Visual Resources Technical Report

## TWO RIVERS WIND PROJECT VISUAL RESOURCES TECHNICAL REPORT

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# Contents

| List of Acronyms and Abbreviations ii                   |
|---|
|   |
| Chapter 1 Introduction 1                                |
| 1.1 Regulatory Framework1                               |
| 1.1.1 Applicable State of Wyoming Regulations1          |
| 1.1.2 Applicable Albany County Regulations1             |
| 1.1.3 Applicable Carbon County Regulations2             |
| 1.1.4 Applicable Bureau of Land Management Regulations2 |
| 1.2 Analysis Area2                                      |
| Chapter 2 Baseline Conditions                           |
| 2.1 Scenic Quality4                                     |
| 2.2 Sensitive Viewers                                   |
| 2.3 View Distances                                      |
| 2.4 Visual Resource Inventory (VRI) Classes5            |
| 2.5 Existing Scenic Integrity Classes5                  |
| 2.6 Visual Resource Management (VRM) Classes5           |
| Chapter 3 Environmental Consequences                    |
| 3.1 Impacts to Landscape Scenery and Viewers6           |
| 3.2 Impacts to Night Sky7                               |
| 3.3 Conformance with BLM Visual Resource Management7    |
| Chapter 4 References                                    |

### **List of Figures**

### **Attachments**

### Attachment A Key Observation Point (KOP) Figures

#### Attachment B Visual Contrast Rating Worksheets (VCRW)

# **Acronyms and Abbreviations**

| BLM  | Bureau of Land Management            |
|------|--------------------------------------|
| ISC  | Industrial Siting Council            |
| KOPs | key observation points               |
| NRHP | National Register of Historic Places |
| PA   | Two Rivers Wind Project Area         |
| RMP  | Resource Management Plan             |
| VCRW | Visual contrast rating worksheets    |
| VRI  | Visual Resource Inventory            |
| VRM  | Visual Resource Management           |
| W.S. | Wyoming Statute                      |
| WTG  | Wind Turbine Generator               |
|      |                                      |

Visual resources consist of the topography, soils, vegetation, bodies of water (lakes, streams, and rivers), and human-made structures that are noticeable on the landscape. These elements of the landscape can be described in the context of visual resources based on their forms, lines, colors, and textures or patterns. A visual resource assessment was conducted to support the permitting processes required for the Two Rivers Wind Project (Project) as proposed by Two Rivers Wind LLC. (Two Rivers Wind), a wholly owned subsidiary of BluEarth Renewables US LLC.

The Project, proposed to include the installation of up to 79 wind turbine generators (WTGs) on approximately 20,157 acres of land north of US 30/287 and Medicine Bow and west of Rock River. The Two Rivers Wind Project Area (PA) includes expansive views and is situated on portions of two privately owned ranches located 12 miles apart in Albany County and Carbon County, Wyoming. Land ownership in the Project boundaries includes private fee lands, lands owned by the Wyoming Office of State Lands and Investments (state land), and federal lands administered by the Bureau of Land Management (BLM).

# 1.1 Regulatory Framework

The State of Wyoming, Albany County, Carbon County, and the BLM are the permitting authorities for the Project.

### 1.1.1 Applicable State of Wyoming Regulations

The State of Wyoming Office of State Lands and Investments allows for wind energy development through temporary use permits or special use leases, depending upon the nature of the activity. A reclamation bond is required, and the land will be reclaimed at the end of the lease or when the wind project ceases to generate electricity for an extended time.

Industrial facilities proposed in Wyoming are required to obtain a permit from the Industrial Siting Council (ISC) pursuant to the Wyoming Industrial Development Information and Siting Act (Wyoming Statute [W.S.] 35-12-101 through 35-12-119) if the construction cost exceeds \$216,383,802 and for wind projects with more than 30 towers in all phases. The ISC permit process includes consideration of scenic resources; however, the State of Wyoming does not have rules related to protection of scenery or visual quality.

