VRM & NEPA

Writing Defensible Environmental Documents

UNIT 9 - PART 1

Objective

Students will be able to write a **defensible** VRM section for a typical Environmental Document after completion of this session.

Types of NEPA Documents - VRM

- Determination of NEPA Adequacy (DNA)
  - Use of existing analysis documents
- Categorical Exclusion (CX)
  - Actions with no potential for significant impact

- **Environmental Assessment (EA)**
- **Environmental Impact Statement (EIS)**

* *Interdisciplinary Team Checklist*

Types of NEPA Documents - VRM

Prepared by BLM specialists:

- Internal – recreation sites, range improvements
- External – single pad oil & gas well, comm site

Prepared by others but reviewed by BLM specialists:

- ROW for utility-scale renewable energy development
- ROW for transmission line / natural gas line

Major NEPA Document Chapters

- **Proposed Action & Alternatives**
  - VRM conforming alternative
- **Land Use Plan Conformance/Consistency**
  - BLM and relevant others
- **Affected Environment**
  - Landscape Character and VRM Objectives
- **Environmental Effects**
  - Needs to be quantified

Sources for Visual Documentation

- Resource Management Plan
- Visual Resource Inventory
- Project Proponent
- Completed Contrast Rating Form
- Knowledge from Resource Specialists
- Input from Affected Landowners
- Field Review of Project Proposal
- Associated Consulting Firms
- Input From the General Public
- Similar Projects/Visualizations

Interdisciplinary Team Checklist

INTERDISCIPLINARY TEAM ANALYSIS RECORD CHECKLIST

Project Title: Raven County Water Conservancy District Jackson Canyon Water Well
NEPA Log Number: UT-030-09-004
File/Serial Number: UTU-082138
Project Leader: Allysia Angus

DETERMINATION OF STAFF: (Choose one of the following abbreviated options for the left column)

NP = not present in the area impacted by the proposed or alternative actions
NI = present, but not affected to a degree that detailed analysis is required
PI = present with potential for significant impact analyzed in detail in the EA; or identified in a DNA as requiring further analysis
NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section C of the DNA form.

Determination	Resource	Rationale for Determination*	Signature	Date
CRITICAL ELEMENTS				
OTHER RESOURCES / CONCERNS				
PI	**Visual Resources (Angus)**	Project area is located within a VRM Class II area where objective is to retain the existing character of the landscape. Management activities may be seen, but should not attract the attention of the casual observer. Visual contract rating(s) needed to determine impacts.	/s/ Allysia Angus	04/25/2008

Alternatives Development

- Develop an Alternative that meets VRM objectives
- Forces early consideration of visual design solutions when preparing alternatives
- What does it take to make it conform?
- Avoids the “costs to much” reaction
- Establishes a range of mitigation efforts
- Better evaluate the trade-offs and benefits
- **Adds to informed decision making**

Alternatives Content

- Complete project descriptions for each alternative
- Describe in terms that relate to **Landscape Character Elements**
- Use **Section C** of the Contrast Rating Form(s)
- Photos of similar projects / visualizations

SECTION C. PROPOSED ACTIVITY DESCRIPTION			
	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat, leveled pad(s), curvilinear road(s), narrow, linear form	Veg removed from pad, road(s), reclaimed veg low, sparce	Cylindrical tanks, rec-tangular separator unit. A dominant visual element
LINE	Where seen, pad appears as a distinct horizontal line, same with roads	Sharper line(s) where veg removed	Structures have vertical alignment and are visible
COLOR	Light brown to buff-colored pad(s) & road surfaces.	Tan to light buff most of year, light green in spring.	Carlsbad Canyon contrasts with darker gray of sagebrush
TEX-TURE	Smooth texture on pad(s) & road(s)	Smooth where re-established (grasses) Sage may re-establish in 20 years	Smooth texture of facilities a dominant feature of project

Alternative (Proposed Action) Example

The proposed action is to drill and complete an oil well in Copper County, Wyoming, off Road 435 to develop Sunshine Gas Company's oil lease. The proposal includes grading and removal of vegetation to construct a level drill pad and a new access road, and installing three oil tanks and a separator unit. The drill pad would measure 100 feet by 200 feet and the access road would be a half mile long and 24 feet wide. Both would be surfaced with locally available gravel. The cylindrical oil tanks would be 18 feet high by 30 feet across. The rectangular separator would measure 30 feet by 40 feet by 15 feet high. All structures would be painted Carlsbad Canyon color.

