Exhibit G

Example Integrated Weed Management Plan

Weed and Vegetation Survey Report

Example Noxious Weed Plan

Integrated Weed Management Plan

Marys River Oil and Gas Exploration Project Area
Elko County, Nevada
2013

Report Prepared for:

Bureau of Land Management
Elko District Office
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Integrated Weed Management Plan
Mary's River Oil and Gas Exploration Project Area
Elko County, Nevada
2013

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1.0 INTRODUCTION

Noble Energy Inc. (Noble Energy) is exploring oil and gas prospects in the Marys River Project Area near Wells, Elko County, Nevada, on lands partially managed by the Bureau of Land Management (BLM). To comply with BLM requirements, a landscape weed management plan has been developed for this area. A site-specific weed management plan will be developed after Noble Energy has selected locations of well pads and access roads.

The term "weed" has many definitions, one of the broadest being that used by the Nevada BLM, which defines a weed in the words of J.M. Torell as "a plant that interferes with management objectives for a given area of land at a given point in time" (http://www.blm.gov/nv/st/en/prog/more_programs/invasive_species.html). The term "noxious weed" has legal implications in each state, and is typically used to describe non-native, highly invasive plants that are detrimental to native communities. In Nevada, noxious weeds are defined as "any species of plant which is, or likely to be, detrimental or destructive and difficult to control or eradicate." Nevada requires that widespread species such as cheatgrass not be listed as noxious: "The State Quarantine Officer may declare by regulation the weeds of the state that are noxious weeds, but a weed must not be designated as noxious which is already introduced and established in the State to such an extent as to make its control or eradication impracticable in the judgment of the State Quarantine Officer" (NRS 555.130).

There are 48 noxious weed species in Nevada, grouped into three categories (Table 1). Category A species currently have limited distribution in the state. Since control of these species is considered feasible, the State requires eradication wherever they are found. Category B species are already established in limited areas of Nevada, and active eradication is generally only required where possible. However, eradication is required from the premises of a dealer of nursery stock. Category C weeds are widespread and well established throughout many counties of the State.

2.0 WEED MANAGEMENT

Noble Energy is committed to controlling the spread of noxious weeds on the lands where they will be operating. All Category A species will be eradicated whenever they are located. Category B and C weeds will be controlled in the immediate vicinity of all operations. Prevention of weed species will be a primary management option. If weeds become established, herbicides will be the preferred treatment method (refer to Section 2.4).

In addition to noxious weeds, there are several non-native, non-desirable species with invasive properties that are common in Nevada, referred to in this document as "invasive weeds". Efforts will be made to prevent and control invasive weeds such as cheatgrass (*Bromus tectorum*) and halogeton (*Halogeton glomeratus*) that are likely to occur in the project area. The primary management strategies for these species will be prevention, however herbicide or other treatment may occur if these species are impeding successful reclamation (refer to Section 2.4).

The following goals have been identified in the Marys River Project Area: 1) prevent the spread of noxious and invasive weeds, 2) inventory and monitor noxious weeds pre-disturbance, and

throughout the life of the project, 3) encourage native plant communities through reclamation of disturbed areas, and 4) treat any established noxious weed with approved and properly documented herbicides. Management strategies have been developed in order to help meet each goal.

2.1 PREVENTION

Preventing the spread of noxious and invasive weeds will be the most important component of weed management. This will be accomplished using the following best management practices:

- All vehicles and equipment that will travel off approved/designated transportation routes will be cleaned to prevent the spread of seeds and propagules. This will typically involve power-washing, in a contained area. This process will be required whenever vehicles/equipment that have previously been used on private lands are entering BLM lands. However, it is also recommended prior to any off-road activities.

- Early detection will be encouraged through the reporting and prompt treatment of weed infestations, particularly Category A species. Weed identification pamphlets, available from the Nevada Department of Agriculture, should be made available to Noble Energy employees in the field.

- If weeds are located in an area proposed for development, they will be treated prior to ground-disturbing activities. This may involve herbicide, or mechanical removal (refer to Section 2.4). Noble will comply with all state and federal rules, laws, and regulations as it relates to the application of herbicides.

- All gravel will be certified weed-free. Fresh pit run gravel will be used when available.

2.2 MONITORING

Monitoring of noxious weeds will occur on all development sites throughout the life of the project. This will contribute to prompt treatment of any new infestations, and will involve the following strategies:

- Noxious weeds will be inventoried on each project site prior to disturbance. Spatial data will be collected for all noxious weeds located, using the weed inventory protocol that will be developed with the site-specific weed management plan.

- Following ground-disturbance, noxious weed monitoring will be conducted on an annual basis, for the life of the project. Monitoring may be conducted concurrently to treatment in areas where weed infestations are not significant.

- Invasive weeds will be documented spatially when present in limited quantities, using methods in coordination with the BLM, which will be developed in the near future for the submittal of the site-specific weed management plan. If large infestations occur, the extent of the population will be described during pre-disturbance surveys and monitoring.

2.3 RECLAMATION

Reclamation is an important component of weed management, as re-vegetation of disturbed areas with a native plant community will provide competition, and reduce the habitat available for early colonizers such as noxious weeds. The following best management practices will be employed:

- Reclamation of areas not needed for long-term operations will be reclaimed as soon as possible (temporary road disturbances and drilling pad disturbances not needed for production).
- Reclamation activities will include certified weed free seed mixes, approved by the BLM or surface owner.
- All materials used for reclamation (i.e. mulch, straw, etc.) will be certified weed free.
- A reclamation plan will be referenced, which will detail strategies for interim and final reclamation.

2.4 TREATMENT

Noxious weeds will be treated promptly whenever they are located on a project site and in accordance with existing regulations and BLM requirements. The treatment strategy will differ depending on the species, and the goals of treatment will vary depending on whether it is a Category A, B, or C species.

- Category A species will be treated promptly and eradicated whenever they are located. Chemical control will be the primary treatment method and mechanical/manual control may also be used.
- Category B and List C species will be treated whenever they are located, with the goal being control rather than eradication. All new infestations of Category B and List C species will be eradicated. Chemical and/or mechanical treatments may be used.
- Invasive species not listed as noxious will be monitored, and will be treated in areas where they are impeding reclamation. Chemical and/or mechanical treatments may be used.
- Chemical treatment refers to the use of BLM-approved herbicides. Experience certified herbicide applicators will be contracted for chemical treatment of weeds. Appropriate Pesticide Application Records and Pesticide Use Proposals will be completed for all areas to be treated, if required by the BLM.
- Mechanical treatment refers to the use of mowing, tilling, or hand pulling weeds. This method may be considered for invasive species such as Scotch Thistle, particularly early in the growing season.
- Biological control refers to the use of insects, bacteria, or other organisms specialized to

kill or impede reproduction of weed species. This method will not be considered as an option in the Project Area unless requested by the BLM.