### 1.1.2 Applicable Albany County Regulations

Albany County, considers projects in the context of its approved Comprehensive Plan (Albany County 2014). The county does not have specific laws, ordinances, regulations or standards related to scenery or visual quality, beyond statements of intent about vistas and open spaces and regulations about lighting. The following is from the current Albany County regulations about lighting, unshielded lighting, and shielded lighting: "The purpose of the rules is to reduce light trespass, glare, and light pollution, to reduce energy costs, promote public safety and preserve the county's pristine night sky" (Albany County 2015).

### **1.1.3 Applicable Carbon County Regulations**

Carbon County considers projects in the context of its approved Comprehensive Land Use Plan (Carbon County 2012). Land Use Plan Goals include: sustain scenic areas, wildlife habitat, and other important open spaces. Strategies include: protect irrigated agricultural land as an important source of scenic landscapes, open spaces, and wildlife habitats.

### 1.1.4 Applicable Bureau of Land Management Regulations

The BLM considers projects in the context of its approved Resource Management Plan (RMP), which is established for the area administered by each BLM Field Office. The RMP designates Visual Resource Management (VRM) class objectives for all BLM-administered public lands to guide the level of visual change in the landscape character that is allowed as a result of proposed activities, including wind energy developments proposed on public lands. The BLM evaluates proposed projects based on conformance with the designated BLM VRM System objectives (BLM 1986a).

# 1.2 Analysis Area

The analysis area is the PA plus the 30-mile viewshed (this distance is associated with proposed WTG lights at the assumed height of the nacelle surrounding the PA (Figure 1). The Project viewshed is the area from which potential WTG lights would be noticeable to the casual viewer. Two public roads, WY 487 and CR 262 are located in the PA, and US 30/287 is located near the PA. Four key observation points (KOPs), in the immediate foreground of the PA, are identified as the viewpoints for conducting the characteristic landscape, visual simulations, and impacts analyses. The visual resources KOP locations, as shown on Figure 1, are as follows:

- KOP-1 associated with viewers traveling south on WY 487 as they approach the northern PA;
- KOP-2 at the WY 487-CR 262 intersection (view northwest and northeast) as viewers approach the northern PA;
- KOP-3 associated with viewers in Medicine Bow; and
- KOP-4 associated with viewers in Rock River, at the intersection of US 30/287 and WY 13.





The analysis area is characterized by community, ranching, and recreational activity. There is limited residential development outside of the communities of Medicine Bow and Rock River. The characteristic landscape of the PA is contained within flat to gently rolling, steep, and dissected landforms of the Interior Plains physiographic province (Fenneman 1931). Visual resources within the analysis area are influenced by topographic, vegetative, geologic, hydrologic, and land use characteristics. The topography of the PA is predominantly flat or gently rolling with dry or ephemeral drainages. The PA has a dry, arid climate. Vegetation across the PA is predominantly grassland and sagebrush, with infrequent ponds and wetlands. The forms, lines, colors, and textures of the PA are mostly consistent with the natural grassland and sagebrush scenery of the landscape, but are contrasted with the existing roads and fences, and the sparsely distributed range improvements and unimproved roads associated with livestock grazing and range management.

Analysis and documentation of the PA's visual resources was conducted to determine the visual values. The typical components of visual resources, as discussed in the following sections, include: scenic quality, viewer sensitivity/concern, visibility, view distances and existing scenic integrity.

# 2.1 Scenic Quality

The scenic quality evaluation for the PA is rated using key factors typical for landscapes similar to the PA: landforms, vegetation, water, color, influence of adjacent scenery, and cultural modifications (BLM 2010). The possible classifications in this physiographic province are Class A, Class B, and Class C. Due to the flat, gently rolling, and steep topography, limited surface water, homogenous color of the vegetation, homogenous adjacent scenery, and limited cultural modifications, the scenic quality of the PA is determined to be both Class B and Class C.

# 2.2 Sensitive Viewers

The viewer sensitivity/concern analysis indicates the landscape's relative value to residents and visitors. Lands are typically assigned high, medium, or low sensitivity levels based on consideration of the following factors: types of users, amount of use, public interest, adjacent land uses, and special areas. Sensitivity levels in the PA are rated as Medium and Low (BLM 2010). The PA has two immediate foreground public access roads, WY 487 and CR 262. Recreational activities, including driving, hunting, and photography, are associated with the roads, open grasslands, and nearby foothills.

