



Horse Heaven Wind Farm

EIS Mitigation

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Follow-up from 11/19 Meeting



15-mph Speed Limit

Research documents available for review in Council Library.

Expected to reduce dust emissions by vehicle traffic by ~20%.



Culvert BMPs

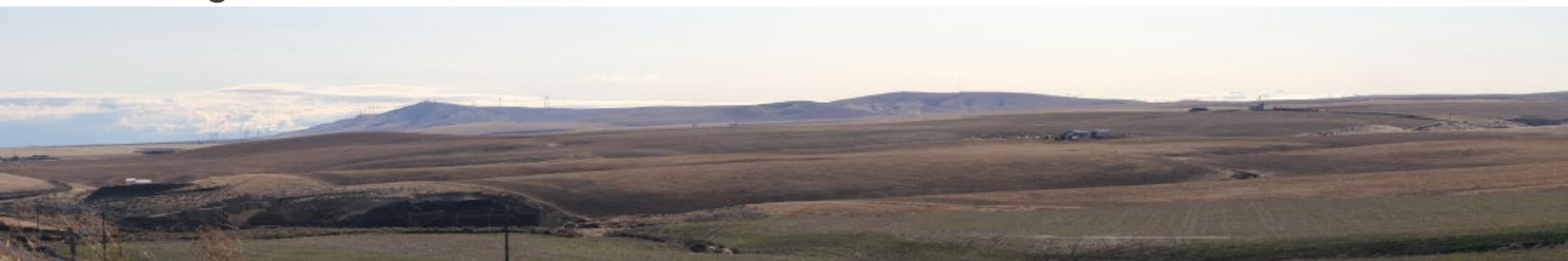
WDFW Culvert BMPs meet or exceed all USDA BMPs.

Can change reference to WDFW BMPs if Council prefers.

Confidentiality Reminder



- Wildlife and Cultural Resource discussions may involve confidential information.
- This meeting and its recording will be publicly accessible.
- Confidential information should not be *directly* discussed in this meeting, but can be referenced indirectly.
 - No: “Turbine X is a concern because it is 1 mile away from Ferruginous Hawk Nest Y.”
 - Yes: “The turbines along the ridge are more likely to impact the Ferruginous Hawk.”



EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



- **Wild-1: Post-construction bird and bat fatality monitoring and management.**

- **Post-construction bird and bat fatality monitoring program**

Prior to initiation of operation, the Applicant would develop, in coordination with the Technical Advisory Committee (TAC) and approval by EFSEC, a post-construction bird and bat fatality monitoring program. Monitoring would be conducted for a minimum of three years. While the three years of monitoring need not be consecutive, all post-construction monitoring would be conducted within the initial five years of operation to document variation in annual fatality rates. The program would describe survey methods, timing, and effort as described in the Applicant's Bird and Bat Conservation Strategy (Appendix M of the ASC). Surveys would include carcass surveys to document the longevity of carcass persistence and detectability of carcasses. Surveys would be conducted year-round to account for variation in bird and bat abundance and diversity. Additional surveys (e.g., survey frequency) would be conducted during sensitive periods for birds and bats (e.g., migration periods). Surveyed area would include turbines, solar arrays, and transmission lines at a minimum.

- **Bird and bat fatality adaptive management strategy development**

Prior to initiation of operation, the Applicant would develop, in coordination with the TAC and approval by EFSEC, an adaptive management strategy. The adaptive management strategy would include additional mitigation measures to be applied during sensitive periods (e.g. migration) or if mortality thresholds are exceeded.

Migratory bat species are at risk of population level impacts due to wind power facilities and these species are most at risk of collisions with turbines during spring and fall migration. As such, adaptive management strategies will be applied during these sensitive periods, which are generally April to June (spring migration) and August to October (fall migration). Acoustic surveys during operation may be used to define a project-specific migratory period. Acoustic detectors may be deployed across the Lease Boundary prior to spring and fall migration to detect increased bat activity suggesting the onset of bat migration. These data would be used to adjust the generalized bat sensitive periods listed above. Similarly, acoustic data would be used to document the end of bat migration and when adaptive management strategies may no longer be required. Bat data would be downloaded and analyzed on a weekly basis to document the start and end of migration.

Adaptive management mitigation strategies that would be considered include altering the operation of the turbines by increasing the cut-in speed to above 18 feet (5.5 meters) per second (Alberta Government 2013) and curtailing turbines during known bird and bat migration period. As noted in in Section 4.6.2.2, projected impacts of wind power projects estimate that wind power could result in mortality levels of 3 to 46 percent of the hoary bat population by 2050. Friedenbergs and Frick conclude that a 5 m/s curtailment could avoid hoary bat extinction in several of the modeled scenarios. Acoustic monitors and smart curtailment may also be included in adaptive management to refine data on bat presence near turbines and when curtailment mitigation should be implemented. Mitigation strategies may be limited to groups of turbines on the results of post-construction monitoring.

- **Bird and bat fatality adaptive management review**

The Applicant, the TAC, EFSEC, and WDFW would review the results of the bird and bat post-construction fatality monitoring program after each monitoring period to determine whether the mitigation measures outlined in the adaptive management strategy should be revised or adjusted. The data would also be used to determine whether monitoring efforts are sufficient to verify predicted impacts on birds and bats. EFSEC may require the Applicant to conduct more intensive surveys (e.g., additional spatial extent or frequency) or extend the duration of post-construction monitoring beyond the minimum three years. The Adaptive management mitigation strategies should be periodically reviewed (minimum of every five years) with the TAC during operation to consider inclusion of new science and technologies that may more efficiently reduce bird and bat fatalities.

- **Rationale:** This mitigation allows for continued monitoring and adaptive management of potential Project-related wildlife mortalities.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



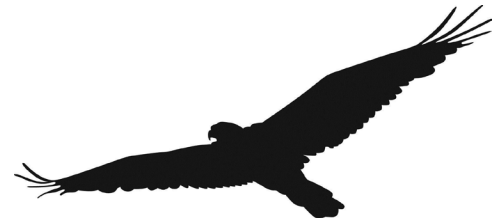
- **Wild-2:** All trash containers would be wildlife-resistant.
 - **Rationale:** This mitigation measure reduces potential human-wildlife conflicts, thereby reducing potential Project-related wildlife mortalities.
- **Wild-3:** The Applicant would provide EFSEC a summary of the consultation undertaken with the USFWS regarding eagle mortality.
 - **Rationale:** This mitigation measure allows for continued monitoring and adaptive management of potential Project-related impacts on eagles.
- **Wild-4:** The Applicant would avoid the use of pesticides, including rodenticides, during Project construction and operation. If pesticides are required, the Applicant would, prior to application of the pesticides, develop a management plan for submission to and approval by EFSEC that describes how the Applicant would avoid and/or otherwise minimize potential impacts on wildlife, including all potentially impacted special status species.
 - **Rationale:** This mitigation measure reduces potential impacts on habitat and wildlife mortality while allowing for adaptive management of potential Project-related impacts.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