Affected Environment Content

- Describe the **Landscape Character** - (Form-Line-Color-Texture)
- Use **Section B** of the Contrast Rating Form(s)
- VRM Class Objectives
- Scenic Quality - ***Scenic Quality Field Inventory Form - (Form 8400-1)*
- Distance Zones & KOPs
- Sensitivity Level (casual observers)

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION			
	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Gently rolling terrain, low hills	Low, continuous sagebrush cover, smooth, regular pattern	None noted in view toward the project from the KOP
LINE	Mostly horizontal undulating lines. A horizontal landscape	Weak horizontal lines created by changes in vegetative patterns	None noted in view toward the project from the KOP
COLOR	Light brown to buff where visible	Gray-green of sagebrush is dominant, mostly continuous	None noted in view toward the project from the KOP
TEX-TURE	Smooth, continuous	Medium to slightly coarse in immediate foreground to smooth/fine in middleground	None noted in view toward the project from the KOP

Affected Environment Content

Form 8400-1 (September 1985) UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT **SCENIC QUALITY FIELD INVENTORY**	Date: Feb 15, 2003 District: Rawlins Resource Area: Lander Scenic Quality Rating Unit: 024

1. Evaluators *(names)*
Gary Long, Cimarron Chacon, Steve Knox

2. Landscape Character *(Feature)*

	a. LANDFORM/WATER	b. VEGETATION	c. STRUCTURE
Form	Gently rolling hills with stabilized sand dunes.	Low, somewhat clumpy in foreground.	None visible
Line	Predominately horizontal lines Formed by hills and low sand dunes	Horizontal, Lines created by subtle Changes and variation in vegetative Cover which is predominately sage brush	None visible
Color	Tan to buff colored soils where visible. Rock outcrops are gray to gray-green & brown.	Gray-green, with emphasis on the gray. The nearest color from the BLM color chart Is shale green.	None visible
Texture	Smooth texture with a few moderately coarse areas due to rock outcrops.	Somewhat coarse in immediate foreground. Texture changes to medium & smooth as we move away from KOP.	None visible

3. Narrative
This SQRU is made up of gently rolling sagebrush covered hills interspersed with stabilized sand dunes. Vertical relief is limited. It is an open, panoramic landscape, mostly devoid of human impacts. It is very representative of typical landscapes found in the Wyoming Basin. No unusual characteristics. Vegetative cover is dominated by Wyoming sage. Grass is present but not visible. The visible color is a function of the vegetation. Very little soil or rock outcrops are visible. The most outstanding feature is the feeling of vastness and naturalness you get due to the size of the unit and the relative lack of human intrusions which are limited to roads and trails, most of which are not visible from the KOP.

Affected Environment Example

The proposed project area is located adjacent to Road 435 in the Little Antler Dunes on the western edge of the Wyoming Basin physiographic province. The characteristic landscape is a panoramic expanse of gently rolling, sagebrush-covered low hills with pockets of stabilized sand dunes scattered throughout. The landforms in this landscape, when exposed, are primarily light brown and buff, and their texture is gentle and smooth. The dominant sagebrush vegetation is densely clumpy, grayish green, and medium in texture in the foreground, transitioning to smooth in the mid- and background. Lines in this landscape are horizonal, primarily influenced by the landform. There are no visible built elements in the project area.

The area is primarily used by ranchers and hunters who would constitute the typical casual observer. The KOP used to prepare the Visual Contrast Rating was located along Road 435 from which the project would be most visible to a casual observer.