The proposed night-sky lights of the PA are within the viewshed of multiple ranch residences throughout the 30-mile view area. Linear viewpoints with visibility to PA lighting include CR 262, US 30/287, I-80, WY 13, and WY 487, and multiple local improved and unimproved roads and trails. Recreational hunting areas include Horne Flats, Spade Flats, Bald Mountain, Bar M Mountain, Laramie Mountain, Shirley Mountain, Sugarloaf Mountain, and Como Ridge.

# 2.3 View Distances

Distance classifications are typically delineated based on relative visibility from travel routes, use areas, or vantage points, where nearer viewing situations are considered more influential to viewers than are more distant viewing situations. Based on the visual characteristics of Project facilities and the PA landscape, view distances include:

- Foreground-Middleground Distance: This is an area that can be seen from a distance of up to 3-5 miles from sensitive viewer locations. The PA landscape is visible in the foreground-middleground from CR 262, WY 487, and US 30/287.
- Background Distance: This is an area that can be seen from a distance of up to 30 miles (based on visibility of nighttime lighting) from sensitive viewer locations. The PA landscape is visible in the background from CR 262, CR 1, US 30/287, I-80, WY 13, WY 487, and multiple recreational use areas, local roads, and trails.
- Seldom Seen Area: These are the areas that are not visible from sensitive viewer locations and areas beyond 30 miles from Project facilities. None of the existing PA landscape is rated as seldom seen from sensitive viewer locations.

# 2.4 Visual Resource Inventory (VRI) Classes

VRI classifications indicate the relative value of visual resources, based on the interactions of scenic quality, sensitivity levels, and distance zones. The PA is comprised of VRI Class IV landscapes, the least valued rating.

# 2.5 Existing Scenic Integrity Classes

Scenic integrity classifications indicate the degree of intactness of the natural landscape (USFS 1996). Scenic integrity is expressed as high, moderate, or low, with high representing those places of intact natural landscape and no surface-disturbing activities. Due to the presence of existing WTG structures in the foreground-middleground and background views, the northern PA is composed of low existing scenic integrity lands and the southern PA consists of moderate scenic integrity lands, respectively.

# 2.6 Visual Resource Management (VRM) Classes

BLM-administered lands in the PA are designated VRM Class IV, which is defined as: "The objective of this class is to provide for management activities, which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic (design) elements" (BLM 1986a).

This section discusses estimated impacts to visual resources in the analysis area from the proposed Project. Primary concerns related to visual resources include estimated direct and indirect impacts associated with the degradation of views from immediate foreground KOPs associated with CR 262 and WY 487. Also included are views from Medicine Bow and other sensitive views in the vicinity of the PA, including scattered ranch residences and recreation sites located throughout the 30-mile view area. Linear viewpoints include US 30/287, CR 262, CR 1, WY 13, WY 487, I-80, and multiple local improved and unimproved roads and trails. The proposed Project's WTGs and lights would be visible from the Como Bluff Historic Site, listed on the National Register of Historic Places (NRHP), and the historic fossil cabin, which is planned to be relocated to the nearby town of Medicine Bow.

# 3.1 Impacts to Landscape Scenery and Viewers

Potential visual impacts associated with the Project were estimated for impacts to landscape scenery and impacts to viewers. These were determined by comparing the characteristics and extents of the structures and vegetation of the proposed Project facilities with the visual resource components of scenic quality, viewer sensitivity, view distances, visual resource inventory classes, and scenic integrity. The process involves comparing the visual character of the proposed facilities and Project-related activities with the existing landscape character during active construction, operation, and maintenance, and after reclamation is completed. The process utilized existing photographs and visual simulations for views from the four KOPs (Attachment A, Figures A-1 to A-10) as well as the roads, residences, and recreational land uses as the viewpoints for conducting the impact analyses.

The development of the proposed Project would cause a substantial amount of visual contrast with the predominantly natural character of the existing landscape. The primary change in visual effects would be the addition of WTGs, collection system, transmission lines, substations, roads, fugitive dust and earthwork. The proposed Project also would extend visual effects through the increased human use and activity in the area.