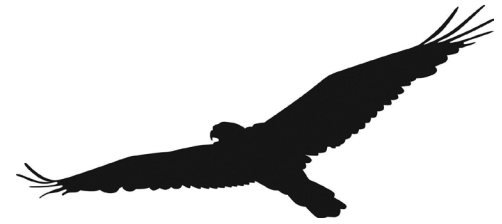
- **Wild-5:** The Applicant would limit construction disturbance by identifying sensitive areas on mapping and flagging in the field exclusion zones around any sensitive areas, including wildlife features, such as wildlife colonies, active nests, dens, and wetlands. Encroachment into exclusion zones required during construction would be reviewed by the Applicant's biologist to determine the impacts on the feature and recommend additional measures to manage impacts to the resource. The Applicant would provide information on where encroachment would be required, the rationale for encroachment, and additional mitigation measures for EFSEC to review prior to implementation. The Applicant would conduct ongoing environmental monitoring during construction to ensure that flagged exclusion zones are avoided.
 - **Rationale:** This mitigation measure reduces potential loss of habitat and wildlife mortality.
- **Wild-6:** The Applicant would maintain a database of road mortalities throughout construction and operation as part of the operational procedures. The Applicant would review road-based mortalities annually and propose additional mitigation for areas, under the control of the Applicant, with frequent mortalities or wildlife crossing observations. Additional mitigation measures may include speed control, signage, temporary road closures (e.g., during migration periods), or wildlife passageways and would be reviewed and approved by EFSEC prior to implementation.
 - **Rationale:** This mitigation measure allows for continued monitoring and adaptive management of potential Project-related wildlife mortalities.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



- **Wild-7:** The Applicant would schedule construction activities to occur during daylight hours, when feasible, to reduce disturbance of nocturnal species and the need for nighttime lighting.
 - **Rationale:** This mitigation measure reduces disturbance to wildlife (i.e., indirect loss).
- **Wild-8:** Wind turbine buffer zones would be established around all known raptor nests and be a minimum of 0.25 miles. The Applicant would prepare a Raptor Nest Monitoring and Management Plan for review by EFSEC and the PTAG if buffer zones cannot be maintained.
 - **Rationale:** This mitigation measure reduces potential impacts on habitat and raptor mortality while allowing allow for adaptive management of potential Project-related impacts.
- **Wild-9:** Vegetation clearing and grubbing would avoid local bird breeding periods, when feasible, to reduce potential destruction or disturbance of nesting birds. If avoidance of this period is not feasible, additional mitigation measures, such as pre-construction surveys for and buffering of active bird nests, would be undertaken.
 - **Rationale:** This mitigation measure avoids or reduces potential bird mortality.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)

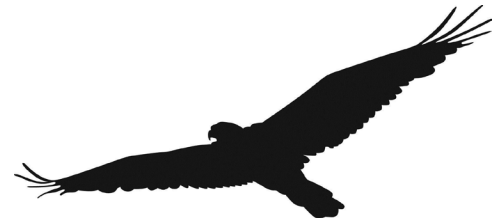


- **Hab-1:** The Applicant would locate Project components, including roads and powerlines, outside of movement corridors modeled in WWCWG as medium to very high linkage, to the extent feasible. The Applicant would provide rationale to EFSEC for siting components within movement corridors, and a Corridor Mitigation Plan would be required that describes:
 - Extent of direct and indirect habitat impact within the movement corridor
 - Proposed measures to be implemented to reduce potential impacts on movement corridors (e.g., habitat enhancements to promote continued use of corridors)
 - Proposed features (e.g., open-bottom culverts) to accommodate wildlife movement for linear Project components (e.g., roads, powerlines)
 - Proposed restoration in movement corridors following Project decommissioning
 - Performance standards to assess the effectiveness of mitigation measures and restoration
 - Methods to monitor and measure performance standards

The Corridor Mitigation Plan would be developed in consultation with the PTAG and reviewed and approved by EFSEC prior to implementation. Results of corridor monitoring would be reviewed annually with the TAC to evaluate the effectiveness and apply additional measures if necessary. Data would be provided to EFSEC with additional mitigation measures for review and approval prior to implementation.

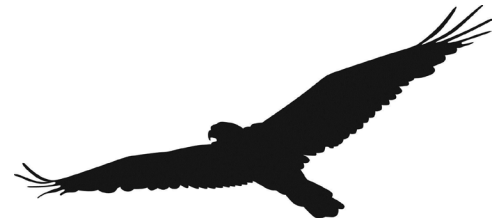
- **Rationale:** This mitigation measure reduces potential Project-related barriers to wildlife movement while allowing for continued monitoring and adaptive management of potential Project-related barriers.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



- **Hab-2:** Transmission line crossings of canyons and draws would be minimized. Where crossings are required, the Applicant would provide EFSEC with rationale for the crossings and propose additional mitigation measures to reduce potential barriers to movement (e.g., retaining vegetation under transmission lines) and wildlife collisions (e.g., installing flight diverters on overhead lines). EFSEC would approve the final transmission line layout, mitigation, and adaptive management strategy.
 - **Rationale:** This mitigation measure reduces potential Project-related barriers to wildlife movement while allowing for continued monitoring and adaptive management of potential Project-related barriers.
- **Hab-3:** Temporary laydown areas. Temporary laydown areas would be situated out of native shrub-steppe habitat. Where temporary disturbance of shrub-steppe habitat is required, the Applicant would provide EFSEC with rationale and propose additional mitigation measures to reduce habitat loss.
 - **Rationale:** This mitigation measure avoids and reduces impacts on habitat while allowing for adaptive management of potential Project-related habitat loss.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



- **Hab-4:** The Applicant, in consultation with EFSEC, would establish a Pre-operational Technical Advisory Group (PTAG) and Technical Advisory Committee (TAC). The PTAG would be established at least one year prior to construction and would be responsible for reviewing and providing technical advice on documents produced by the Applicant related to wildlife and wildlife habitat. The PTAG would also provide advice on adaptive management. The PTAG would be responsible for, at a minimum:
 - Reviewing and providing technical advice on Project wildlife and habitat management plans (e.g., ferruginous hawk management plan)
 - Reviewing and providing advice to EFSEC on pre-design and pre-construction data collection requirements to address Project mitigation measures and conditions of management plans
 - Reviewing and providing advice to EFSEC on the final Project design
 - Advising on thresholds to be applied to the Project that would trigger the requirement for additional mitigation measures

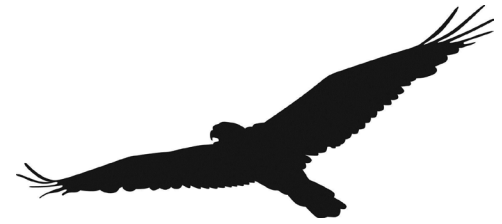
The Applicant, in consultation with EFSEC, would establish a TAC prior to Project operation. The PTAG would cease to exist once the Applicant has completed all planned construction and would be replaced by the TAC, which would exist for the life of the Project. The TAC would be responsible for, at a minimum:

- Advising on the monitoring of mitigation effectiveness and reviewing monitoring reports
- Advising on additional or new mitigation measures that would be implemented by the Applicant to address exceedances of thresholds
- Reviewing the results of annual data generated from surveys and incidental observations and providing recommendations for alternative mitigation and adaptive management strategies, as well as advising on aspects of existing mitigation that are no longer needed.

