Appendix F

Ecological Considerations and Impact Mitigation

Red Ridge Village PUD

Existing Conditions and Environmental Baseline

Regional Ecological Context

Red Ridge Village is within a multiple use landscape where Valley County's land use code emphasizes performance-based standards and the preservation of natural features and landscape character through planned unit clustering and open space preservation.

Ecologically, this nearly 2,250-acre property lies at the transition between the Idaho Batholith and Blue Mountains ecological regions. This transition supports a mix of dry lower montane foothill forests, subalpine conifer forests, riparian corridors, and meadow systems that together create a diverse mosaic of second-growth habitat.

Site Habitat Inventory

Habitat types documented on the property include evergreen forest, high elevation meadows, riparian strips along streams and drainages, wetland pockets, and shallow soil meadow complexes. These habitats provide cover, forage, and movement routes for a variety of species.

Steep slopes greater than 30 percent, narrow riparian corridors, and intact meadow systems are treated as high sensitivity areas due to erosion risk, hydrological function, and wildlife use. Over 1,400 contiguous acres of these areas are preserved in the Red Ridge Village PUD as seasonal foraging and bedding zones for elk and deer and as potential habitat for the Northern Idaho Ground Squirrel.

Wildlife Baseline

The broader Red Ridge property supports a wide range of wildlife, including big game species such as elk, deer, bear, mountain lion, and wolf, as well as upland birds, waterfowl, small game, and furbearers. The project area is within the McCall Elk Zone, which includes Game Management Units 23 and 24.

Sensitive species include the Northern Idaho Ground Squirrel, which occurs only in Adams and Valley Counties and is listed as threatened under the Endangered Species Act. This species occupies shallow, dry, rocky meadows with well drained soils, and has been

heavily affected by forest encroachment into former meadow habitats resulting in habitat fragmentation. The preserved meadow area within Red Ridge Village will provide continued habitat opportunity for the Northern Idaho Ground Squirrel.

While these regional and species level data provide an important baseline, Idaho Department of Fish and Game does not maintain fine scale elk use mapping for this specific 2,250-acre PUD area. Local observations of bedding areas, game trails, and seasonal concentrations will therefore be combined with field data collection to refine the wildlife baseline.

Plant Communities

Vegetation on the property includes dry lower montane shrub and grass communities, mixed conifer forests at mid elevations, and subalpine conifer stands and meadows at higher elevations. Historic timber harvest and associated logging roads have likely introduced disturbance edges and opportunities for noxious weeds. The property has weed presence consistent with those legacy uses that may necessitate documentation and continuous management.

Climate and Hardiness Zones

The site spans USDA Plant Hardiness Zones 4b through 6a, with zones 5a and 5b most prevalent. These conditions support cold hardy grasses, forbs, shrubs, and trees that are critical for winter browse and spring green up forage for elk and other big game.

Elk Habitat, Movement, and Seasonal Use

Elk Population Context

The project area lies within the McCall Elk Zone, which includes Units 19A, 23, 24, and 25, and supports an important regional elk population managed by Idaho Department of Fish and Game. Elk in this zone use elevational gradients and snow conditions to move between summer ranges at higher elevations and winter ranges at lower, more south facing sites.

At the statewide level, Idaho's Action Plan under Secretarial Order 3362 emphasizes conservation and improvement of habitat quality in key big game winter ranges and migration corridors, including strategic work with private lands to maintain intact landscapes and functional movement routes. The Red Ridge PUD is designed to be consistent with these principles by clustering development and conserving large, connected habitat blocks.

Seasonal Range and Local Knowledge

Regional data and mapping show that the broader McCall area likely provides both summer and winter range for elk, with important movements between forested slopes, ridgelines,

and meadow systems. Within the 2,250-acre PUD area, site level elk use is currently understood primarily through local knowledge: observations of bedding areas, repeated game trail use, and seasonal congregations near meadow areas and forest edges.

Idaho Fish and Game does not currently have publicly available detailed telemetry-based movement maps or seasonal range polygons for this specific site. As a result, the project assumes that a more rigorous baseline, using accepted wildlife survey methods, is required to align mitigation with actual on the ground use.

Likely Movement Patterns and Habitat Functions

Based on general elk ecology and best practices in western big game management, elk in this landscape are expected to:

- Use forest edges and meadow margins for foraging during dawn and dusk.
- Bed in timbered slopes adjacent to meadows and riparian corridors where cover and escape terrain are available.
- Move along ridgelines, benches, and drainages to travel between seasonal ranges and to access water.

These patterns align with the focus of the Idaho Migratory Big Game Initiative, which prioritize maintaining intact habitat mosaics and movement corridors that span private and public lands.