Prior to completion of reclamation, the facilities exhibit strong form and color contrast, especially bright, clear light conditions. Strong line contrasts are generated to a large extent by the shapes of the structures and roadways. Moderate texture contrasts are generated between the bare surfaces and the vegetation textures and patterns in the natural landscape. The proposed Project would expand the visual effects in the views of the existing facilities and adjacent undeveloped areas. The visual effects to landforms and vegetation gradually would become less noticeable with reclamation.

The proposed facilities would have visual characteristics during operations that would be similar to existing wind energy facilities in the region, notably strongly vertical and elevated geometric structure forms, lines, colors, and textures and exposed earth surfaces. As a result, the proposed Project would have similar, but expanded, visual effects to those already occurring from the existing facilities, including moderate to strong form and color contrasts, moderate line contrast, and weak to moderate to strong texture contrasts between the structural surfaces and the surrounding grasslands and background foothills. Due to the high profile and aviation safety requirements

associated with tall WTG structures, there are few available mitigation options that do not compromise the effectiveness of the project design and spacing requirements.

## 3.2 Impacts to Night Sky

Night sky/nighttime lighting of the operations (WTGs, substations, and roadway intersections) would cause impacts to the characteristic night landscape. There is an existing lit wind facility adjacent to the PA that would be visible from the KOPs and associated public and private use areas. There would be an increase in the existing conditions in sky glow in the view from all locations in the viewshed, including the four KOPs. Greater sky glow impacts would be apparent during nonmoonlit nights, from reflections on clouds, and during the clearest and darkest nights. Areas of night-time activity, such as star gazing, camping, hiking, dispersed recreation, and driving would receive higher noticeable changes to the characteristic night sky. Structures and disturbed vegetation nearest the light sources would be reflected by operations lighting and would have increased visibility to viewers in the surrounding landscape out to, and in some topographicallyelevated situations beyond, the background distance zone. There are available mitigation options to decrease the impact on night skies from continuous or flashing nighttime lighting of WTGs required by the Federal Aviation Administration for aviation safety. These systems, known as aircraft detection lighting systems (ADLS) or audio visual warning systems (AVWS), deploys a radar-based system around the wind energy project, turning lights on only when low-flying aircraft are detected nearby. Two Rivers intends to install an ADLS that does not require continuous night-time lighting of the WTGs, subject to FAA approval. Prior to construction, and in coordination with the appropriate permitting authorities, Two Rivers Wind will review the FAA approved lighting options to determine the best solution for the Project.

# 3.3 Conformance with BLM Visual Resource Management

Based on the Class B and Class C scenic quality classifications, VRI Class IV, and moderate to low scenic integrity of the landscape, it is estimated that impacts to visual resource management of BLM-administered lands would be moderate. Based on viewer sensitivity, view distances, and the presence of existing wind energy development in the foreground-middleground and background views and electrical utility facilities in the immediate vicinity of the WTGs, it is estimated that impacts to people would be moderate. In the context of the region, these impacts to scenery and impacts to people would be consistent with other wind energy projects in the overall viewshed and characteristic landscape.

The Project would conform with BLM RMP VRM Class IV objective (BLM 1986a). Visual contrast rating worksheets (VCRW) (BLM 1986b) are utilized to analyze and compare the characteristic landscape's landform/water, vegetation, and structures, with the Project's landform/water, vegetation, and structures, and VCRW\_KOP-2, and VCRW\_KOP-3).

- Albany County. 2014. Comprehensive Plan, Open Space and Public Lands. http://www.co.albany.wy.us/
- Albany County. 2015. Outdoor Lighting Regulations. http://www.co.albany.wy.us/
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- Fenneman, N. M. 1931. Physiography of Western United States. McGraw-Hill Book Company, New York, New York.
- United States Department of Agriculture, Forest Service. 1996. Landscape Aesthetics: A Handbook for Scenery Management. Agriculture Handbook 701. Washington, DC.
- United States Department of the Interior, Bureau of Land Management (BLM). 1986a. Visual Resource Management System Manual. http://www.blm.gov/nstc/VRM/8410.html
- United States Department of the Interior, Bureau of Land Management (BLM). 1986b. Visual Resource Management System. Visual Contrast Rating System. http://www.blm.gov/nstc/VRM/8431.html
- United States Department of the Interior, Bureau of Land Management (BLM). 2010. Rawlins Field Office Visual Resource Inventory.