The PTAG and TAC may include representation by WDFW, the Washington Department of Natural Resources, interested tribes, Benton County, and the USFWS. The PTAG and TAC may also include local interest groups, not-for-profit groups, and landowners. The exact composition of the PTAG and TAC would be determined through discussions between the Applicant and EFSEC and would depend on the relevance and/or availability of proposed members.

- **Rationale:** This mitigation measure avoids and reduces impacts on wildlife and habitat, including habitat loss, wildlife disturbance, barriers to movement, and wildlife mortality. Further the mitigation measure will allow for continued monitoring and adaptive management of potential Project-related impacts.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



- **Hab-5:** As noted by the Applicant, the Project is expected to result in indirect habitat loss through loss of habitat function and changes in wildlife behavior in response to the Project. Further, as noted by the Applicant, WDFW guidelines require that compensatory habitat mitigation must fully offset the loss of habitat function and value. To address indirect habitat loss associated with the Project, the Applicant would develop an Indirect Habitat Loss Management Plan that addresses potential indirect habitat loss resulting from the Project. The Applicant would work with the PTAG during the development of the Indirect Habitat Loss Management Plan (IHLMP) for review and approval by EFSEC. EFSEC and the PTAG would review the IHLMP prior to its implementation. The IHLMP would be provided to the PTAG for review 90 days prior to construction.

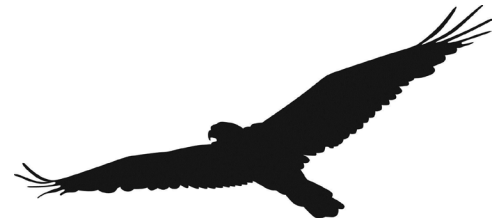
The objectives of the IHLMP would be to identify a Project-specific ZOI and required mitigation based on the Project-specific ZOI. The Project-specific ZOI would be developed based on Project conditions and may differ from the ZOI presented in the EIS. The IHLMP would include:

- A description of the study's purpose and objectives
- A description of methods to define Project-specific ZOIs (e.g., gradient analysis, nest density)
- A description of data requirements to establish Project-specific ZOIs and field programs that would be implemented (pre-construction and post-operation)
- A description of the duration of studies required to establish Project-specific ZOIs
- A description of criteria to be used to compensate for loss of habitat function and value
- An environmental effectiveness monitoring strategy of compensatory habitat to ensure that the habitat meets success criteria

The IHLMP would also include a series of compensatory site-selection criteria, developed in consultation with the PTAG. The selection criteria would be used to evaluate candidate habitat compensation habitats. Habitats that achieve more of the criteria would be identified as the preferential sites. Selection criteria would include, at a minimum:

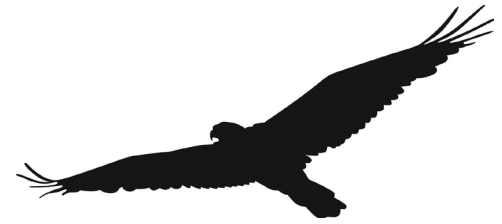
- Proximity to the Lease Boundary (e.g., hierarchy of preferences with respect to location—within the Lease Boundary being the highest priority, adjacent to the Lease Boundary being the second highest priority, and off site being the third priority)
- Protection of existing native shrub-steppe or grassland habitats
- Encompassing sensitive or important wildlife habitat (e.g., mapped movement corridors, ferruginous hawk core habitat, HCAs, areas of high prey abundance)
- Proximity to Project infrastructure
- **Rationale:** This mitigation measure avoids and reduces disturbance to wildlife (indirect habitat loss) while allowing for ongoing monitoring, adaptive management, and offsetting of potential Project-related impacts.

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- **Hab-6: Final Design:** The Applicant would work with EFSEC, with advice from the PTAG, on the development of the final Project layout and design, including the application of Applicant commitments and recommended mitigation measures.
 - **Rationale:** This mitigation measure avoids and reduces potential habitat loss and disturbance to wildlife (indirect habitat loss).
- **Hab-7:** All roadways constructed for the Project during the construction and operation phases would be removed and restored during decommissioning. The Applicant would provide EFSEC with rationale and propose additional mitigation measures if roadways are not decommissioned post-operation.
 - **Rationale:** This mitigation measure restores habitat post-operation and reduces habitat loss.

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- **Hab-8:** The Applicant would be required to provide compensation habitat loss and alteration (indirect habitat loss) (See Hab-5, Veg-4) through one or more actions of land acquisition, onsite easement and restoration (excluding areas impacted by the Project such as temporary laydowns), and/or fee-based mitigation.

The Applicant would prioritize development of conservation easements (Option 1 in the Applicant's Draft Wildlife and Habitat Mitigation Plan) and would compensate for the remaining permanent and altered (indirect) impacts by providing money to WDFW, or a third party identified by WDFW, and agreed to by EFSEC, to purchase other lands suitable as in-kind and/or enhancement mitigation. The Applicant would provide EFSEC, for review and approval, with rationale for fee-based mitigation (Options 2 and 3 in the Applicant's Draft Wildlife and Habitat Mitigation Plan) including a description of how much compensatory habitat would be addressed through Option 1 (conservation easement) and rationale for why fee-based mitigation is required.

The fee-based mitigation includes a per acre fee that would be determined by market rates and land sales within the general vicinity of the Lease Boundary for lands containing comparable habitat types and quality present within the Lease Boundary. The per acre fee would be developed by the Applicant in consultation with WDFW and approved by EFSEC. The Total Financial Obligation (TFO) would be determined by multiplying the cost per acre by the total Compensatory Mitigation Acres (CMA) remaining after the application of Option 1 mitigation strategy and would include a one-time 15 percent premium to cover administration and management costs for the purchased lands. The TFO for compensatory mitigation would be determined and agreed to by EFSEC 90 days before construction. If construction has not begun within 12 months of the approval of the TFO, the TFO identified would expire and be recalculated prior to beginning construction. The TFO would be calculated based on the following:

- *Average Comparable Land Sale Cost (per acre)*(CMA-Option 1 Acres)*1.15 = TFO*

In addition to the wildlife and habitat mitigation measures, the following measures developed for the Vegetation chapter are applicable to wildlife and habitat.