Table 1. Category A, B and C noxious weeds listed by the state of Nevada.

	Common Name	**Scientific Name**
Category A	African Rue	*Peganum harmala*
	Austrian fieldcress	*Rorippa austriaca*
	Austrian peaweed	*Sphaerophysa salsula / Swainsona salsula*
	Black henbane	*Hyoscyamus niger*
	Camelthorn	*Alhagi camelorum*
	Common crupina	*Crupina vulgaris*
	Dalmation Toadflax	*Linaria dalmatica*
	Dyer's woad	*Isatis tinctoria*
	Eurasian water-milfoil	*Myriophyllum spicatum*
	Giant Reed	*Arundo donax*
	Giant Salvinia	*Salvinia molesta*
	Goats rue	*Galega officinalis*
	Green Fountain grass	*Pennisetum setaceum*
	Houndstongue	*Cynoglossum officinale*
	Hydrilla	*Hydrilla verticillata*
	Iberian Starthistle	*Centaurea iberica*
	Klamath weed	*Hypericum perforatum*
	Malta Star thistle	*Centaurea melitensis*
	Mayweed chamomile	*Anthemis cotula*
	Mediterranean sage	*Salvia aethiopis*
	Purple loosestrife	*Lythrum salicaria, L.virgatum and their cultivars*
	Purple Star thistle	*Centaurea calcitrapa*
	Rush skeletonweed	*Chondrilla juncea*
	Sow Thistle	*Sonchus arvensis*
	Spotted Knapweed	*Centaurea masculosa*
	Squarrose knapweed	*Centaurea virgata*
	Sulfur cinquefoil	*Potentilla recta*
	Syrian Bean Caper	*Zygophyllum fabago*
	Yellow Starthistle	*Centaurea solstiltialis*
	Yellow Toadflax	*Linaria vulgaris*
Category B	Carolina Horse-nettle	*Solanum carolinense*
	Diffuse Knapweed	*Centaurea diffusa*
	Leafy spurge	*Euphorbia esula*
	Medusahead	*Taeniatherum caput-medusae*
	Musk Thistle	*Carduus nutans*
	Russian Knapweed	*Acroptilon repens*

Table 1. Continued.

	Common Name	**Scientific Name**
Cat. B	Sahara Mustard	*Brassica tournefortii*
	Scotch Thistle	*Onopordum acanthium*
	White Horse-nettle	*Solanum elaeagnifolium*
Category C	Canada Thistle	*Cirsium arvense*
	Hoary cress	*Cardaria draba*
	Johnson grass	*Sorghum halepense*
	Perennial pepperweed	*Lepidium latifolium*
	Poison Hemlock	*Conium maculatum*
	Puncture vine	*Tribulus terrestris*
	Salt cedar (tamarisk)	*Tamarix spp*
	Water Hemlock	*Cicuta maculata*

Weed and Vegetation Surveys
Huntington Valley 3D Seismic Project Area
Noble Energy Inc.
Elko County, Nevada
2012

Report Prepared for:

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Map 1. Noxious Weeds and Vegetation Types in Noble Energy's Huntington Valley Project Area, Elko County Nevada, during 2012.

INTRODUCTION

Noble Energy, Inc. will be implementing a 3D seismic project within the Huntington Valley Project Area in Elko County, Nevada. Approximately 55% (34,882 acres) of the Project Area is within lands managed by the Bureau of Land Management (BLM) – Tuscarora Field Office; Elko District Field Office. The Project Area will have approximately 28,666 acres (45%) on private land. Hayden-Wing Associates, LLC (HWA) conducted weed surveys and groundtruthing of vegetation types during October and November, 2012. Some portions of the weed and vegetation surveys were conducted by wildlife biologists, trained to identify target weed species and vegetation types, concurrently to pygmy rabbit surveys. Surveys in high-priority areas were conducted by specialized vegetation biologists.

PROJECT AREA

The Huntington Valley Project Area is approximately 63,548 acres, including Sections 25 and 36 T31N:R55E; Sections 27-34 T31N:R56E; Sections 1, 12-13, 24-25, and 34-36 T30N:R55E; Sections 3-10, 15-22, 27–35 T30N:R56E; Sections 1–3, 10–15, 22–27, and 34-36 T29N:R55E; Sections 2–11, 14–23, and 26–35 T29N:R56E; Sections 1-3 T28N:R55E; and Sections 2-6 T28N:R56E. The northeastern portion of the Project Area encompasses the town of Jiggs, Nevada. Huntington Creek and Smith Creek intersect the Project Area from the north. Elevation within the Project Area ranges from 5,400 to 5,800 feet above sea level. Topography is variable and is comprised of lower elevation riparian areas used for agriculture, rolling hills, drainages, and sandy erodible hilltops. Sagebrush communities dominate the majority of the landscape.

METHODS

Vegetation Types

Prior to initiating ground surveys, vegetation types were digitized based on aerial imagery using ArcMap® version 10. During vegetation surveys and pygmy rabbit surveys, the composition and extent of vegetation types were groundtruthed. Groundtruthing was accomplished using two methods: 1) during pygmy rabbit surveys and vegetation surveys, GPS points were recorded for vegetation types encountered throughout the Project Area, and 2) vegetation biologists used paper field maps with aerial imagery and digitized vegetation types in the field to verify and edit the spatial extent of the previously digitized vegetation type polygons throughout the Project Area.

Weed Surveys

Opportunistic surveys for noxious weeds were conducted along established 300-m pygmy rabbit transects throughout the Huntington Valley Project Area by trained wildlife biologists. Areas prone to weed infestations were identified using aerial imagery and on-the-ground observations, and include roads, riparian corridors, agricultural land, and disturbed areas. Specialized vegetation biologists conducted surveys along the 300-m transects in these areas, recording weed infestations using Trimble Juno® GPS units equipped with ArcPad® version 10. A combination of pedestrian and ATV surveys were used, depending on terrain. Survey routes were recorded, which meandered to maximize coverage of disturbed areas. Survey points were recorded for small infestations less than 10 m^2, and polygons were recorded for larger infestations. The following attributes were collected for each infestation: weed species, estimated population size (<10, 10-50, 51-100, 101-300, 300-1000, 1000-3000, 3000-5000, 5000-10000, 10000-20000, >20000), and estimated percent cover (<1, 1-5, 6-25, 26-50, 51-75, 76-95, 96-100).

Prior to conducting surveys, the BLM identified the following target weed species with potential to occur in the Project Area: Scotch thistle, leafy spurge, hoary cress (a.k.a. whitetop), perennial pepperweed, spotted knapweed, Russian knapweed, diffuse knapweed, salt cedar, and Dyer's woad. Infestations of halogeton, bull thistle and Canada thistle were also recorded opportunistically, but were not identified by the BLM as target species. Areas within 300 feet of riparian areas will be avoided during seismic activities, and were therefore not surveyed for weeds. Surveys were conducted along major roads, including Highway 228, using a combination of truck and pedestrian surveys.