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Two Rivers Wind LLC.

Two Rivers Wind Project

### Figure A-1. KOP-1 WY 487 Panorama Existing Condition



#### Figure A-2. KOP-1 WY 487 Panorama Simulated Condition



Visual Resources Technical Report Attachment A

A-1



Figure A-3. KOP-2 WY 487 / Marshall Road Northeast Existing Condition

Figure A-4. KOP-2 WY 487 / Marshall Road Northeast Simulated Condition





Figure A-5. KOP-2 WY 487 / Marshall Road Northwest Existing Condition

Figure A-6. KOP-2 WY 487 / Marshall Road Northwest Existing Condition







Figure A-8. KOP-3 Medicine Bow Simulated Condition







Figure A-10. KOP-4 Rock River Simulated Condition



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# Attachment B Visual Contrast Rating Worksheets (VCRW)

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| Form 840<br>(June 201) | ex   |             |  | Date: 12                    | /16/2018   |  |  |  |  |
|------------------------|--|-------------|--|-----------------------------|--|--|--|--|--|
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|                        | BUREAU OF LAND MA  | NAGEM       | ENT  | Field Off                   | ice:   |  |  |  |  |
|                        | VISUAL CONTRAST RATIN  | G WOR       | KSHEET   | Land Us                     | e Planning Area:   |  |  |  |  |
|                        | S  | ECTION      | A. PROJECT INFORM  | ATION                       | 999,0000000000000000000000000000000000                         |  |  |  |  |
| 1 Proi                 | ect Name   | are at est  | 4. KOP Location  |                             | 5. Location Sketch   |  |  |  |  |
|                        | vers Wind Project  |             | (T.R.S)  |                             | Please see Figure 1-1  |  |  |  |  |
| 2 Key<br>KOP-1         | Observation Point (KOP) Name                                       |             | WY HWY 487<br>T:24N; R:78W; S: varies                    |                             |  |  |  |  |  |
| 3. VRM<br>IV           | M Class at Project Location  |             | (Lat. Long)  |                             |  |  |  |  |  |
|                        | SECTION B.   | CHARA       | CTERISTIC LANDSCAP                                       | E DESCRI                    | PTION  |  |  |  |  |
|                        | 1. LAND/WATER  |             | 2. VEGETATION  |                             | 3. STRUCTURES  |  |  |  |  |
| FORM                   | Low mountain range and vast, flat to<br>rolling and mesa landscape |             | short-grass prairie, occasi<br>es of sage, other shrubs, |                             | Snow fences, WTGs, roads, and power lines, vertical, geometric |  |  |  |  |
| IINE                   | Horizontal and moderately angular                                  | Horiz       | ontal  |                             | Horizontal and vertical  |  |  |  |  |
| COLOR                  | Light gray to light beige soils                                    |             | straw-colored grasses and<br>green sage                  | d some                      | Grays and light to medium tans                                 |  |  |  |  |
| TEX-<br>TURE           | Smooth   | Smoo        | oth  |                             | Smooth to medium   |  |  |  |  |
|                        | SECTIO   | ON C. PR    | OPOSED ACTIVITY DE                                       | SCRIPTIO                    | N  |  |  |  |  |
| 2                      | 1. LAND/WATER  |             | 2. VEGETATION  |                             | 3. STRUCTURES  |  |  |  |  |
| FORM                   | Planar WTG sites and roads.  | Low,        | rectangular clearings (WT                                | G sites)                    | Blades appear curved when rotating.<br>Cylindrical towers      |  |  |  |  |
| LINE                   | Horizontal   |             | g edges at WTG sites, irre<br>roads                      | egular                      | Vertical WTGs and horizontal sites and roads                   |  |  |  |  |
| COLOR                  | Light to medium tan  | Grays       | s, tans, light olives                                    |                             | White to light and medium gray                                 |  |  |  |  |
| TEX-<br>TURE           | Smooth   | Smoo        | th to medium   |                             | Smooth   |  |  |  |  |