The proposed project area is in Visual Resource Management (VRM) Class IV. The objective for VRM Class IV 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 and 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 landscape character elements.

Environmental Effects

A statement like:

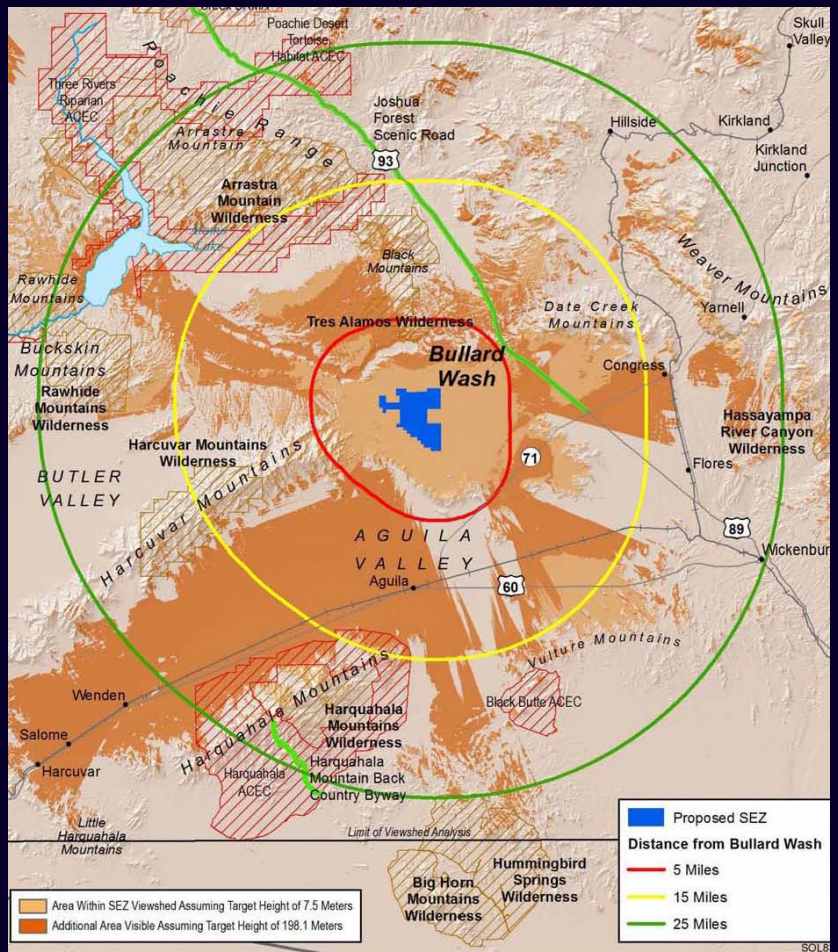
“The project would affect Visual Resources.”
is **NOT** sufficient.

Environmental Effects

- Use Contrast Rating Form(s)
- Identify the KOP(s) and why selected
- Describe the casual observer(s)
- Two types of impacts – need quantifying
  - To the **visual resource** – inventoried values – change to the landscape
  - To the **casual observer's experience** – diminished OR enhanced
- Does proposal / alternatives conform to RMP (VRM Objectives)?

Environmental Effects

- What is the extent of the viewshed?
- Select KOPs within the seen areas of viewshed



Environmental Effects

The Environmental Impact is the amount of contrast the project causes to the **Existing Landscape.**

- Describe the nature of the impact.
- Use terms **WEAK, MODERATE, STRONG** and include language from narrative on back of form.

SECTION D. CONTRAST RATING SHORT TERM X LONG TERM

ELEMENTS	1.Degree of Contrast	FEATURES												
		Land/Water Body				Vegetation				Structures				2. Does Project Design meet visual resource management objectives? Yes __X_ No ____ (explain on reverse)
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	3. Additional mitigating measures recommended. Yes __X_ No ____ (explain on reverse)
	Form			X				X			X			Evaluator's Names Date:
	Line		X				X			X				
	Color			X				X		X				Cimarron Chacon 7/16/04
	Texture			X				X		X				Allysia Angus

Environmental Effects

Effects to Land/Water Body

Building a level drilling pad and access road would cause a weak contrast to the **form** of the land through leveling and flattening the location site and access road. It would cause moderate **line** contrast through introduction of the pad and road, both of which would be visible linear features. Exposing the soil would cause a weak contrast to the **color** in the landscape. The **texture** of the exposed soil would be smoother than the existing landscape, thus creating a weak contrast.