Cheatgrass Surveys

Annual grass occurrence, predominantly cheatgrass, has been modeled in Nevada by the Natural Heritage Program (Peterson 2006). This model is available spatially as a raster file, and is best thought of as an index of density rather than a model of percent cover. For the Huntington Valley Project Area, modeled values ranged from 0-38 on the index. Areas modeled as >13 on this cheatgrass index were identified by HWA as most likely to be dominated by cheatgrass. This number was somewhat arbitrary, but seemed to capture areas known to support cheatgrass infestations such as drainages and disturbed areas. In the field, the cheatgrass model was groundtruthed using the following methods: 1) during pygmy rabbit surveys and vegetation surveys, GPS points were recorded in areas where cheatgrass was the dominant grass species throughout the Project Area; 2) vegetation biologists used maps with aerial imagery and the cheatgrass model (Peterson 2006) to verify and edit the spatial extent of cheatgrass-dominated areas throughout the Project Area; and 3) aerial imagery was referenced in the office, and polygons were digitized around groundtruthed areas where cheatgrass was dominant.

RESULTS/CONCLUSIONS

Opportunistic weed surveys and vegetation groundtruthing conducted by wildlife biologists took place on October 5 to November 2, 2012. Surveys in high-priority areas were conducted by vegetation biologists on October 10-16.

Vegetation Types

A total of 15 vegetation types were observed in the Huntington Valley Project Area during 2012 (Table 1; Photos 1-6). The most common vegetation type was sagebrush/grassland, which occurs on rolling hills throughout the Project Area (Map 1). Sagebrush/snakeweed and sagebrush are both very similar to sagebrush/grassland, differing only on the relative abundance of sagebrush in comparison to other vegetation. Differences between these vegetation types occur as a gradient, making precise mapping difficult. Grasslands were present in several small patches on rolling hills, and were generally dominated by cheatgrass and native bunch grasses.

Several vegetation types are prevalent in drainages and low-lying areas, including basin big sagebrush, greasewood, and sagebrush/rabbitbrush. Agricultural areas occur as wide corridors surrounding riparian habitat.

Juniper trees occur in two restricted areas located in the southernmost and northernmost portions of the Project Area. In areas where juniper is co-dominant with sagebrush, soils are more developed and grass and forb species are common. The juniper vegetation type occurs on more barren, rocky soils.

Table 1. Vegetation types observed in the Huntington Valley Project Area during 2012.

Vegetation Type	Dominant species	Description	Acres	Percent of Total Area
Agriculture	Orchardgrass (*Dactylis glomerata*), timothygrass (*Phleum pratense*), bluegrass (*Poa sp.*)	Hay fields present along riparian corridors throughout the Project Area.	7,789.8	12.26
Bare	None	Either sand dunes or areas of high intensity livestock use.	162.7	0.26
Basin Big Sagebrush	Basin big sagebrush (*Artemisia tridentata var. tridentata)*	Dominated by dense, tall sage*;* most prevalent in drainages and along riparian corridors.	1,380.3	2.17
Disturbed	Russian thistle (*Salsola tragus*), Scotch thistle (*Onopordum acanthium*), curlycup gumweed (*Grindelia squarrosa*) , prostrate knotweed (*Polygonum aviculare*), horehound (*Marrubium vulgare*)	Predominantly recreation areas near Zunino reservoir and ranches.	92.8	0.15
Grassland	Cheatgrass (*Bromus tectorum*), needle and thread (*Hesperostipa comata*)	Dominated by cheatgrass with some bunch grasses present	558.9	0.88
Greasewood	Greasewood (*Sarcobatus vermiculatus*), basin big sagebrush	Low lying, alkaline areas dominated by dense greasewood, with big basin sagebrush sometimes co-dominant.	264.2	0.42
Juniper	Juniper (*Juniperus osteosperma*), needle and thread, spiny phlox (*Phlox hoodii*)	Juniper forests on rocky, barren soils with sparse bunch grasses and forbs.	969.1	1.52
Juniper/ Sagebrush	Juniper, Wyoming big sagebrush (*Artemisia tridentata var. wyomingensis*), Sandberg bluegrass (*Poa secunda*), Indian ricegrass (*Achnatherum hymenoides*)	Juniper intermixed with sagebrush, with more developed soils and denser grasses than the Juniper class.	1,554.9	2.45
Rabbitbrush/ Grass	Rabbitbrush (*Ericameria nauseosa* and *Chrysomnus viscidflorus*), Indian ricegrass	Typically on ridges and hilltops, on sandier soils.	29.3	0.05
Reservoir	Foxtail barely (*Hordeum jubatum*), sandbar willow (*Salix melanopsis*), curly dock (*Rumex crispus*)	Dry and mostly vegetated during surveys.	114.0	0.18
Riparian	Sandbar willow, sedges (*Carex sp.*), rushes (*Juncus sp.*), Canada thistle (*Cirsium canadensis)*	Hydrology has been altered in some areas by agriculture.	668.3	1.05
Sagebrush/ Grassland	Wyoming big sagebrush, Sandberg bluegrass, broom snakeweed (*Gutierrezia sarothrae*), rabbitbrush, Indian ricegrass, bluebunch wheatgrass (*Pseudoroegneria spicata*), needle and thread, lupine (*Lupinus sp.*), spiny phlox, Great Basin wild rye (*Leymus cinereus*), squirreltail (*Elymus elymoides*), desert madwort (*Alyssum desertorum*), spineless horsebrush (*Tetradymia canescens*)	Most common vegetation type, on rolling hills throughout the Project Area.	43,330.2	68.19

Table 1. Continued.

Vegetation Type	Dominant species	Description	Acres	Percent of Total Area
Sagebrush	Wyoming big sagebrush, broom snakeweed, rabbitbrush, Sandberg bluegrass	Lower density of grasses compared to sagebrush/grassland, but otherwise similar	503.5	0.79
Sagebrush/ Rabbitbrush	Basin big sagebrush, rabbitbrush, cheatgrass	Common in drainages and low-lying areas	4,163.9	6.55
Sagebrush/ Snakeweed	Broom snakeweed, Wyoming big sagebrush, crested wheatgrass (*Agropyron cristatum*)	Snakeweed co-dominant with sagebrush; crested wheatgrass common near agricultural areas; in other areas grass and forb composition similar to sagebrush/grassland	1,966.1	3.09
		TOTAL	63,548.0	100.00

Weed Surveys

A total of 10 weed species were recorded in the Huntington Valley Project Area, with Scotch thistle being the most common (Photo 7). Weeds are most common along roadsides, drainages, and on the edges of agricultural land. Weed data are summarized in Table 2 and Map 1. Perennial pepperweed and hoary cress (Photo 8) are both present in the Project Area. Several unconfirmed populations of dyer's woad were located with only basal leaves present, making it impossible to identify with certainty. The majority of weeds listed in Table 2 are listed by the State of Nevada as noxious (http://agri.state.nv.us/), with the exception of halogeton and bull thistle. Halogeton is relatively common throughout the Project Area. Russian thistle was not recorded during surveys, but was observed at high densities along roadsides. Canada thistle is more widespread than what was recorded, predominantly in riparian areas that were avoided during surveys. Leafy spurge, spotted knapweed, Russian knapweed, diffuse knapweed, and salt cedar were not located during surveys conducted in 2012.