SECTION D. CONTRAST RATING \_\_SHORT TERM ✓LONG TERM

| 1.       |                     | -       |         |       | -   | -       | FEAT      | URES         | 2     |          |          |      |      | Several Management of the state   |
|----------|---------------------|---------|---------|-------|-----|---------|-----------|--------------|-------|----------|----------|------|------|---|
|          |                     | LA      | ND/WA   | TER B | ODY | 2       | VEGE<br>( | TATION<br>2) | 4     | 8        | STRUG    | TURE | S    | 2. Does project design meet visual resource<br>management objectives? ✓ Yes No  |
|          | OF<br>OF<br>ONTRAST | 0190912 | MODBATE | WEAK  | NOR | 0403122 | MODERATE  | WEAK         | SHORE | ITTRONG. | MOCERAEE | WEAK | NORE | <ul> <li>(Explain on reverses side)</li> <li>3. Additional mitigating measures recommended</li> <li>✓ YesNo (Explain on reverses side)</li> </ul> |
| 10       | FORM                |         | 1       |       |     |         | 1         |              |       | 1        |          |      |      | (Expantion recises and)   |
| ELEMENTS | LINE                |         | 1       |       |     |         | 1         |              |       | 1        |          |      |      | Evaluator's Names Date  |
|          | COLOR               |         | 1       |       |     |         | 1         |              |       |          | 1        |      |      | M Paulson   |
|          | TEXTURE             |         | 1       |       |     |         | 1         |              |       |          | 1        |      |      | 12/16/2018  |

(Continued on Page 2)

(Form 8400-4)

#### SECTION D. (Continued)

Comments from item 2.

There is utility and roads development in the foreground-middleground (railroad) and background distances (WTGs). The project will have minimal consistency with the existing landform, vegetation, and structures' forms, lines, colors, and textures. The project's strong and moderate contrasts will conform with VRM Class IV objectives.

Additional Mitigating Measures (See item 3)

None recommended for daytime visual contrast. Installation of an aircraft detection lighting system (ADLS) would reduce impacts from nightime lighting.

(Form 8400-4, Page 2)

| om 840<br>lune 2011 | 0   |                             | Date: 12/16/2018                                  |                |  |  |  |
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|                     | " UNITED STAT<br>DEPARTMENT OF THE                              | District Office: Rawlins FO |   |                |  |  |  |
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|                     | VISUAL CONTRAST RATIN   | G WOR                       | KSHEET  | Land U         | se Planning Area:  |  |  |
|                     | S   | ECTION                      | A. PROJECT INFOR                                  | MATION         |  |  |  |
|                     | ect Name<br>ers Wind Project                                    |                             | 4. KOP Location<br>(T.R.S)                        |                | 5. Location Sketch<br>Please see Figure 1-1                    |  |  |
| 2. Key<br>KOP-2     | Observation Point (KOP) Name                                    |                             | WY HWY 487/Marsh<br>T:23N; R:78W; S: va           | and the second | Please see rigure 1-1  |  |  |
| 3. VRN<br>V         | 4 Class at Project Location                                     |                             | (Lat. Long)                                       |                |  |  |  |
|                     | SECTION B.  | CHARA                       | CTERISTIC LANDS                                   | CAPE DESCH     | RIPTION  |  |  |
|                     | 1. LAND/WATER   |                             | 2. VEGETATION                                     |                | 3. STRUCTURES  |  |  |
| FORM                | Low mountain range and vast, flat to rolling and mesa landscape |                             | short-grass prairie, oo<br>es of sage, other shru |                | Snow fences, WTGs, roads, and power lines, vertical, geometric |  |  |
| TINE                | Horizontal and moderately angular                               | Horiz                       | ontal   |                | Horizontal and vertical  |  |  |
| COLOR               | Light gray to light beige soils                                 |                             | straw-colored grasses<br>green sage               | and some       | Grays and light to medium tans                                 |  |  |
| TEX-<br>TURE        | Smooth  | Smoo                        | oth   |                | Smooth to medium   |  |  |