Environmental Effects

Effects to Vegetation

Construction of the level drilling pad and access road would cause weak contrast to the **form** of the vegetation. Removal of vegetation would cause a moderate amount of contrast due to introduction of distinct **lines** in the landscape. The lighter **color** of new vegetation following completion of the project would weakly contrast with existing vegetation. The smoother **texture** of re-established vegetation would weakly contrast with the surrounding existing vegetation.

Environmental Effects

Effects Due to Structures

The cylindrical and rectangular **form** of the structures would contrast moderately with the existing landscape. They would introduce distinct vertical **lines** which would strongly contrast with the existing horizontal landscape. The light **color** of the structures as proposed would strongly contrast with the darker color of sagebrush which is the dominant color in the natural landscape. Finally, the smooth **texture** of the structures would strongly contrast with the medium texture of the surrounding sagebrush.

Environmental Effects

Does project meet VRM Objectives?

YES, if:

None = Class I

Weak = Class II

Moderate = Class III

Strong = Class IV

SECTION D. CONTRAST RATING													SHORT TERM X LONG TERM
ELEMENTS	1.Degree of Contrast	FEATURES											
		Land/Water Body				Vegetation				Structures			2. Does Project Design meet visual resource management objectives? Yes __X_ No ____ (explain on reverse)
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	3. Additional mitigating measures recommended. Yes __X_ No ____ (explain on reverse)
	Form			X				X			X			Evaluator's Names Date:
	Line		X				X			X				
	Color			X				X		X				Cimarron Chacon 7/16/04
	Texture			X				X		X				Allysia Angus

Environmental Effects

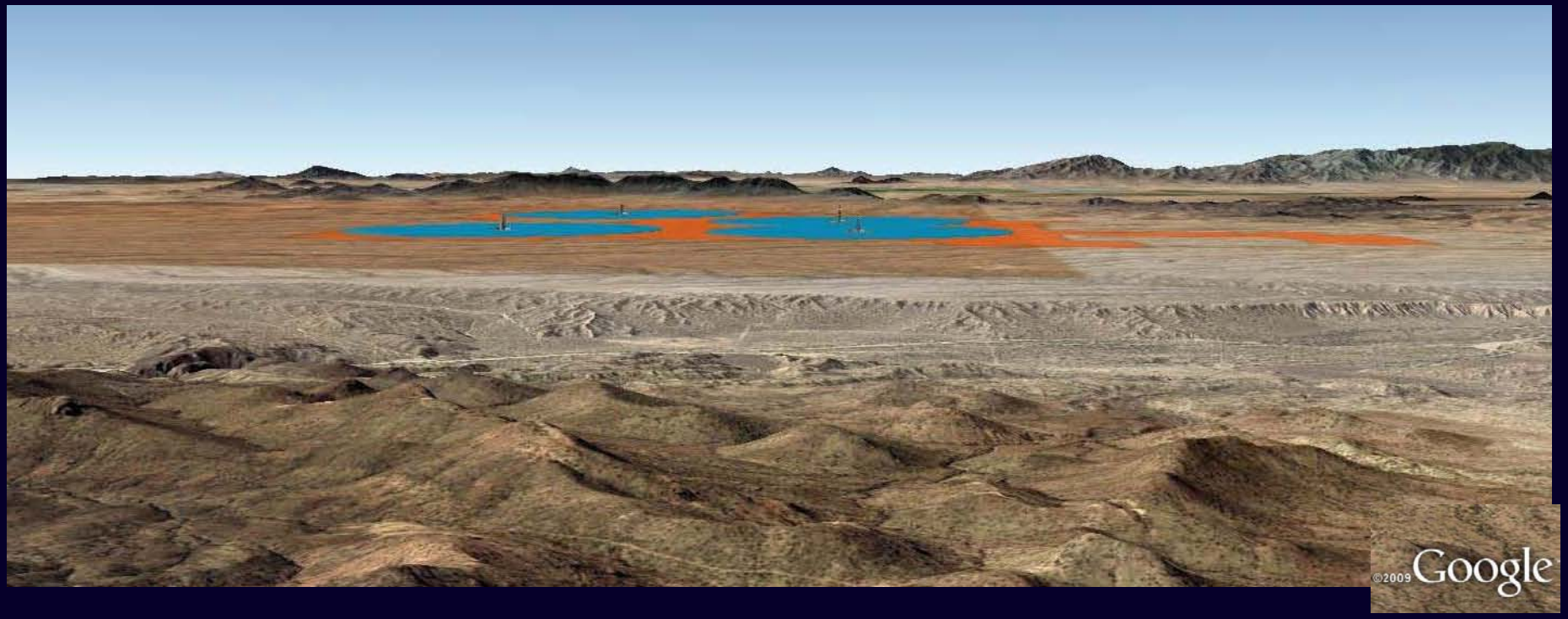
Does project meet VRM Objectives?