Table 2. Weed species located in the Huntington Valley Project Area. Number of populations, estimated number of individuals, average percent cover, and occupied acres are summarized for each species.

Species	# Populations	Estimated # Individuals	Average % Cover	Acres
Bull Thistle	11	201-300	6-25	0.27
Canada Thistle	72	10,001-20,000	6-25	19.34
*Dyer's woad (unconfirmed)	5	10-50	1-5	0.12
Halogeton	38	>20,000	6-25	0.93
*Hoary cress	16	5,001-10,000	6-25	2.82
Houndstongue	1	51-100	1-5	0.02
Musk Thistle	3	101-200	1-5	14.31
*Perennial pepperweed	9	3,001-5,000	6-25	0.22
Poison Hemlock	9	301-1,000	6-25	0.22
*Scotch Thistle	182	10,000-20,000	6-25	27.52

* Indicates priority species identified by the BLM

Cheatgrass Surveys

In general, the Nevada Natural Heritage Program (NNHP) model of cheatgrass was found to be relatively accurate, and may have utility for management of this species (Figure 1). The product created by HWA is composed of polygons in areas where cheatgrass was the dominant grass species, using the NNHP model as a starting point. A total of 2,439 acres of cheatgrass-dominated habitat was documented. Cheatgrass is likely present outside of these areas in lower densities. Cheatgrass-dominated areas often include sagebrush and other shrub species in the overstory. South-facing slopes tend to be most dominated by cheatgrass.

REFERENCES

Peterson, E. B. 2006. A map of invasive annual grasses in Nevada derived from multi-temporal Landsat 5 TM imagery. Report for the U.S.D.I. Bureau of Land Management, Nevada State Office, Reno, by the Nevada Natural Heritage Program, Carson City, Nevada.

PHOTOS

Photo 1. Sagebrush/grassland, the most common vegetation type in the Project Area, with a band of low-lying sagebrush/rabbitbrush in the center of the photo.

Photo 2. Agricultural land, with a band of basin big sagebrush on the periphery.

Photo 3. Grass-dominated vegetation type, with a high density of cheatgrass.

Photo 4. Juniper/sagebrush vegetation type in the southern portion of the Project Area.

Photo 5. Juniper vegetation type on rocky, barren soil.

Photo 6. Sagebrush/snakeweed vegetation type, with two small sand dunes classified as bare ground visible in the background.

Photo 7. Scotch thistle, the most common priority weed species located in the Project Area.

Photo 8. Hoary cress, a priority weed species located in the Project Area.

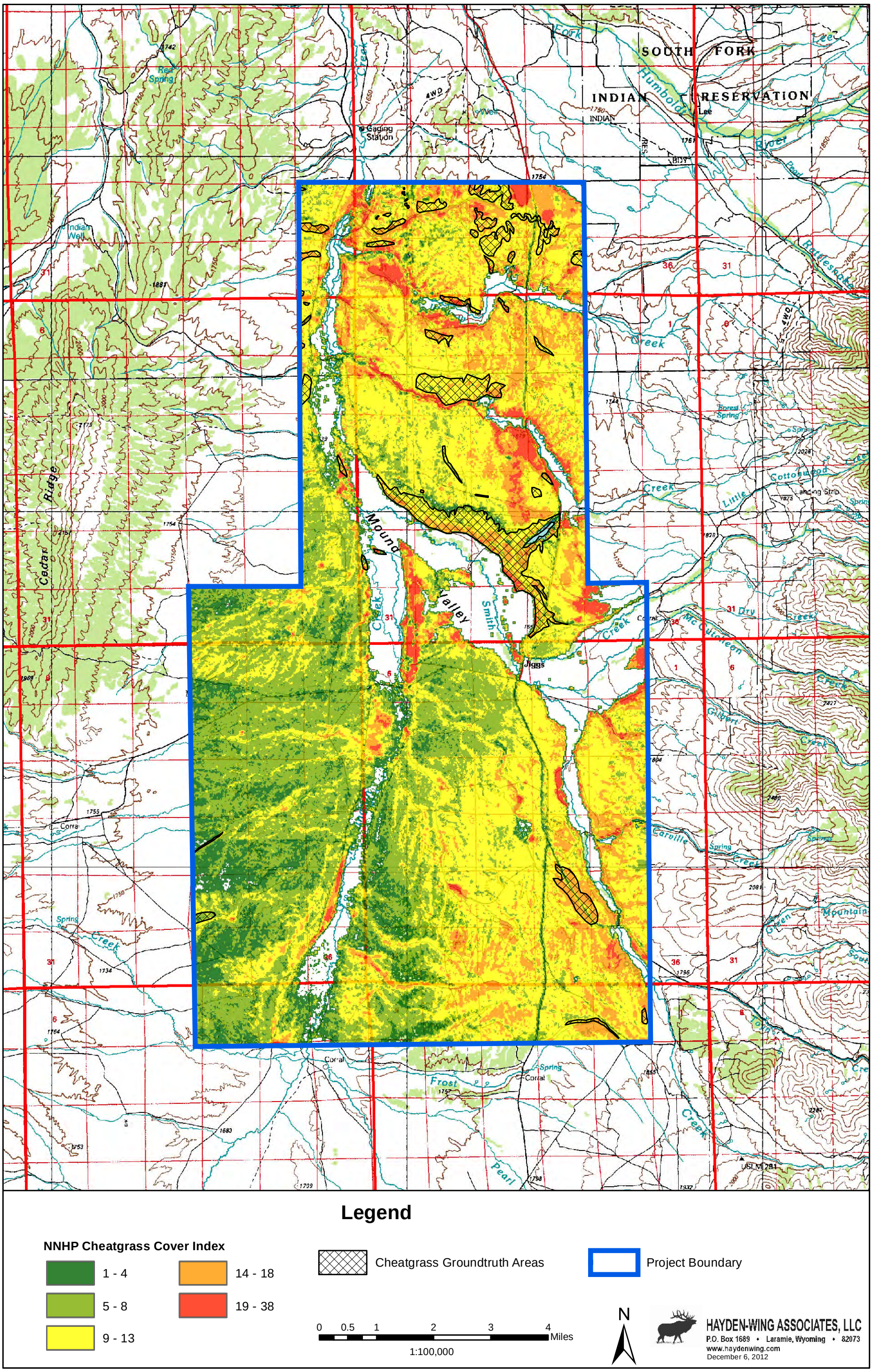

Figure 1. Cheatgrass-dominated areas, modelled by the Nevada Natural Heritage Program (NNHP) and groundtruthed by HWA in 2012 in Noble Energy's Huntington Valley Project Area.