- **Rationale:** This mitigation measure clarifies the process to be followed in selection of offsetting habitat.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



Spec-1: Striped whipsnake & Sagebrush lizard: The Applicant would conduct pre-construction surveys for sensitive reptile species prior to alteration or destruction of suitable habitat, such as areas within the Lease Boundary identified as core habitat in GAP mapping, as well as shrubland (e.g., shrub-steppe, rabbitbrush). WDFW would be contacted prior to undertaking these surveys.

If these species are identified through pre-construction surveys, the Applicant would prepare a Reptile Management Plan to reduce potential impacts on habitat, mortality, and barriers to movement. The Reptile Management Plan would describe:

- How the Applicant would avoid suitable habitat, including where the species were observed
- How the Applicant would implement management recommendations in Larsen
- How the Applicant would maintain rodent burrows in suitable reptile habitat (e.g., shrub-steppe)
- Additional mitigation measures to reduce potential mortality of these species during the Construction and Operation Stages of the Project

The Reptile Management Plan would be reviewed by the PTAG and approved by EFSEC prior to initiation of construction. Survey results and proposed adaptive management would be reviewed by the PTAG and approved by EFSEC prior to implementation (see Hab-4).

- **Rationale:** This mitigation measure avoids and reduces potential striped whipsnake and sagebrush lizard habitat loss and mortality while allowing for adaptive management throughout Project construction and operation.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



Spec-2: American white pelican: The Applicant would maintain a database of American white pelican observations within the Project Lease Boundary. Observational data would be reviewed with the TAC annually, and additional survey strategies would be applied as needed to inform adaptive management.

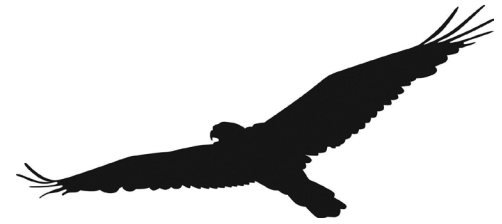
- **Rationale:** This mitigation measure allows for adaptive management of potential American white pelican mortality throughout Project operation.

Spec-3: Eagles: The Applicant would obtain any required federal approvals. The Applicant would continue ongoing coordination with the USFWS (Eagle Coordinator, Columbia Pacific Northwest Region) regarding an eagle take permit for incidental take of bald and golden eagles and would continue to evaluate eagle risk to determine if an eagle take permit is appropriate considering the use of the Project by bald and golden eagles.

The Applicant would apply WDFW-recommended buffers for bald eagle and golden eagle nests:

- Bald eagle protected zone (400 feet) and conditioned zone (up to 800 feet beyond the protected zone)
- Golden eagle – 1.9 miles
- **Rationale:** This mitigation measure avoids and reduces potential disturbance of eagle nests and eagle mortality.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



Spec-4: Burrowing owl: The Applicant would conduct burrowing owl surveys within areas of direct loss (permanent, temporary, and modified) and associated ZOLs. The results of these surveys would be provided to the PTAG and EFSEC and used to inform the final Project layout.

Active burrows would be retained, and satellite burrows with characteristics used by burrowing owls would be avoided where feasible to maintain habitat capacity.

WDFW-recommended seasonal buffers (0.5 miles) would be applied around burrowing owl nests to avoid disturbing nesting burrowing owls, if present (Larsen et al. 2004). Seasonal buffers (February 15 to September 25) would be applied during construction and for temporary disturbances, such as periodic maintenance, during operation.

If active burrowing owls are identified within the Lease Boundary, the Applicant would develop a species-specific management plan that describes:

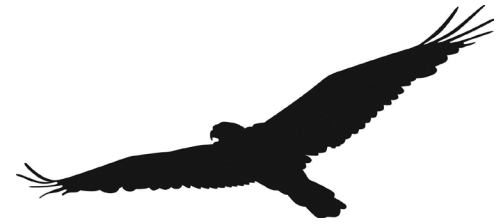
- The location of active burrows
- How active burrows would be avoided through re-alignment or reconfiguration of Project features
- Additional mitigation measures that would be applied where disturbance to active burrows is expected (e.g., construction of artificial burrows)
- Additional mitigation measures that would be applied during operation if burrowing owl mortalities are recorded.
- How ongoing monitoring of active burrows would be undertaken

The Burrowing Owl Management Plan would be reviewed by the PTAG and approved by EFSEC prior to initiation of construction. Survey results and proposed adaptive management would be reviewed by the PTAG and approved by EFSSEC prior to implementation (see Hab-4).

The Applicant would monitor access roads for burrowing owl use and mortalities. Mortalities would be reported to the PTAG or TAC (depending on the Project phase) and EFSEC within 5 days of the observation. Incidental observations of burrowing owl use would be provided to the PTAG (construction) or TAC (operation) on an annual basis.

- **Rationale:** This mitigation measure avoids and reduces potential loss of burrowing owl habitat, disturbance to burrowing owls, and burrowing owl mortality, while allowing for adaptive management throughout Project construction and operation.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)

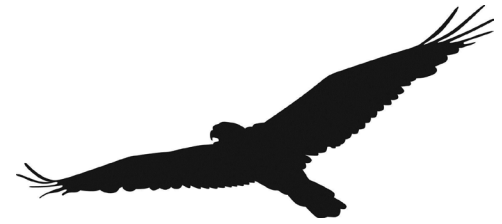


Spec-5: Ferruginous hawk: The Applicant would avoid siting Project components within core habitat in ferruginous hawk territories, defined as the habitat within a 2-mile radius surrounding ferruginous hawk nests documented in PHS data and in Horse Heaven Wind Farm, LLC (2022). Siting of features within 2 miles of a known ferruginous hawk nest may be considered if the Applicant is able to demonstrate that the nest site and foraging habitat is no longer available to the species and that compensation habitat, as described below, would provide a net gain in ferruginous hawk habitat. Habitat considered no longer available for ferruginous hawk would include habitat that has been altered by landscape-scale development (cropland conversion, residential development, industrial development) rendering the territory non-viable. This could include habitats that have been altered such that no native or foraging habitat remains and no nesting structures exist. Project infrastructure would not be sited within 2 miles of a ferruginous hawk nest without prior approval by EFSEC based on the process described below.