|       | 1. LAND/WATER               | 2. VEGETATION                                       | 3. STRUCTURES   |  |  |  |  |
|-------|-----------------------------|---|---|--|--|--|--|
| FORM  | Planar WTG sites and roads. | Low, rectangular clearings (WTG sites)              | Blades appear curved when rotating.<br>Cylindrical towers |  |  |  |  |
| INE   | Horizontal                  | Strong edges at WTG sites, irregular<br>along roads | Vertical WTGs and horizontal sites and<br>roads           |  |  |  |  |
| COLOR | Light to medium tan.        | Grays, tans, light olives                           | White to light and medium gray                            |  |  |  |  |
| TEX-  | Smooth                      | Smooth to medium                                    | Smooth  |  |  |  |  |

#### SECTION D. CONTRAST RATING \_\_SHORT TERM ✓ LONG TERM

| 1.                       |         |    |       |                         |         |                                    | FEAT                             | URES |   |   |   |  |  | The second s |  |
|--------------------------|---------|----|-------|-------------------------|---------|------------------------------------|----------------------------------|------|---|---|---|--|--|--|--|
| DEGREE<br>OF<br>CONTRAST |         | LA | ND/W/ | TER B                   | ODY     |                                    | VEGETATION STRUCTURES<br>(2) (3) |      |   |   |   |  |  | 2. Does project design meet visual resource<br>management objectives? ✓ YesNo                                  |  |
|                          |         |    |       | NOREATE<br>WEAK<br>NOVE | 273(080 | ETECRO<br>MODELACE<br>WEAK<br>NOME |                                  |      | (Explain on reverses side)<br>3. Additional mitigating measures recommended |   |   |  |  |  |  |
| 10                       | FORM    |    | 1     | 1                       |         |                                    | 1                                |      |   | 1 |   |  |  | YesNo (Explain on reverses side)   |  |
| FLEMENTS                 | LINE    |    | 1     |                         |         |                                    | 1                                |      |   | 1 |   |  |  | Evaluator's Names Date   |  |
| LEM                      | COLOR   |    | 1     |                         |         |                                    | 1                                |      |   |   | 1 |  |  | M Paulson  |  |
|                          | TEXTURE |    | 1     |                         |         |                                    | 1                                |      |   |   | 1 |  |  | 12/16/2018   |  |

(Continued on Page 2)

(Form 8400-4)

#### SECTION D. (Continued)

Comments from item 2.

There is utility and roads development in the foreground-middleground (railroad) and background distances (WTGs). The project will have minimal consistency with the existing landform, vegetation, and structures' forms, lines, colors, and textures. The project's strong and moderate contrasts will conform with VRM Class IV objectives.

Additional Mitigating Measures (See item 3)

None recommended for daytime visual contrast. Installation of an aircraft detection lighting system (ADLS) would reduce impacts from nightime lighting.

(Form 8400-4, Page 2)