Public Concerns

Citizens have raised specific concerns that development could:

- Disrupt elk bedding and foraging areas.
- Fragment movement corridors through new roads, fencing, and building clusters.
- Increase vehicle collisions on access roads.
- Introduce chronic disturbance from lighting, noise, recreation, and domestic pets.

The mitigation framework below is structured to address these concerns, using both generalized best practices and a commitment to on-site data collection to refine elk-oriented measures over time.

Impact Assessment

Direct Construction Impacts

Construction activities will temporarily displace wildlife, remove vegetation, and increase noise and light levels within work areas. Tree clearing, grading, and infrastructure

installation may reduce cover and forage in the short term and, without controls, increase erosion and sediment delivery to adjacent riparian areas.

If construction occurs in late winter or early spring in areas used by elk as winter range or during the transition to summer range, disturbance could increase stress at sensitive times. These risks are well documented in western big game literature and related state action plans.

Long-Term Impacts

Long-term development impacts may include:

- Fragmentation of habitat patches around clustered development nodes.
- Increased human presence along trails and roads that intersect wildlife movement routes.
- Noise, lighting, and vehicle traffic that alter animal movements.
- Increased risk of human wildlife conflicts, including pets harassing wildlife and attractants that draw animals into developed areas.

These effects are of particular concern in landscapes that provide migration routes and winter range, where moderate levels of disturbance can cumulatively reduce habitat effectiveness.

Cumulative Impacts

Within the Red Ridge Village PUD area, cumulative impacts include ongoing construction and development, road network development, recreation, historic timber harvest areas, and other uses. If unmanaged, these changes could gradually convert large interior habitat blocks into smaller fragments, reduce connectivity between seasonal ranges, and increase edge effects such as weed invasion and human disturbance.

The PUD's reliance on clustering, large-scale open space retention, and long-term stewardship is intended to offset these cumulative effects by keeping significant areas in a natural condition with functional connectivity.

Avoidance and Minimization Strategy

Land Use Pattern

Valley County's PUD standards explicitly reference clustering buildings to create common open space and preserve natural features and landscape character. The Red Ridge Village Master Plan follows this direction by locating development in pockets and reserving large contiguous areas as open space and wildlife habitat. These open spaces are foregrounded

and aligned with intact forest, meadow, and riparian systems to maintain ecological function rather than being allocated in residual, leftover areas.

Elk Specific Avoidance

Given the absence of detailed IDFG telemetry data, elk related avoidance is structured around generalized best practices, refined by local knowledge and future field data. Key elements include:

- Keeping development outside the most intact meadow complexes and adjacent forest cover that are likely used for feeding and bedding.
- Avoiding new primary roads in areas where repeated local observations show consistent deer and elk crossing patterns.
- Applying seasonal construction limitations in areas identified through field surveys as consistently used winter range or calving habitat, consistent with the intent of Idaho's big game corridor and winter range conservation framework.

Habitat Protection Measures

Across the site, habitat protection measures will include:

- Riparian setbacks sufficient to protect shade, bank stability, and in stream habitat.
- Avoidance of wetlands and wet meadow complexes that support amphibians, birds, and forage species.
- Protection of shallow, rocky meadows suitable for Northern Idaho Ground Squirrel and other meadow dependent species, consistent with the recovery plan emphasis on preventing further loss and fragmentation of these habitats.

Mitigation Measures

Wildlife Mitigation

Wildlife mitigation follows recognized best practices in the Intermountain West. Measures will include:

- Wildlife friendly fencing that maintains permeability for elk and deer, using specifications such as a maximum fence height around 40 inches, and in the case of wire fences, smooth top and bottom wires, with at least 12 inches between top wires and 16 inches of ground clearance at the bottom wire. For rail fences, designs known to have high barrier effect will be avoided when practical; if utilized, a dropped rail will be incorporated into the design as appropriate. Practices will seek

to follow recommendations by Natural Resources Conservation Service, Rocky Mountain Elk Foundation, and other wildlife friendly fence guidance documents.

- Siting trails away from core bedding areas and minimizing trail density in expected movement corridors, consistent with big game disturbance guidance.
- Requiring pet controls in CC&Rs, including leashing dogs outside lots and prohibiting intentional feeding of wildlife, to reduce harassment and attraction.
- Applying exterior lighting standards that use full cutoff fixtures, low correlated color temperature, and curfews or motion controls to limit light spill into habitat. See Appendix G for specific lighting details.

Vegetation and Weed Mitigation

Weed management will follow a prevention, early detection, and rapid response model already conceptualized for by Valley County. Measures will include:

- Cleaning construction equipment prior to entry.
- Using certified weed free mulch, straw, and hay.
- Prioritizing treatment of roadsides, trailheads, parking areas, and disturbed pads.
- Mapping infestations and monitoring treatment success annually.

Disturbed areas will be revegetated with native or regionally adapted species appropriate to the site's hardiness zones, which also supports long term forage quality for wildlife.