DRAFT

Noxious Weed Plan for the 2013 Drilling Program – Marys River Leases, Elko County, Nevada

Report Prepared for

Noble Energy, Inc.

2013 Drilling Program

Report Prepared by

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July 2013

Noxious Weed Plan
for the 2013 Drilling Program – Marys River Leases, Elko County, Nevada

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Appendix A – Nevada Noxious Weed List by Category

1.0 INTRODUCTION

1.1 PLAN PURPOSE

The purpose of this Plan is to prescribe methods to prevent and control the spread of noxious weeds (Appendix A) during and following construction of roads and drill pads associated with the Noble Energy, Inc. (Noble) 2013 Drilling Program on the Marys River Leases, Tabor Flats area (*Figure 1*). This Plan is applicable to the construction and operation of the proposed drilling program.

Noble recognizes the economic and environmental impact that can result from the establishment of noxious weeds and have committed to a proactive approach to Integrated Weed Management (IWM). This noxious weed species monitoring and control plan is prepared as a plan to be implemented for the 2013 Drilling Program Project. This plan contains management strategies, provisions for annual monitoring (if the Project extends beyond one growing season) and treatment evaluation, and provisions for treatment. The results from annual monitoring would be the basis for updating the plan and developing annual treatment programs.

Noble and the Bureau of Land Management (BLM) identified noxious weeds as a potential risk to this project. The Oneil-Deeth County Road (County Road) is the access to the drilling sites to which Noble requires access. The County Road is a potential corridor for the spread of noxious weeds. The renovation of existing roads and construction of new roads to access the drill sites increases the likelihood that a species will establish as a result of the action, due to the known presence of noxious weeds in the general area of the project (i.e., along the County Road outside of the Project area). The earthwork is likely to create suitable seedbed conditions conducive to the establishment of noxious weed species.

1.2 GOALS AND OBJECTIVE

The goal of IWM is to implement early detection, containment, and control leading to eradication of noxious weeds during Project construction and final seeding. Noxious weeds are opportunistic plant species that readily flourish in disturbed areas, thereby preventing native or desirable plant species from establishing. Monitoring and maintenance during the construction, operational, and reclamation phases will include identification of any local infestation areas on and adjacent to the Project area that may pose potential infestation.

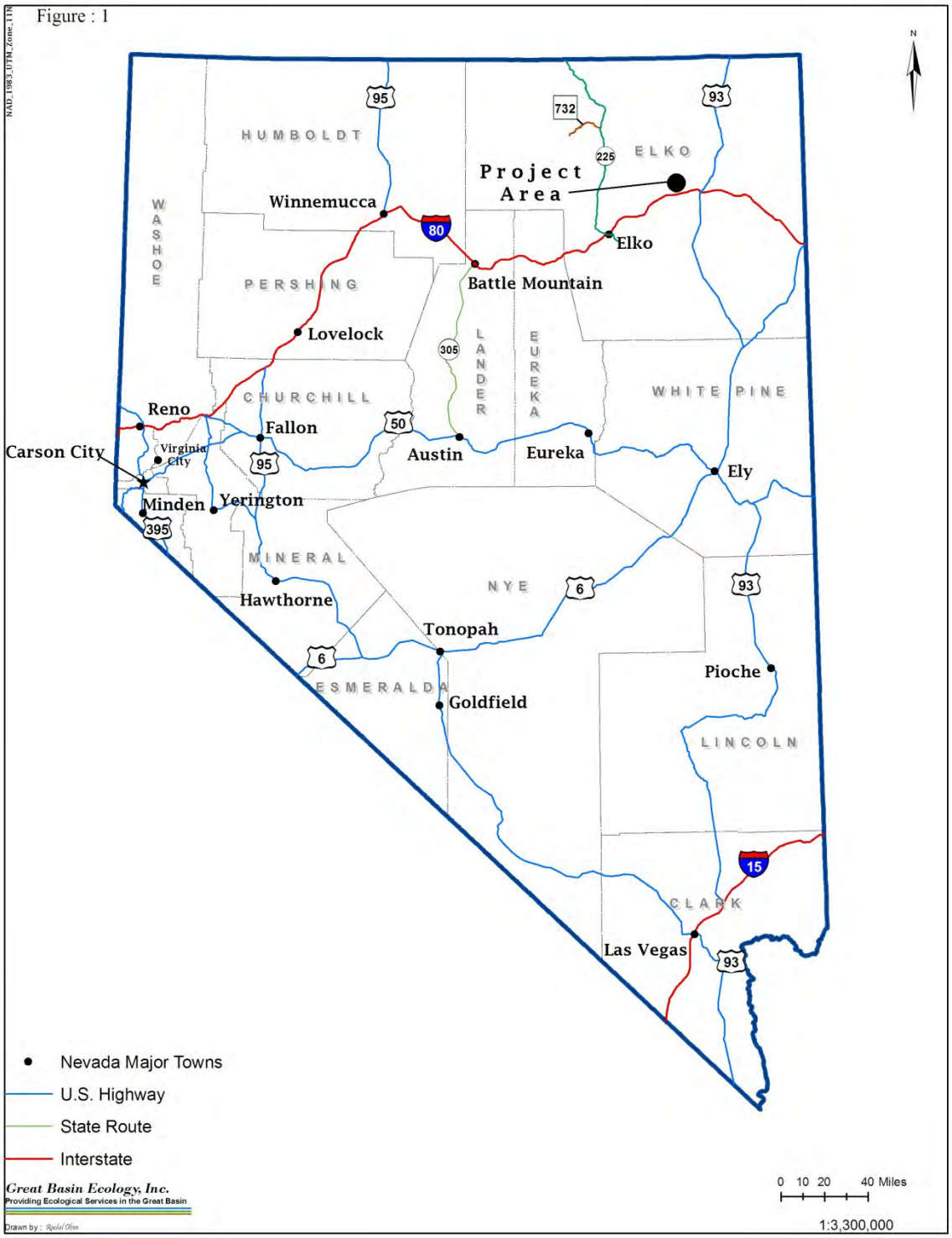

Figure 1: Noble 2013 Drilling Program Project - General Vicinity Map

1.3 PROJECT DESCRIPTION

Noble is planning to drill two to three "test" holes to determine the potential of the site to produce oil. The drilling program includes some road improvements, new road construction, and pad construction (*Figure 2*). Road improvement will be required on approximately 5.3 miles of existing two-track roads and new construction will be required for approximately 3.6 miles.