NO, what to do?

- Don’t approve project
- Redesign project to meet VRM Objectives
- Amend RMP

Environmental Effects – VRM Class IV

- Is there impact if there are major visual modifications in a VRM Class IV?
- Prepare a Contrast Rating Form in VRM Class IV?



Mitigation

- Can often be avoided if project is planned and designed well.
- Taken directly from the back of the Contrast Rating Form.
- Include even if project meets VRM Objectives, in some cases.

Cumulative Effects

- Current condition and approved projects (public/private lands) within the viewshed
- RMP Reasonable Foreseeable Development projections within a given viewshed
- Land Use Plan allowances
  - RMP
  - County LUP/Zoning
- Ivanpah & Primm Valley example
  - 2 field offices in 2 states – wind, PV, Conc. Solar PT.
  - Clark County – golf course, proposed airport, border gambling town
  - Trends in land use development activity
- Cumulative foreseeable development scenario modeling and Contrast Rating Analysis

Other Environmental Effects

- Scenic Quality Rating Unit
  - Will the proposed action cause an adjustment in the Scenic Quality Rating (remember Cultural Modifications as one of the Scenic Quality criteria)?
  - Maybe an adjustment in unit boundary? Division of an SLRU?
- Sensitivity Level Rating Unit – same questions.
- Views from outside looking into the VRM boundary of a proposed action:
  - *National Parks*
  - *National Monuments*
  - *National Wildlife Refuges*
  - *National Conservation Areas*
  - *National Scenic/Historic Trails*
  - *Native American Religious Sites*
  - *Wilderness Areas*
  - *Wild and Scenic Rivers*
  - *Scenic/ Back Country Byways*
  - *Special Recreation Management Areas*

- Are we done once NEPA is completed?
- Is it time to go fishing?

NO?!!

Sooooo, WHAT'S NEXT?