The extent of encroachment into 2-mile core habitat may vary depending on the type of infrastructure proposed (e.g., turbine, power line, road). If encroachment is considered by the Applicant, the Applicant would provide the PTAG and EFSEC with:

1. A set of habitat parameters, developed in consultation with the PTAG for approval by EFSEC, to document whether habitat in a core range is consider non-viable. The results of habitat surveys would be reviewed by the PTAG and approved by EFSEC.
2. A description of the current nesting habitat available and a description of documented use of the core habitat by ferruginous hawk available through historic background information or field-based surveys.
3. A description of the type and location of infrastructure proposed within the core habitat.
4. The proximity of infrastructure to any known nest site or suitable foraging habitat.

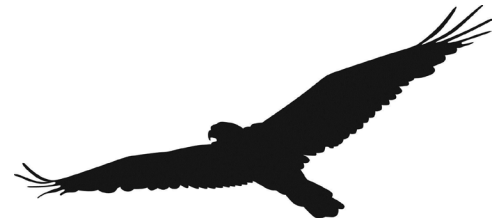
EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



Spec-5: Ferruginous hawk (cont.): In the event that a Project component is proposed for siting within the 2-mile buffer, the Applicant would, in consultation with the PTAG for approval by EFSEC, develop a Project-specific ferruginous hawk mitigation and management plan:

1. A description of efforts to site Project infrastructure to avoid core habitat, identified as the area within 2 miles of nests documented in PHS data and Horse Heaven Wind Farm, LLC (2022):
 - a) If Project components are sited within 2 miles of a ferruginous hawk nest, the infrastructure would be reviewed by the PTAG and approved by EFSEC.
 - b) Additional mitigation measures would be developed to reduce potential ferruginous hawk strikes with turbines, including curtailing turbine operation within the 2-mile core habitat of any actively occupied nests during the breeding and rearing periods when ferruginous hawks are present in Benton County.
 - c) The plan would explain how and where the Applicant would create offsetting habitat for direct and indirect habitat loss within the 2-mile core habitat of ferruginous hawk nests documented in PHS data and in Horse Heaven Wind, LLC (2022).
2. A description of when construction activities would be undertaken to avoid sensitive timing periods for ferruginous hawk.
3. A description of pre- and post-monitoring programs that would be conducted to establish:
 - a) Habitat use within the Lease Boundary.
 - b) Mapping of ground squirrel colonies and other prey items.
 - c) Identification of potential flyways between nest sites and foraging habitat and monitoring of potential flyways to inform final turbine siting and orientation.
 - d) Ongoing monitoring of nest use and territory success.
4. A description of restoration activities that would be undertaken in disturbed areas to enhance ferruginous hawk habitat during Project decommissioning.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



Spec-5: Ferruginous hawk (cont.): Results of ferruginous hawk monitoring programs and adaptive management would continue through Project operation and decommissioning with review by the TAC and approval by EFSEC.

- **Rationale:** This mitigation measure avoids and reduces potential loss of ferruginous hawk habitat, disturbance to ferruginous hawk, and ferruginous hawk mortality, while allowing for adaptive management throughout Project construction and operation.

Spec-6: Great blue heron, Sandhill crane, & Tundra swan: The Applicant would maintain a database of incidental observation of great blue heron, sandhill crane, and tundra swan foraging within the Lease Boundary during operation. Observational data and proposed adaptive management strategies would be reviewed with the TAC annually (see Hab-4).

The Applicant would reduce the use of overhead power lines, where possible.

The Applicant would apply buffers recommended in Larsen et al. for sandhill crane feeding areas (0.5 miles) and roosting areas (0.3 miles), if documented within the Lease Boundary.

- **Rationale:** This mitigation measure avoids and reduces potential disturbance and mortality of great blue heron, sandhill crane and tundra swan, while allowing for adaptive management throughout Project construction and operation.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



Spec-7: Loggerhead shrike, Sagebrush sparrow, Sage thrasher, & Vaux's swift : The Applicant would maintain connectivity between natural habitat patches to reduce potential habitat loss and fragmentation.

The Applicant would restore areas with shrubs, where feasible, to reduce potential habitat loss.

The Applicant would avoid the use of insecticides and herbicides to reduce potential mortality and loss of prey items.

The Applicant would retain trees, shrubs, and hedgerows, as feasible, to reduce habitat loss.

The Applicant would consult with the PTAG and TAC and EFSEC if suitable habitat for loggerhead shrike, sagebrush sparrow, and sage thrasher cannot be avoided. If suitable habitat cannot be avoided, the Applicant would, in consultation with the PTAG for approval by EFSEC, develop nest setback buffers that are supported by literature to be applied during clearing and grubbing activities.

The Applicant would avoid clearing and grubbing during the active nesting period to reduce potential destruction of active nests and disturbance of nesting birds. If clearing and grubbing occurs during the nesting season, the Applicant would conduct pre-clearing surveys for active nests and maintain appropriate setback buffers around active nests.

Observational data and proposed adaptive management strategies would be reviewed with the TAC annually (see Hab-4).

- **Rationale:** This mitigation measure avoids and reduces potential habitat loss, habitat fragmentation, and mortality to avoid and reduce impacts on loggerhead shrike, sagebrush sparrow, sage thrasher, and Vaux's swift. The measure allows for adaptive management throughout Project construction and operation.

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Spec-8: Prairie falcon: The Applicant would conduct pre-construction surveys for prairie falcon nests for construction work proposed during the prairie falcon nesting season and maintain a seasonal buffer of 2,640 feet from active nest sites to reduce potential destruction or disturbance of active nests.

Observational data and proposed adaptive management strategies would be reviewed with the TAC annually (see Hab-4).

- **Rationale:** This mitigation measure avoids and reduces potential disturbance to prairie falcon, and prairie falcon mortality, while allowing for adaptive management throughout Project construction and operation.

Spec-9: Ring-necked pheasant: The Applicant would consider using native grasses and legumes that support ring-necked pheasant in seed mixes applied during post-construction restoration of temporary disturbances and decommissioning to reduce potential habitat loss.

Observational data and proposed adaptive management strategies would be reviewed with the TAC annually (see Hab-4).

- **Rationale:** This mitigation measure reduces potential loss of ring-necked pheasant habitat and allows for adaptive management throughout Project construction and operation.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



Spec-10: Black-tailed jackrabbit & White-tailed jackrabbit: The Applicant would conduct surveys for jackrabbit in suitable habitat identified through GAP predictive mapping.

If jackrabbits are identified, the Applicant would develop and implement a management plan with additional mitigation measures to reduce potential loss of habitat supporting jackrabbits.

Observational data and proposed adaptive management strategies would be reviewed with the TAC annually (see Hab-4).