Wildland Fire Mitigation

Wildland fire mitigation is addressed in Appendix K Wildland Urban Interface Fire Protection Plan. The approach integrates:

- Home ignition zone defensible space around structures.
- Strategic fuel reduction that maintains or improves forage value in appropriate areas, consistent with the recognition that well managed fire can improve big game winter range quality.
- Coordination with Idaho Department of Fish and Game if prescribed fire is proposed in areas used by elk, to ensure timing and scale support habitat objectives.

Timber, Rangeland, and Past Land Use

Historic timber harvest has left an internal road network with no / low traffic. As development proceeds, road planning will:

- Decommission redundant legacy roads in sensitive habitats.
- Identify, upgrade, and located essential roads to minimize erosion and reduce habitat fragmentation.

Rangeland uses will be limited to equestrian facilities that are sited and managed to avoid conflicts with big game, including siting away from key movement corridors and meadows preserved for wildlife use.

Ground Squirrel Mitigation

For Northern Idaho Ground Squirrel, the project will implement measures consistent with the federal recovery plan:

- Avoiding development in shallow, well drained meadows that meet the species habitat criteria.
- Conducting pre-construction surveys in suitable habitats and applying no disturbance buffers where the species is present.
- Managing forest encroachment in designated conservation meadows to prevent further loss of open habitat.

Soils and Geologic Conditions

Soils across the Red Ridge Village PUD reflect the site's complex topography, elevation range, and geologic transition between the Idaho Batholith and Blue Mountains provinces. Broadly, soils consist of shallow to moderately deep, well-drained mountain soils on ridgelines and slopes, with deeper alluvial and colluvial soils occurring in meadow bottoms and along drainages. Shallow, rocky soils are prevalent within open meadow systems, which contribute to both erosion sensitivity and habitat suitability for meadow-dependent species such as the Northern Idaho Ground Squirrel.

Areas with steep slopes and shallow soils present an elevated risk of erosion and are therefore treated as high-sensitivity areas within the land use and open space framework. Deeper meadow and valley-bottom soils play an important role in infiltration, seasonal moisture retention, and forage productivity but may also be susceptible to compaction and disturbance if improperly managed.

Figure A.2 shows general soil composition, as available by the Natural Resources Conservation Service's (NRCS) Soil Survey program. Site-specific geotechnical investigations will be conducted prior to construction to evaluate soil stability, bearing capacity, and drainage characteristics, consistent with Valley County requirements.

Long Term Stewardship and Monitoring

Monitoring Framework

A monitoring framework will be established to track vegetation recovery, wildlife use, and invasive species over time, consistent with adaptive management approaches promoted in state big game corridor programs.

For elk and other big game, this may include:

- Camera traps at likely movement pinch points.
- Longitudinal surveys in fixed areas.
- Document observed changes in use patterns.

Invasive Species Monitoring

Annual weed surveys will document locations, species, and treatment outcomes. New infestations will trigger rapid response treatment and, if necessary, adjustments to access management and construction practices.

Adaptive Management

If monitoring indicates that elk or other wildlife are avoiding particular corridors, experiencing increased vehicle conflicts, or shifting out of retained habitat blocks, management responses may include:

- Rerouting or closing recreation trails.
- Adjusting lighting or fencing designs in key areas.
- Enhancing habitat within open space blocks through targeted thinning, seeding, or shrub planting.

These adaptive responses are consistent with the emphasis on measurable outcomes and iterative management.

Coordination

The applicant will coordinate as appropriate with:

- Idaho Department of Fish and Game for big game and sensitive species.
- Idaho Department of Lands on forest and road management.
- Federal partners where their lands are involved in broader corridor or winter range projects under related initiatives.

Compliance with Valley County PUD Criteria

Natural Features

The clustering of development, retention of steep slopes and ridgelines in open space, and protection of meadows and riparian corridors are directly aligned with the stated purpose of the Valley County PUD, which is to preserve natural features and landscape character while providing development flexibility.

Wildlife Protection

Wildlife friendly fencing, elk-oriented avoidance and timing measures, protection of migration and movement corridors, and long-term monitoring are consistent with state and federal frameworks for winter range and migration corridor conservation.

Vegetation and Open Space

Open space is planned as a functional ecological network including forest, meadow, and riparian habitats, rather than isolated remnants. The weed management plan and restoration standards maintain vegetation health and habitat quality.

Wildfire

Wildfire mitigation is addressed in Appendix K Wildland Urban Interface Fire Protection Plan and is consistent with Valley County's emphasis on reducing risk in the wildland urban interface while maintaining ecological function.

Water Resources

Riparian setbacks, wetland avoidance, and erosion control measures are designed to protect streams, wetlands, and downstream water quality in accordance with Valley County land use and development objectives.