The Project is located Elko County, Nevada in portions of Township 38 North (T38N), Range 60 East (R60E), Sections1, 2, and 12; Sections 25, 26, 27, and 28; and T39N, R60E, Sections 35 and 36; Mount Diablo Base and Meridian (MDB&M) (*Figure 3*).

2.0 NOXIOUS WEED INVENTORY AND WEED MANAGEMENT AREAS

2.1 NOXIOUS WEED INVENTORY

Preconstruction field surveys were conducted at the Project area on June 11 and 12, 2013. No noxious weeds were observed along the existing roads or the proposed roads or pads.

Hoary cress (*Cardaria draba*) was observed approximately 18 miles north of the Project area along the County Road.

The Interstate 80 corridor is approximately 8 miles south of the Project area and the Union Pacific Railroad track is approximately 1.5 miles south of the Project area. These two transportation corridors are likely sources of noxious weed seeds.

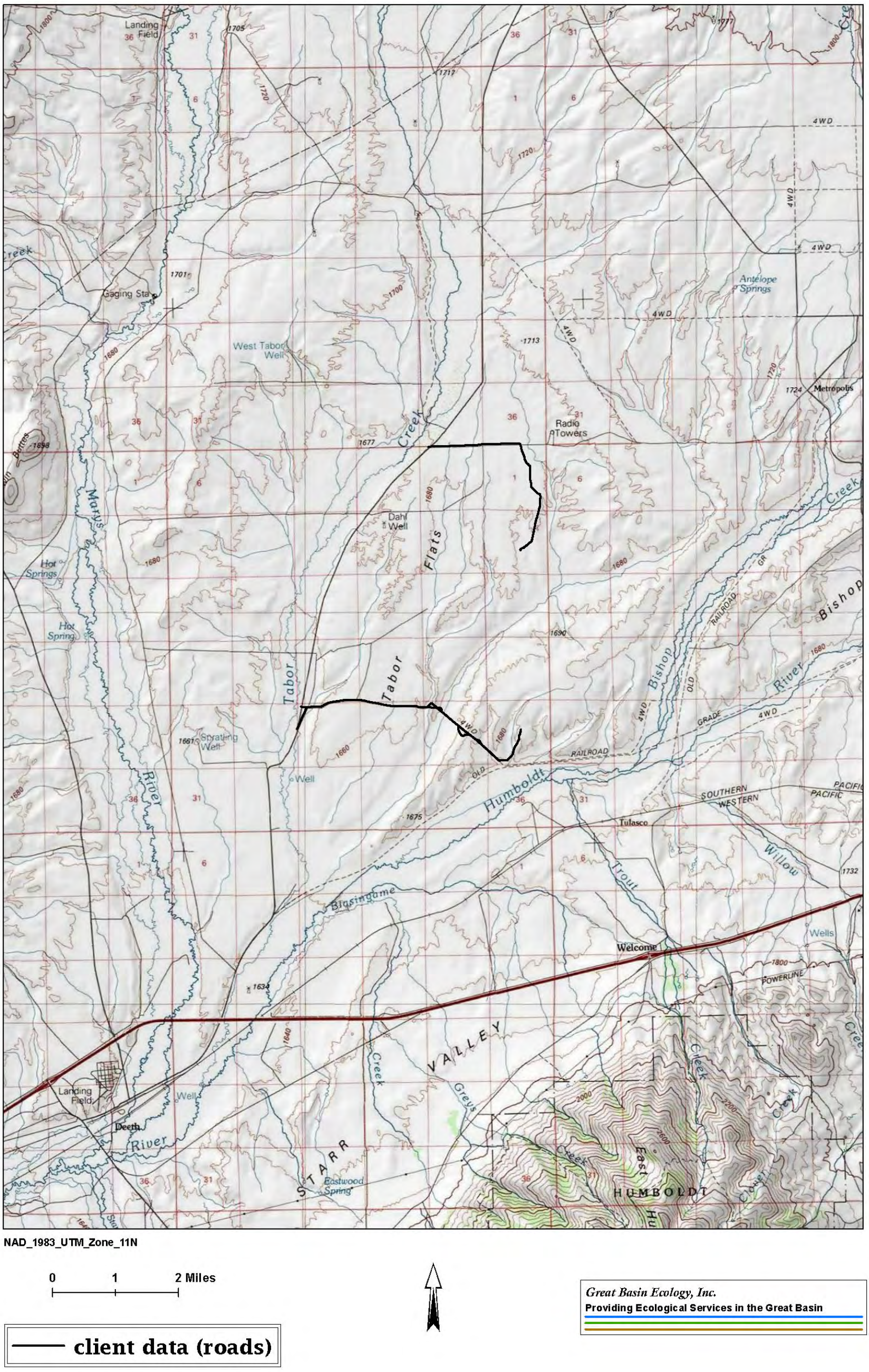

Figure 2: Noble 2013 Drilling Program Project Location

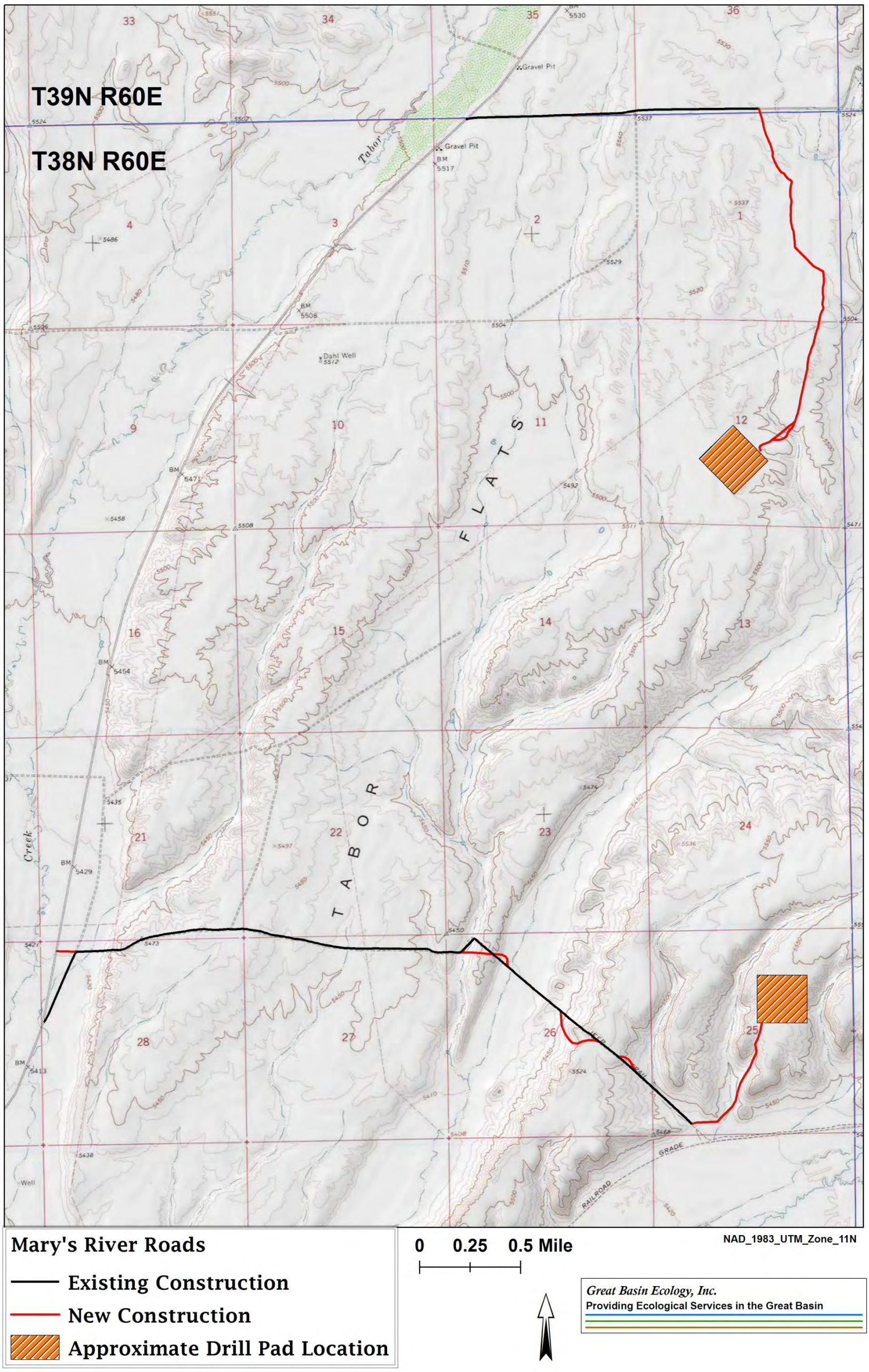

Figure 3: Noble 2013 Drilling Program Project – Project Detail

2.2 WEED MANAGEMENT AREAS

The weed management area for the Project includes the entire Project survey area (i.e., the areas of construction and 100 feet either side of the roads and pads).

3.0 NOXIOUS WEED MANAGEMENT

The management and control of noxious weeds requires an integrated approach with several components:

- Identification of the problem areas;
- Preventive measures;
- Treatment methods; and
- Monitoring.

Each of these components is described below.

3.1 IDENTIFICATION OF PROBLEM AREAS

The pre-construction inventory identified no existing infestations of noxious weeds within and adjacent to the Project area. A patch of hoary cress (approximately 0.01 acres) was observed approximately 4.5 miles north of the Project area within the County Road borrow ditch. Due to maintenance grading of the County Road, there is potential for the seeds or plant parts from this patch to be distributed to the Project area.

Other noxious weeds may occur within the Interstate 80 and Union Pacific Railroad corridors approximately 8 miles and 1.5 miles, respectively, south of the Project area.

These three potential source areas create a low risk of noxious weed establishment during the construction and reclamation processes.

3.2 PREVENTIVE MEASURES

Prevention of new noxious weed infestations is the most cost effective means of noxious weed control. Prevention, or more accurately, reduction of potential for noxious weed establishment involves several approaches.

First, the implementation of this plan needs to be included in the assigned duties of an individual on the Noble Project staff. This individual may contract treatment application, but the implementation of this plan needs to be assigned to an individual. This individual will be the repository for all noxious weed observations and developing the appropriate action for the eradication of new weed infestations. This individual should also be responsible for the monitoring and control efforts, which would be part of the annual weed plan update described below. This individual would