- **Rationale:** This mitigation measure reduces potential loss of black-tailed and white-tailed jackrabbit habitat, indirect habitat loss, habitat fragmentation, and mortality, while allowing for adaptive management throughout Project construction and operation.

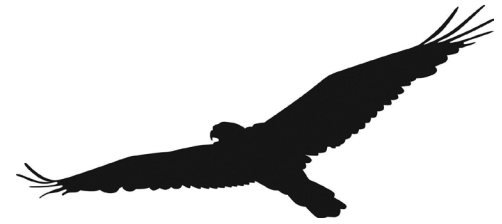
Spec-11: Townsend's big-eared bat: The Applicant would restrict bat access to open water if the water could be contaminated.

The Applicant would retain old buildings, outbuildings, and trees where feasible.

The Applicant would report mortalities of Townsend's big-eared bat to EFSEC and the TAC. Bat mortality data and adaptive management strategies would be reviewed with the TAC annually (see Hab-4).

- **Rationale:** This mitigation measure reduces potential loss of Townsend's big-eared bat habitat and mortality and allows for adaptive management throughout Project construction and operation.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



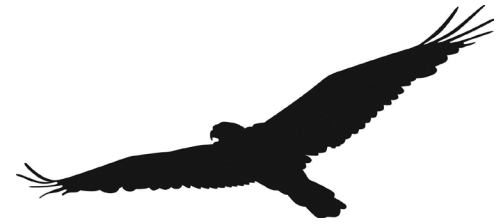
Spec-12: Townsend's ground squirrel: The Applicant would conduct surveys for Townsend's ground squirrel colonies within the Lease Boundary in areas of the Project disturbance footprint (including ZOI) to inform final design.

The Applicant would avoid habitat loss within Townsend's ground squirrel habitat concentration areas, as well as known colonies, in final design. Additional Townsend's ground squirrel colonies identified through surveys would be shown on Project mapping. If Project components are required in habitat concentration areas (rated as medium or greater) or near known colonies, the Applicant would prepare a species-specific management plan for areas where avoidance is not feasible. This plan would provide rationale for why colonies cannot be avoided and would detail additional mitigation measures to reduce impacts to Townsend's ground squirrel. Additional mitigation measures may include identification of setbacks, colony monitoring, habitat restoration, colony relocation, and reconstruction of habitat features. The plan would also describe monitoring and adaptive management measures to be implemented during Project operation. The plans would be provided and discussed with the PTAG, and approved by EFSEC, if avoidance of identified ground squirrel colonies is not feasible.

Observational data and adaptive management strategies would be reviewed with the TAC annually.

- **Rationale:** This mitigation measure reduces potential loss of Townsend's ground squirrel habitat, disturbance of squirrel colonies, and Townsend's ground squirrel mortality, while allowing for adaptive management throughout Project construction and operation.

EIS Recommended Mitigation – Wildlife and Habitat (Wild, Hab, and Spec)



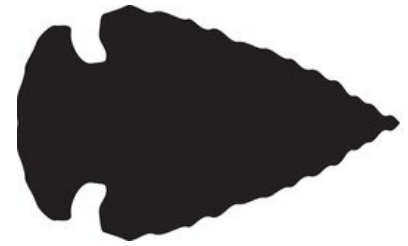
Spec-13: Pronghorn antelope: The Applicant would limit fencing where feasible (e.g., around solar arrays). Final fencing layouts and design, including use of non-barbed-wire security fencing, would be provided to the PTAG and EFSEC with rationale for fencing requirements.

The Applicant would design and implement a study of seasonal pronghorn antelope occurrence and use of the Lease Boundary before construction and during operation to document the change, if any, of pronghorn antelope presence, abundance, and habitat use within the Lease Boundary. The PTAG would review and provide input to the study design. The results of the study would be used to develop adaptive management measures to respond to changes in pronghorn antelope habitat use. Survey results and proposed adaptive management would be reviewed by the TAC prior to implementation (see Hab-4).

The Applicant would maintain a database of pronghorn antelope observations, including details such as numbers, location, age, and sex, and would make this database available to WDFW, EFSEC, and the Yakama Nation.

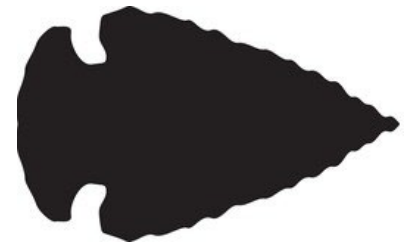
- **Rationale:** This mitigation measure reduces potential disturbance to pronghorn antelope and barriers to pronghorn antelope movement, while allowing for adaptive management throughout Project construction and operation.

EIS Recommended Mitigation – Historic and Cultural Resources (CR)



• **CR-1: Traditional Cultural Properties Mitigation**

- Ongoing engagement with affected Tribes could facilitate mitigation of any potential impacts on TCPs. Tribal review of site/engineering plans could provide input to guide design and avoidance, without confidential disclosure of locations. This engagement should also include opportunities for identified stakeholders to evaluate the effectiveness of any implemented mitigation measures throughout the Project's lifecycle.
- Appropriate mitigation measures may include (but are not limited to) the demarcation of “no-go,” culturally sensitive areas to be avoided by contractors throughout the life of the Project, including redesign, refinement, and/or maintenance. The demarcation of culturally sensitive areas could also facilitate safe access to TCPs and/or other places of cultural significance for Tribes. If appropriate, the implementation of environmental enhancement measures (e.g., planting and/or screening) or the protection of certain aspects of the environmental setting may be considered in coordination with affected Tribes.
- The CTUIR proposed several mitigation strategies. Potential mitigation strategies include:
 - Enable continued access for Tribes through an Access Agreement (e.g., continued access to First Foods).
 - Create protections for natural resources that support First Foods procurement (e.g., preserve landforms, practice responsible stream management, avoid negative impacts on pollinator species).
 - Perform off-site mitigation, including education and outreach work, to assist Tribes in the perpetuation of oral history and legends that would have been taught in-situ in the Area of Analysis; engage with Tribes on appropriate rehabilitation (closure) strategies for the safeguarding of viewshed and cultural landscapes.
 - Include Tribal representatives during any ground-disturbing activities (Cultural Resource Monitor).
 - Develop an agreement with the Tribes in anticipation of a time when the wind farm would be considered for disassembly to restore the landscape and viewshed.



EIS Recommended Mitigation – Historic and Cultural Resources (CR)

•**CR-2: Archaeological and Architectural Resources Mitigation**

- Table 4.9-9 sets out proposed mitigation measures for historic and cultural resources potentially impacted by the Project. Any mitigation strategies should be detailed in an agreement document between EFSEC, DAHP, the Tribes, and the Project proponent.
- Mitigation measures are intended to minimize impacts on historic and cultural resources with elevated sensitivity (precontact archaeological resources, NRHP-eligible historic-period archaeological resources, TCPs, and unidentified historic and cultural resources), primarily through avoidance. If avoidance is not possible, the mitigation clarifies which resources would require a DAHP permit prior to disturbance. Mitigation measures also identify instances where engagement with DAHP, Tribes, and/or landowners would be required.

