mechanically maintaining weeds rather than using herbicides would be performed where possible.	Horus Energy CPW

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	X	NOX-3	Noxious Weeds	All Phases	Project personnel would be educated on weed identification, spread of noxious and invasive weeds, and methods for treating infestations such as cleaning vehicles that would require travelling off of designated roadways, or keeping personal vehicles, sanitary facilities, and staging areas confined to specific, limited weed-free locations.	Horus Energy Construction Contractor
	X	NOX-4	Noxious Weeds	All Phases	Noxious weed monitoring and control would continue for any area over which Horus Energy would retain control over the land surface use during operations. Periodic monitoring, reporting, and immediate eradication of noxious weed or invasive species would occur within all managed areas, per the Property Management Plan.	Horus Energy Construction Contractor
X	X	PAL-1	Paleontological Resources	Pre-construction	Determine whether paleontological resources exist in the Project area based on 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.	Horus Energy
X	X	PAL-2	Paleontological Resources	Pre-construction	If paleontological resources are present at the site, or if areas with a high potential to contain paleontological material have been identified, develop a Paleontological Resources Management Plan and an Unanticipated Paleontological Discoveries Plan. This plan would include a mitigation plan for collection of the fossils. Avoid paleontological resources to the extent practicable.	Horus Energy
X	X	PAL-3	Paleontological Resources	All Phases	Include in construction worker training and operations staff training, the protocols for unanticipated discoveries and the consequences of unauthorized collection and destruction of fossils. A strict policy that prohibits collection of these resources would be implemented.	Horus Energy Construction Contractor
X	X	PAL-4	Paleontological Resources	Construction	If unanticipated paleontological resources are discovered during construction, all work would stop in the area of the discovery and the procedures identified in the Unanticipated Paleontological Discoveries Plan would be followed.	Horus Energy
	X	ROD-1	Roads	Construction	Whenever practicable, design any new roads to follow natural contours and minimize side hill cuts. Locate roads away from drainage bottoms and avoid wetlands, if practicable. Locate roads to minimize stream crossings. All structures crossing streams would be located and constructed so that they do not decrease channel stability or increase water velocity. All applicable Federal and State permits would be obtained. Use BMPs as stipulated in the Project's SWPPP to minimize and/or avoid erosion during Project construction and operation.	Horus Energy
	X	ROD-2	Roads	Construction	Whenever practicable, preserve hydrologic function and avoid and/or minimize alteration of existing drainage systems, especially in sensitive areas such as erodible soils or steep slopes. Potential soil erosion would be controlled at culvert outlets with appropriate structures. Catch basins, roadway ditches, and culverts would be cleaned and maintained regularly. Culverts would be designed to comply with State, County, and local standards, or to accommodate the runoff of a 100-year storm event, whichever is larger.	Horus Energy
	X	ROD-3	Roads	Construction	If construction is planned during a storm event, vehicle traffic and equipment would be restricted to prevent excessive rutting.	Construction Contractor
	X	ROD-4	Roads	Construction	Use existing roads, but only if in safe and environmentally sound locations. If new roads were necessary, roads would be designed and constructed to the appropriate standard and would 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 would be avoided if practicable, especially in areas with erodible soils. Special construction techniques may be used, where applicable. Abandoned roads and roads that are no longer needed would be re-contoured and revegetated.	Horus Energy Construction Contractor