VRM & NEPA

Monitoring & Compliance
NEPA Handbook H-1790-1, Chapter 10

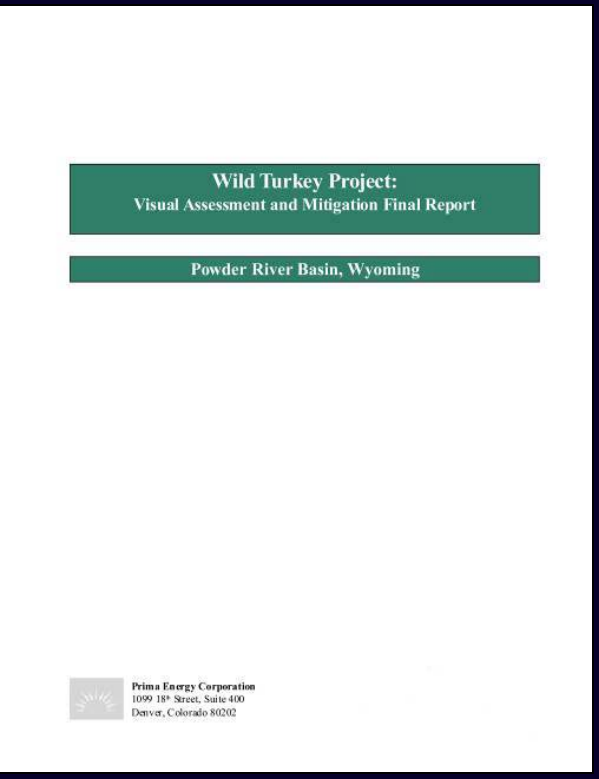
Monitoring & Compliance

Monitor? Why? What for?

- Compliance – Implemented as designed & required
- Effectiveness - Did it work? Desired outcomes
- Validation – Was the impact analysis correct?
  - Were the right mitigation/ BMP conditions required?
- Correction – If it did not work, what changes should we make now or in the future?

Monitoring & Compliance

The EA/ EIS should include a VR monitoring plan or specify when it will be submitted:


Wild Turkey Project:
Visual Assessment and Mitigation Final Report

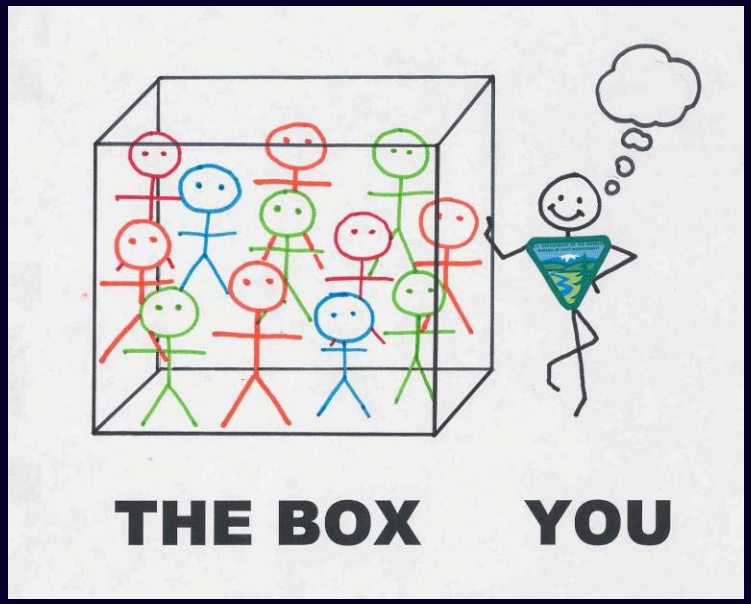
Powder River Basin, Wyoming

Prima Energy Corporation
1099 18th Street, Suite 400
Denver, Colorado 80202

- Sets conditions and monitoring methods
- Clarifies performance standards
- Explains how compliance will be measured
- Outlines corrective actions
- Establishes a clear understanding of expectations during implementation

Responsibilities

There is no standard template for monitoring and compliance strategy



Responsibilities

BLM action:

- BLM is responsible for development of the plan
- Coordinate among the resource specialists
- Document procedures agreed to and document finding during progress site visits

Responsibilities

Industry Action – Proponent's responsibility

- Industry proponent develops monitoring plan
- Compliance/ monitoring strategy should be a chapter in the project's VRM plan
- C/M strategy needs to be based on sound design and mitigation planning principles.
- Critical review ensuring implementation
- Incorporate into the Conditions of Approval
- Document procedures during project implementation

Responsibilities

Industry action – BLM responsibilities

- Assess the plan – is it credible?
- Are the tools necessary to monitor provided for in the plan? – If not?
- Make sure the C/M strategy is a part of the COA
- Making sure the proponent is implementing the monitoring strategy
- A regularly scheduled report should be a part of the plan – has it been submitted?