also be responsible for notifying contractors and agency personnel that vehicles need to be cleaned before entering the mine site.

Second, awareness and education of key employees is important. Identification and eradication of the first noxious weed to establish in an area translates to major cost savings over treatment of large or multiple patches of weeds. The first weed can only be detected if personnel can identify it as a noxious weed. While it is not necessary that every employee be able to identify noxious weeds, there should be key personnel who should have training in noxious weed identification. This would include environmental staff, engineers, and equipment operators involved in road construction, and anyone else who is frequently traveling around the property or doing other compliance inspections or monitoring. Noxious weed identification training should occur during late winter or early spring. As noxious weeds are detected, these trained individuals should all visit the infestation to reinforce the noxious weed identification training. If treatments are to be conducted by Noble personnel, then training and certification for restricted use pesticides is recommended.

Third, there is also a variety of cultural practices that can reduce the establishment of noxious weeds. Given the nature of the road work and the amount of exposed soil and growth media that will be available as suitable seedbed for many noxious weeds, several cultural practices can be employed to minimize the risk of noxious weed establishment. Cultural practices can also be used to reduce the potential that seed enters the property; however, even with the strictest controls of anthropogenic means of transporting noxious weeds, it is anticipated that windblown, water transported, and animal transported seed are likely to enter the property. The following cultural practices can reduce the potential for seed entering the property or establishing on site:

- **Interim seeding of long-term disturbance**. Road berms, sediment basins, growth media stockpiles, and other sites that will have exposed soil for more than one growing season should be seeded with an interim seed mix. The establishment of vegetation on these sites will reduce the potential for noxious weeds and other non-native, invasive species to establish. Aggressive species, such as crested wheatgrass (multiple varieties can be used) or forage kochia should be used rather than native species that often do not establish well on disturbed sites. Crested wheatgrass, if used, must be covered with at least ⅛ -inch of soil for successful establishment. This species does not usually establish well if the seed is broadcast and left on the surface. Forage kochia can be broadcast seeded or drill seeded.
- **Road maintenance**. Equipment operators involved in road maintenance activities need to be trained in weed identification so that they do not blade areas infested by weeds and spread either the seeds or root pieces to new locations. Road maintenance activities can spread seeds or weed parts that can

establish in new locations. The weed infestations should be treated and manually removed before any road maintenance activity is conducted.