Avoidance	Design Feature	Identifier	Resource	Phase	Measure	Responsibility/ Agency Coordination
	X	TRA-1	Transportation	Construction	Construction personnel and contractors would 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.	Construction Contractor
	X	TRA-2	Transportation	Construction	Place signs along construction roads to identify speed limits, travel restrictions, and other standard traffic control information.	Horus Energy Construction Contractor
	X	TRA-3	Transportation	Operations	Ensure that ongoing ground transportation planning would be conducted to evaluate road use, minimize traffic volume, and ensure that roads are maintained adequately to minimize associated impacts.	Horus Energy Construction Contractor
	X	VEG-1	Vegetation and Reclamation	Construction Reclamation	Temporarily disturbed areas would be revegetated using seed mixtures and techniques approved in coordination with the landowners, Weld County, and CPW. Restoration of disturbed areas would use certified weed-free seed (and mulch, if any is used) to prevent the spread of primary noxious weeds. Weld County has approved native seed mixtures (grasses, shrubs, and forbs) that must be used to revegetate disturbed areas. All seed must be certified weed-free. Each seed mixture would be selected based on the soil type and species present prior to disturbance. For this reason, the seed mixture to be used at any one site would be identified during the onsite evaluation, and in coordination with the landowners.	Horus Energy Construction Contractor CPW Weld County
	X	VEG-2	Vegetation and Reclamation	Construction Operation Decommissioning	To minimize the introduction of undesirable plant species into the Project area, specific control measures may be implemented, including: • Re-seeding of temporarily disturbed areas; • Applying weed-free fill; • Cleaning vehicles that would require travelling off designated roadways; • Developing specific areas and construction yards for storing equipment, materials, and vehicles; • Implementing annual post-construction management and monitoring of access roads and structure sites for a designated period after construction; and • Keeping personal vehicles, sanitary facilities, and staging areas at specific, limited weed-free locations.	Horus Energy Construction Contractor
	X	VEG-3	Vegetation and Reclamation	Construction Operation Decommissioning	Construction activity timeframes would be reduced so that ground-disturbing activities would take place over as short a time period as possible.	Horus Energy Construction Contractor
	X	VEG-4	Vegetation and Reclamation	Reclamation	Areas disturbed during construction that are not needed for long-term operation and maintenance would be reclaimed once construction is complete. Efforts would be continued until a threshold of 70 percent of preconstruction vegetative cover is established and the site is stabilized (3 to 5 years for herbaceous species, 10 to 15 years for shrub species).	Horus Energy Construction Contractor CDPHE Permit requirement
	X	VEG-5	Vegetation and Reclamation	Reclamation	Interim restoration would be used during the operating life of the Project as soon as possible after surface disturbances. All reclamation would be completed as soon as possible after decommissioning is complete and efforts would continue until satisfactory vegetation cover (70 percent) is established and the site is stabilized (3 to 5 years for herbaceous species, 10 to 15 years for shrub species).	Horus Energy Construction Contractor
X		VEG-6	Vegetation and Reclamation	Construction	Minimize impacts within 300 feet of a rare plant occurrence. Pre-construction surveys in suitable habitat would be required to establish presence or absence of rare plant species.	Horus Energy Construction Contractor USFWS

Avoidance	Design Feature	Identifier	Resource	Phase	Measure	Responsibility/ Agency Coordination
	X	VEG-7	Vegetation and Reclamation	Construction	Vegetation clearing will be limited to the minimum amount required for construction and operation. Construction areas will be clearly marked before clearing to avoid accidental vegetation removal. Areas where vegetation has been accidentally removed or damaged will be re-planted with similar native species.	Construction Contractor
	X	VIS-1	Visual Resources	Pre-construction	Integrate the solar field's visual characteristics to reduce attention. Design colors for visual uniformity (i.e., color of inverters or enclosures should be the same as panels).	Horus Energy
	X	VIS-2	Visual Resources	Construction	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. Existing rocks, vegetation, and drainage patterns would be preserved to the maximum extent possible.	Horus Energy Construction Contractor
	X	VIS-3	Visual Resources	All Phases	Offsite visibility of all commercial symbols and signs and associated lighting would be minimized. Necessary signs would be made of non-glare materials and utilize unobtrusive colors. The reverse sides of signs and mounts would be painted or coated using a suitable color to reduce contrasts with the existing landscape. Placement and design of any signs required by safety regulations must conform to regulatory requirements.	Horus Energy
	X	VIS-4	Visual Resources	Construction	Placement of temporary access would be designed to avoid sensitive features, such as wetlands and drainages. Areas used for temporary roads or working areas during construction would be restored to their original condition to the extent practicable.	Horus Energy Construction Contractor
	X	VIS-5	Visual Resources	All Phases	Retro-reflective or luminescent markers would be used in lieu of permanent lighting where practical. Lighting for the substation, operation and maintenance building, and storage containers would be motion-activated and downward-directed and shielded to minimize nighttime light pollution. Lighting for the inverters and transformer skids would be dark sky compliant and motion-activated, if possible.	Horus Energy
	X	WAT-1	Water Resources	All Phases	Water used for dust control during construction, etc., would be obtained from a municipal or private source. Water for operations and maintenance would be from a municipal hydrant or private source. The installation or abandonment of any wells is not anticipated. Groundwater appropriation is not anticipated.	Horus Energy Construction Contractor
	X	WAT-2	Water Resources	Pre-construction	Stormwater retention and/or infiltration and treatment systems would be designed for storm events up to and including the 100-year storm event.	Horus Energy
X	X	WAT-3	Water Resources	Pre-construction	Impacts to riparian habitats, streams, wetlands, canals, and drainages would be mitigated with avoidance measures as part of the Project design.	Horus Energy Weld County
X	X	WAT-4	Water Resources	Construction	Limit the number of surface water feature crossings during construction. Where unavoidable, the Project would cross the drainages in a perpendicular direction.	Horus Energy Construction Contractor Weld County