Existing Conditions







Project Simulation Option 1
231 WTGProject Simulation Option 2
147 WTG

Horse Heaven Wind Project



Figure 4
Representative Viewpoint 2c
Existing Conditions
and Project Simulations

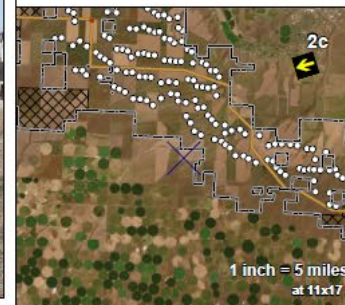
BENTON COUNTY, WA

-  Viewpoint Location and Photo Direction
-  Project Lease Boundary
-  Proposed Turbine Location
-  Proposed Substation/BESS
-  Proposed Transmission Line
-  Solar Siting Area

View direction (deg):	251
Horizontal field of view (deg):	56
Vertical field of view (deg):	15
Max. WTGs within field of view:	85 / 60
Max. Visible WTGs at tip height:	46 / 39
Max. Visible WTGs at hub height:	24 / 21
Closest WTG (mi):	3.7 / 3.7
Furthest WTG (mi):	10.8 / 10.8
Closest Solar Array (mi):	No view
Closest Transmission Line (mi):	3.4
Closest Substation / BESS (mi):	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

NOT FOR CONSTRUCTION





Existing Conditions



Project Simulation Option 1
231 WTG



Project Simulation Option 2
147 WTG



Horse Heaven
Wind Project



Figure 15
Representative Viewpoint 11
Existing Conditions
and Project Simulations

BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Solar Siting Area

View direction (deg):	169
Horizontal field of view (deg):	73
Vertical field of view (deg):	19
Max. WTGs within field of view:	33 / 47
Max. Visible WTGs at tip height:	23 / 12
Max. Visible WTGs at hub height:	19 / 11
Closest WTG (mi):	2 / 2.5
Furthest WTG (mi):	6.6 / 6.6
Closest Solar Array (mi):	No view
Closest Transmission Line (mi):	No view
Closest Substation / BESS (mi):	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

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Existing Conditions



Project Simulation Option 1
231 WTG



Project Simulation Option 2
147 WTG



Horse Heaven
Wind Project



Figure 17
Representative Viewpoint 13
Existing Conditions
and Project Simulations

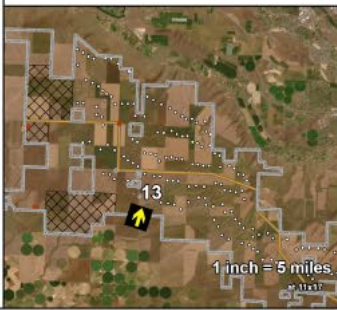
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg):	18
Horizontal field of view (deg):	73
Vertical field of view (deg):	19
Max. WTGs within field of view:...	69 / 51
Max. Visible WTGs at tip height:..	69 / 51
Max. Visible WTGs at hub height:	66 / 51
Closest WTG (mi):	1.1 / 1.1
Furthest WTG (mi):	7.3 / 7.1
Closest Solar Array (mi):	No view
Closest Transmission Line (mi):	2.0
Closest Substation / BESS (mi):	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

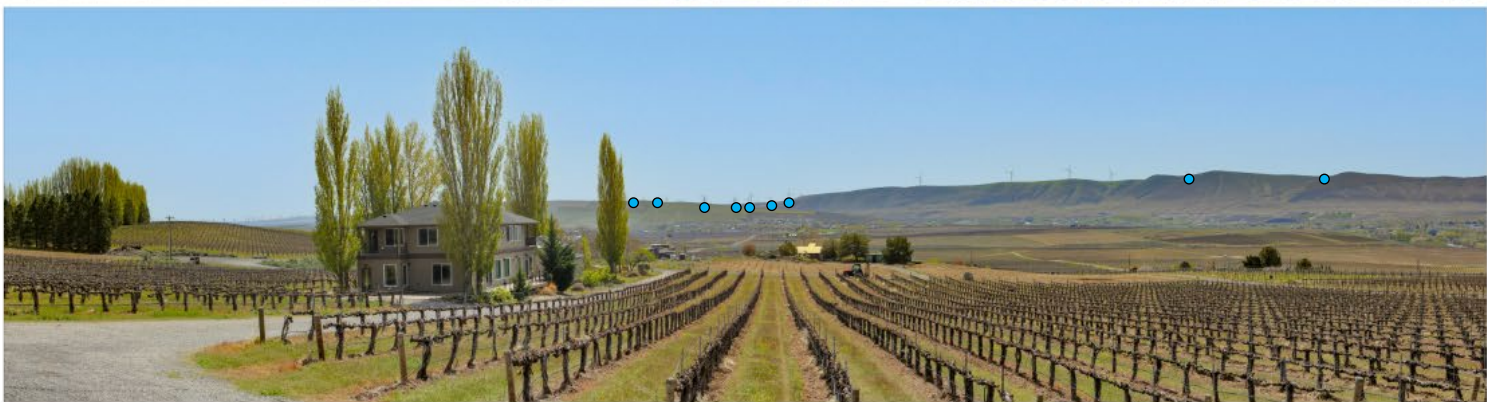
NOT FOR CONSTRUCTION



Existing Conditions



Project Simulation Option 1
231 WTG



Project Simulation Option 2
147 WTG



Horse Heaven
Wind Project



Figure 21b
Representative Viewpoint 16

Project Simulations

BENTON COUNTY, WA



Viewpoint Location and
Photo Direction



Project Lease Boundary



Proposed Turbine Location



Solar Siting Area

View direction (deg):	176
Horizontal field of view (deg):	92.5
Vertical field of view (deg):	24.3
Max. WTGs within field of view:	212 / 138
Max. Visible WTGs at tip height:	146 / 115
Max. Visible WTGs at hub height:	83 / 78
Closest WTG (mi):	5.2 / 5.2
Furthest WTG (mi):	19.5 / 19.5
Closest Solar Array (mi):	No view
Closest Transmission Line (mi):	No view
Closest Substation / BESS (mi):	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

NOT FOR CONSTRUCTION



TETRA TECH





Horse Heaven Wind Project



Figure 25
Representative Viewpoint 20
Existing Conditions
and Project Simulations

BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg):	170
Horizontal field of view (deg):	73
Vertical field of view (deg):	19
Max. WTGs within field of view:	174 / 117
Max. Visible WTGs at tip height:	4 / 7
Max. Visible WTGs at hub height:	4 / 4
Closest WTG (mi):	2.6 / 2.6
Furthest WTG (mi):	3.3 / 4.8
Closest Solar Array (mi):	No view
Closest Transmission Line (mi):	No view
Closest Substation / BESS (mi):	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

NOT FOR CONSTRUCTION





Horse Heaven Wind Project



Figure 26
Representative Viewpoint 21

**Existing Conditions
and Project Simulations**

BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg):	359
Horizontal field of view (deg):	73
Vertical field of view (deg):	19
Max. WTGs within field of view:	9 / 5
Max. Visible WTGs at tip height:	9 / 5
Max. Visible WTGs at hub height:	9 / 5
Closest WTG (mi):	0.7 / 0.7
Furthest WTG (mi):	1.6 / 1.9
Closest Solar Array (mi):	No view
Closest Transmission Line (mi):	0.1
Closest Substation / BESS (mi):	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

NOT FOR CONSTRUCTION



Existing Conditions



Project Simulation Option 1
231 WTG



Project Simulation Option 2
147 WTG



Horse Heaven
Wind Project



Figure 27
Representative Viewpoint 22
Existing Conditions
and Project Simulations

BENTON COUNTY, WA



Viewpoint Location and
Photo Direction



Project Lease Boundary



Proposed Turbine Location



Solar Siting Area

View direction (deg):	291
Horizontal field of view (deg):	73
Vertical field of view (deg):	19
Max. WTGs within field of view:	231 / 147
Max. Visible WTGs at tip height:	23 / 13
Max. Visible WTGs at hub height:	20 / 10
Closest WTG (mi):	5 / 5.4
Furthest WTG (mi):	7.7 / 7.7
Closest Solar Array (mi):	No view
Closest Transmission Line (mi):	No view
Closest Substation / BESS (mi):	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

NOT FOR CONSTRUCTION



Existing Conditions



Project Simulation Option 1
231 WTG



Project Simulation Option 2
147 WTG



Horse Heaven
Wind Project



Figure 28
Representative Viewpoint 23
Existing Conditions
and Project Simulations
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Solar Siting Area

View direction (deg):	286
Horizontal field of view (deg):	73
Vertical field of view (deg):	20
Max. WTGs within field of view:	231 / 147
Max. Visible WTGs at tip height:	/
Max. Visible WTGs at hub height:	/
Closest WTG (mi):	/
Furthest WTG (mi):	/
Closest Solar Array (mi):	No view
Closest Transmission Line (mi):	No view
Closest Substation / BESS (mi):	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

NOT FOR CONSTRUCTION



EIS Recommended Mitigation – Visual Aspects, Light, and Glare (VIS, SF, and LIG)



- **VIS-1:** Relocate turbines located within the foreground distance zone (0 to 0.5 miles) of non-participating residences to avoid completely dominating views from these highly sensitive viewing locations. Siting the turbines further away would reduce the level of visual contrast and prominence.
- **VIS-2:** Do not place piggyback advertising, cell antennas, commercial messages, or symbols on proposed wind turbines, as these have the potential to introduce additional visual contrast and would seem out of place in this natural-appearing agricultural landscape.
- **VIS-3:** Maintain clean nacelles and towers to avoid any spilled or leaking fluids accumulating dirt, which would contrast with the clean, white/gray wind turbines and result in increased visual contrast within the landscape.
- **VIS-4:** Avoid complete removal of vegetation beneath solar arrays during construction, where possible, to reduce contrast between the exposed soil and adjacent undisturbed areas during Project operation. If site grading requires the removal of vegetation, the area will be revegetated and maintained during Project operation.

EIS Recommended Mitigation – Visual Aspects, Light, and Glare (VIS, SF, and LIG)



- **VIS-5:** Install opaque fencing to directly screen views of the solar arrays where sited within 0.5 miles of KOPs (including the alignment of I-82 and other linear KOPs) or residences. To allow the proposed fencing to blend into the setting, color-treat the fencing to minimize color contrast with the existing landscape.
- **VIS-6:** Design BESS to blend with the adjacent agricultural character, including selecting materials and paint colors to reduce contrast with the existing setting. By mimicking design characteristics of agricultural structures in the area, the BESS facilities would appear consistent with the area's agricultural setting, including the overall visual scale of those existing structures.
- **VIS-7:** Maximize the span length across highways and other linear viewing locations to decrease visual contrast at the highway crossings. By moving the structures as far from the road as possible, the effect of those structures being located directly adjacent to these linear viewing locations would be reduced.
- **VIS-8:** Choose the type of proposed transmission structure (H-frame or monopole) to best match the adjacent transmission lines and to minimize visual clutter from the introduction of different structure types into the landscape, which would result in increased visual contrast.

EIS Recommended Mitigation – Visual Aspects, Light, and Glare (VIS, SF, and LIG)



- **SF-1:** The Applicant would attempt to avoid, minimize, and mitigate shadow flicker at non-participating residences. Shadow flicker can usually be addressed by planting trees, shading windows, operational programming, or other mitigation measures. As a last resort, the control system of the wind turbine could be programmed to stop the blades during the brief periods when conditions result in a perceptible shadow flicker.
- **SF-2:** The Applicant would set up a complaint resolution procedure that would include the following: 1) A 24-hour “hot line” or other form of communication that the public can use to report any undesirable shadow flicker associated with the operation of the wind turbines, with the ability to log the date and time of a complaint. This line of communication would be maintained for at least one year, at which time it could be reassessed to continue or be terminated; 2) An attempt to contact the complainant within 24 hours; and 3) A requirement to report any complaints and their resolution to EFSEC during monthly reports to the Council.
- **LIG-1:** The Project would be constructed with LEED-certified building exterior(s) and security lighting to minimize vertical and horizontal illuminance to keep the lighting on site and to reduce impacts at the Lease Boundary and beyond.

EIS Recommended Mitigation – Public Health and Safety (PHS)



- **PHS-1: Fire Suppression Aircraft Access:** In the event of a major wildfire occurring in an area where fire suppression aircraft may need access near the Project, whether related to the Project or resulting from another cause, the Applicant would shut down turbines temporarily.
 - **Rationale:** This mitigation measure would allow access for fire suppression aircraft carrying water and fire suppression chemicals, as needed.

What to Expect: December 20th Meeting



Mitigation Changes

Proposed changes noted by staff.
Council will be provided with updated version ahead of December meeting.



Document Direction

EFSEC staff will ask for direction on what documents to prepare for a vote at the January Council Meeting.



Staff Outreach

Staff will be available to address any Council questions or concerns.
Staff will also be reaching out to Council members directly.

Questions?