| Form 840<br>(June 2011  | 83  |          |   | Date: 1                        | 2/16/2018  |  |  |  |  |  |
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| (Anne 2018)<br>UNITED STATES<br>DEPARTMENT OF THE INT<br>BUREAU OF LAND MANAG |   |          | OR  | District                       | rict Office: Rawlins FO  |  |  |  |  |  |
|   | BUREAU OF LAND MA   | NAGEM    | ENT   | Field O                        | ffice:   |  |  |  |  |  |
|   | VISUAL CONTRAST RATIN   | G WOR    | KSHEET  | HEET<br>Land Use Planning Area |  |  |  |  |  |  |
|   | S   | ECTION   | A PROJECT INFORM  | ATION                          |  |  |  |  |  |  |
|   | ect Name<br>vers Wind Project                                   |          | 4. KOP Location<br>(T.R.S)                              |                                | 5. Location Sketch   |  |  |  |  |  |
| 2. Key Observation Point (KOP) Name<br>KOP-3                                  |   |          | Medicine Bow<br>T: 22N; R: 78W; S: varie                | 15                             | Please see Figure 1-1  |  |  |  |  |  |
| 3. VRN<br>IV  | A Class at Project Location                                     |          | (Lat. Long)   |                                |  |  |  |  |  |  |
|   | SECTION B.  | CHARA    | CTERISTIC LANDSCAI                                      | PE DESCR                       | IPTION   |  |  |  |  |  |
| <u> </u>  | 1. LAND/WATER   |          | 2 VEGETATION  |                                | 3. STRUCTURES  |  |  |  |  |  |
| FORM  | Low mountain range and vast, flat to rolling and mesa landscape |          | short-grass prairie, occas<br>es of sage, other shrubs, | ional<br>pines                 | Snow fences, WTGs, roads, and power lines, vertical, geometric |  |  |  |  |  |
| IINE  | Horizontal and moderately angular                               | Horizo   | ontal   |                                | Horizontal and vertical  |  |  |  |  |  |
| COLOR   | Light gray to light beige soils                                 |          | straw-colored grasses an<br>green sage                  | d some                         | Grays and light to medium tans                                 |  |  |  |  |  |
| TEX-<br>TURE  | Smooth  | Smoo     | th  |                                | Smooth to medium   |  |  |  |  |  |
| 2   | SECTIO  | ON C. PR | OPOSED ACTIVITY DE                                      | SCRIPTIC                       | NC   |  |  |  |  |  |
|   | 1. LAND/WATER   | Ľ        | 2. VEGETATION   |                                | 3. STRUCTURES  |  |  |  |  |  |
| FORM  | Planar WTG sites and roads.                                     | Low, I   | rectangular clearings (WT                               | 'G sites)                      | Blades appear curved when rotating.<br>Cylindrical towers      |  |  |  |  |  |
| TINE  | Horizontal  |          | g edges at WTG sites, irre<br>roads                     | egular                         | Vertical WTGs and horizontal sites and roads                   |  |  |  |  |  |
| COLOR   | Light to medium tan   | Grays    | s, tans, light olives                                   |                                | White to light and medium gray                                 |  |  |  |  |  |
| Smooth  |   |          | oth to medium   |                                | Smooth   |  |  |  |  |  |

#### SECTION D. CONTRAST RATING \_\_SHORT TERM ∠LONG TERM

| 1.       |                    |            | 1.1      |       |      |                       | FEAT     | URES | 2     |         |          |       |      | tana ang ang ang ang ang ang ang ang ang  |
|----------|--------------------|------------|----------|-------|------|-----------------------|----------|------|-------|---------|----------|-------|------|---|
|          |                    | LA         | ND/W/    | TER B | ODY  | (2) STRUCTURES<br>(3) |          |      |       |         |          |       |      | 2. Does project design meet visual resource<br>management objectives? ✓ Yes No  |
|          | OF<br>OF<br>NTRAST | arricoleo. | NOTERATE | WEAK  | NONE | 0400312               | MODERADE | WEAK | 39006 | STR.ONG | MODERADE | WEAK. | NONE | <ul> <li>(Explain on reverses side)</li> <li>3. Additional mitigating measures recommended</li> <li>✓ YesNo (Explain on reverses side)</li> </ul> |
| 10       | FORM               |            | 1        |       |      |                       | 1        |      |       | 1       |          |       |      |   |
| ENT      | LINE               |            | 1        |       |      |                       | 1        |      |       | 1       |          |       |      | Evaluator's Names Date  |
| ELEMENTS | COLOR              |            | 1        |       |      |                       | 1        |      |       |         | 1        |       |      | M Paulson   |
| 国        | TEXTURE            |            | 1        |       |      |                       | 1        |      |       |         | 1        |       |      | 12/16/201   |

(Continued on Page 2)

(Form 8400-4)

#### SECTION D. (Continued)

Comments from item 2.

There is utility and roads development in the foreground-middleground (railroad) and background distances (WTGs). The project will have minimal consistency with the existing landform, vegetation, and structures' forms, lines, colors, and textures. The project's strong and moderate contrasts will conform with VRM Class IV objectives.

Additional Mitigating Measures (See item 3)

None recommended for daytime visual contrast. Installation of an aircraft detection lighting system (ADLS) would reduce impacts from nightime lighting.

(Form 8400-4, Page 2)