Responsibilities

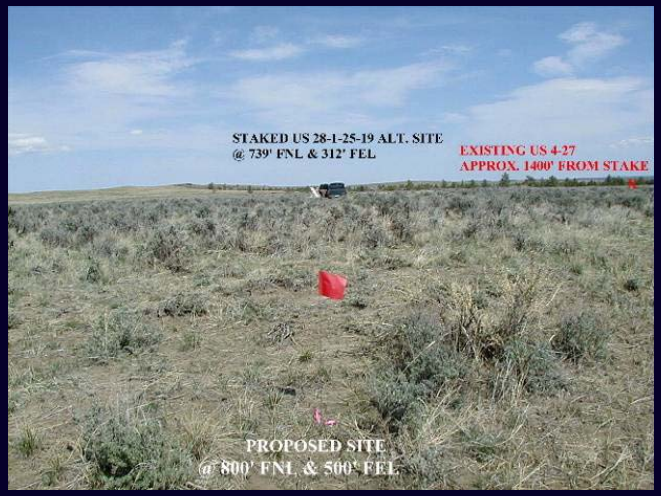
Follow up monitoring and compliance takes time and costs money.

But failed implementation is more costly to correct.

Tracking Progress

Site visits with comprehensive image library of project at various stages:

- **Pre-application site visit**
- **Site improvement survey**
- **Construction**
- **Interim reclamation**
- **Final reclamation**
- **Post reclamation**



Measuring Compliance

There should be a correlation between the construction plans and the monitoring strategy.

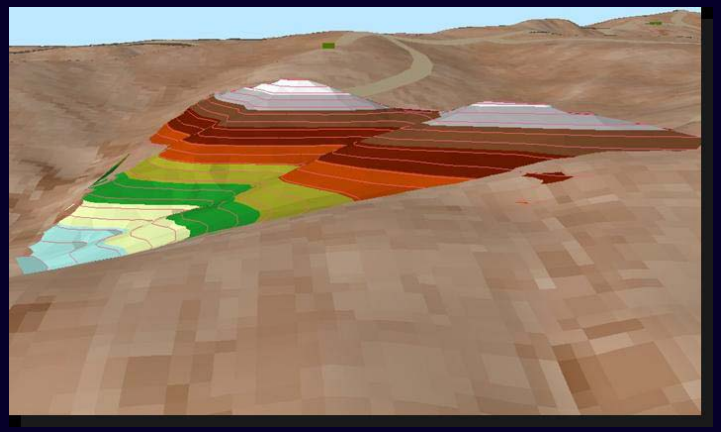
Quantify the VRM mitigation implementation using the design plans, rather than simple qualification of anticipated results.

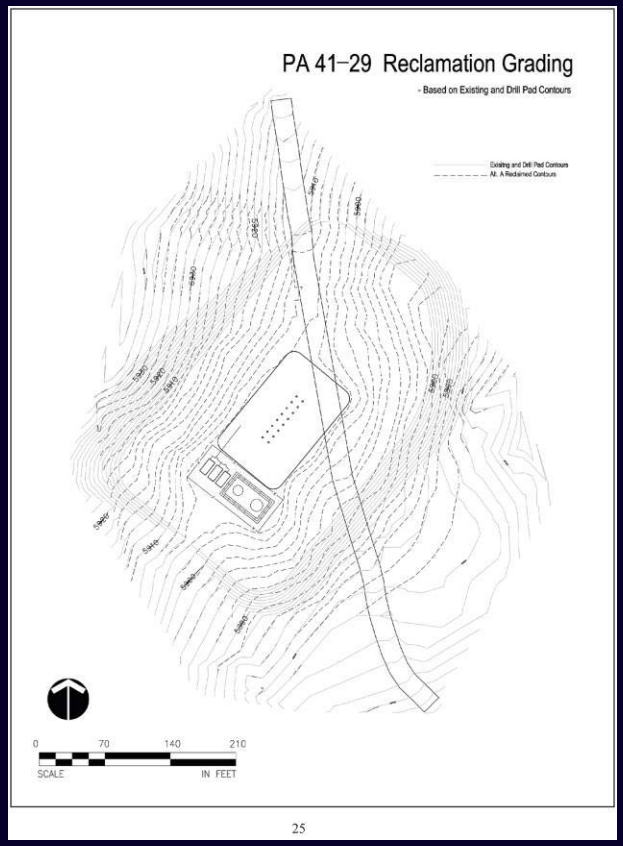
Measuring Compliance

There should be a correlation between the construction plans and the monitoring strategy:

Earthwork:

- Visual review
- Survey grading/quantities
- Topsoil spec, depth, testing



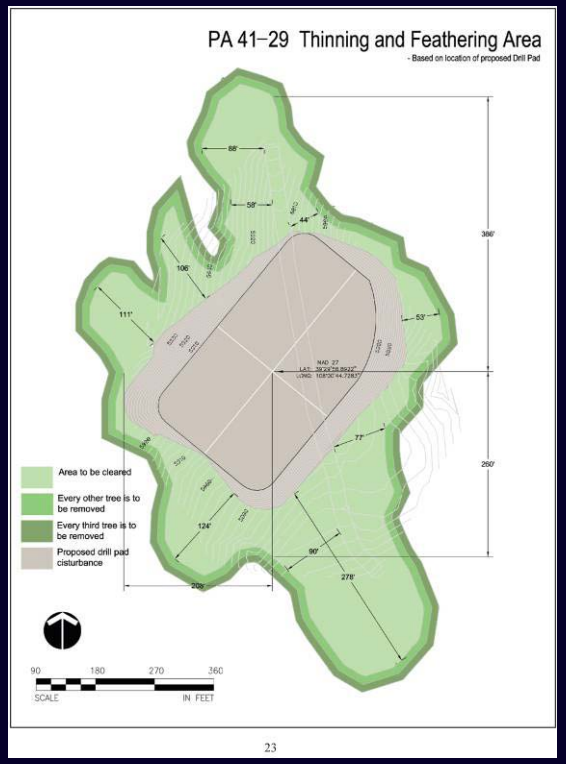


Measuring Compliance

There should be a correlation between the construction plans and the monitoring strategy:

Vegetation Management:

- survey / field stake, flag veg removals
- tree counts
- acres cleared/stems per acre



Measuring Compliance

There should be a correlation between the construction plans and the monitoring strategy:

Revegetation:

- **Topsoil spec/sampling/testing**
- **Seedmix list/seed tags/purity/germination test – PLS**
- **Seeding application – drill/ broadcast/ hydro-seed**
- **Plantings – proper installation/ proper count**
- **Maintenance schedule – weeds/ watering/ replacement**
- **Vegetation survey – % composition - cover**

Measuring Compliance

How long?

Define in monitoring plan:

- Will vary between projects and mitigation req's:
  - Seeded revegetation – 1 to 2 years
  - Planted revegetation – maybe up to 5 years

- If compliant before monitoring duration is complete

- If non-compliant at monitoring completion

Measuring Compliance

Tools:

- Use the information produced during design/planning phase during monitoring period
  - GPS/GIS/ AutoCadd/ Photoshop interface
  - Photo simulations
  - 3-D terrain models of proposed grading
  - Construction plans
  - As-built plans

Measuring Compliance

Tools:

- The dangers of relying solely on photos. Just because it looks good - does not necessarily translate into the mitigation requirements were adequately met?
  - Establish monitoring observation points
  - May be same as Key Observation Points (KOP)
  - Others that are different that KOPs.
  - Photo documentation points - taken from same location established before construction begins.
  - Should be identified in monitoring plan.

Measuring Compliance

Who Can Help?

- Consult with others in your office or area that have monitoring experience, such as
  - Natural resource specialist
  - Landscape Architect
  - Recreation planner
  - Engineer
  - Range conservationist
  - Biologist
  - Botanist
  - Lands and realty staff
  - Hydrologist
  - Forester