- **Minimize disturbance to existing vegetation**. Vehicles should be confined to existing roadways and not permitted to conduct cross-country travel unless involved in approved activity (i.e., surveying, etc.). This will reduce the potential for new weed establishment.
- **Effective reclamation**. Whenever feasible, seeding should occur in the same year as the earthwork to allow the seeded species to establish before non-native invasive species and noxious weeds can dominate the reclaimed surfaces. Using species in the seed mix that have been successful in previous reclamation efforts in the region and seed suited for the site conditions will also reduce the potential for noxious weed establishment by providing a dense perennial plant cover. Note that the area where the Project will take place is an old crested wheatgrass seeding and this species should be considered for inclusion in the reclamation seed mix.
- **Vehicle cleaning**. Equipment mobilizing to the Project site should be cleaned before entering the site to prevent new noxious weed species from being transported to the site. If noxious weeds establish on site, then vehicles used in areas of known noxious weed infestations should be cleaned (especially the undercarriage) before leaving the Project site to prevent the spread of noxious weeds off the site.
- **Certified weed free materials**. All seed and mulch used in reclamation and straw bales used for sediment control should be certified weed free.
- **Apply seed to treated areas**. Any location that has been treated for noxious weeds should be seeded with either the interim seed mix or reclamation seed mix during the fall after treatment. Leaving the area "fallow" after treatment increases the risk that either the same species or another species of noxious weed or non-native, invasive species will establish on the site. Seeding with a grass-only mixture is recommended in the event that follow-up treatment is necessary; many of the herbicides are selective to broad-leaved plants and any forbs or shrubs seeded would be susceptible to the follow-up treatment, whereas most grasses are not susceptible.

3.3 TREATMENT METHODS

The goal of IWM is to reduce weed populations below the level at which they are damaging. This includes environmentally damaging, such as displacing native species, or economically damaging, such as failure to achieve reclamation vegetation success criteria. Treatment is specific to the target species and environmental constraints, but most often consists of application of herbicide (chemical treatment). However, for large infestations, biological treatment using approved target species pathogens,

parasites, or predators, or use of livestock (primarily goats or sheep) is often the most cost effective for the initial reduction in the size of the noxious weed population. Mechanical treatment, such as mowing or burning, may be effective in controlling certain species.

Noble will implement IWM measures that will be in accordance with existing regulations and jurisdictional land management agency or landowner agreements. Only herbicides that are approved by the BLM for use on public lands will be applied to infestations that may establish in the disturbed areas. Post-construction control measures may include one or more of the following methods:

- **Mechanical control** methods can be defined as any physical activity that inhibits unwanted plant growth. If such a method is used, subsequent seeding will be conducted to reestablish a desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds. Seed selection will be based on site-specific conditions and the appropriate seed mix identified for those conditions. Disking or other mechanical treatments that would disturb the soil surface within native habitats will be avoided. Treatment methods will be based on species-specific and area-specific conditions (e.g., proximity to water or riparian areas, or agricultural areas, and time of year) and will be coordinated with the local regulatory offices. If areas are not seeded until the following spring because of weather or scheduling constraints, all annuals and undesirable vegetation that have become established will be eradicated before seeding.
- **Chemical control** methods (e.g., herbicide application) include the application of approved chemicals according to the herbicide product label. Herbicide application is an effective means of reducing the size of noxious weed populations. Applications will be controlled to minimize the impacts on the surrounding vegetation. The herbicides may be used individually or in combination, depending on the label instructions and the target species. Where multiple weed species are present, a combination of herbicides may be required. Application of herbicides on public land is regulated and must be approved by the land management agency, including the submission of the required information regarding the target species, herbicide proposed, application rate, etc. Treatment windows are species-specific but generally include the spring growing season prior to flower bud formation and fall for species that either germinate in the fall or that as biennial or perennial plants, have an active growth period in the fall following summer dormancy.

4.0 MONITORING

Monitoring has two objectives: identification of new infestations and evaluation of the effectiveness of treatment programs.

4.1 OPERATIONAL MONITORING

Noble or their contractor will conduct periodic site visits during the construction schedule to monitor known infestation areas and use GPS and GIS technologies as management tools for the collection of data for the development of IWM strategies, to communicate information, and to store records. These areas will be evaluated and controlled. Noble or their contractor will continue to visit these infestation areas on an ongoing basis or until noxious weeds in the area are controlled. Seeds of noxious weeds can remain viable in the soil for several years; therefore, treated areas should be monitored for a minimum of five years after the last individual has been eradicated to ensure new plants do not establish.

Notes regarding the size of the infestation, vigor of the plants, density of plants, success of establishment of desired species seeded after treatment, and recommendations for follow-up treatment should be taken and entered into the weed management database. This information provides a record of the noxious weed control that has been conducted and the effectiveness of the treatment program. It also documents whether or not the cultural practice of post-treatment seeding is successful in reducing the potential of reestablishment of noxious weeds.

4.2 RECLAMATION MONITORING

Monitoring of reclaimed areas should be completed annually from the first growing season after seeding until it is determined that the reclamation has met the reclamation criteria. The redistribution of growth media prior to seeding provides a suitable seedbed for invasive species and many of these species germinate and establish in the fall, as compared to most native species which germinate in the spring. Therefore, noxious weeds can be present during the first growing season. Seed production by noxious weeds during the first growing season poses a large risk to increases the weed populations as the desired species will require several years to completely occupy the site and become a suitable defense against noxious weed establishment. Monitoring each spring following reclamation seeding is recommended and appropriate treatment should be conducted as needed.

5.0 ANNUAL PLAN UPDATE

If the Project is scheduled to occur over more than one growing season, then an annual plan is recommended. The annual plan update is basically a summary of the annual monitoring and the action plan developed as the result of the monitoring data. The update is documentation of the treatments that occurred in the previous year, the inspection of the facilities for new infestations, and documentation of treatment effectiveness for known infestations. This information is then used to determine what actions are necessary for the upcoming year and the budget requirements for the required actions. The annual update should include a map of the new infestations, existing infestations, treated areas, seeded areas, and areas to be treated in the

upcoming year. The annual update can also specify the treatment for the upcoming year, or that information can be determined by the contractor based on the latest herbicides available.

The annual plan update should specify the target species, the type of treatment (chemical, biological, mechanical), the timing of the treatment, and the post-treatment seeding. BLM review and/or approval should also be included in the annual update. This may involve coordination with the licensed contractor for herbicide application.

6.0 POST-TREATMENT MANAGEMENT

Post-treatment seeding is necessary to establish desirable species in the void left by removal of the existing vegetation, or from eradicating or reducing the noxious weed population. Without seeding, the area is a suitable seedbed for other nonnative, invasive species and the entire process starts over.

Wildlife species can also present a post-treatment management problem if the species seeded following treatment are palatable to deer, elk, pronghorn, rabbits, or other herbivores that have access to the site. Therefore, the choice of post-treatment seed mix should include consideration of the herbivores likely to have access to the treatment area, the number of each herbivore present, and the season which the herbivores are present in the area. Although the I-80 right-of-way is fenced to discourage wildlife from using the area, I-80 crosses seasonal migration corridors and daily movement corridors (e.g., mule deer moving along the Humboldt River and the riparian vegetation associated with the river). Consideration should be given to seed species which are not palatable to wildlife and to seed species which do not provide quality cover for wildlife.

7.0 HERBICIDE APPLICATION, HANDLING, SPILLS, AND CLEANUP

An integral part of the IWM Plan is the handling of pesticides. Much of the information applicable to herbicides is likely to be addressed in the Project *Spill Prevention, Containment, and Countermeasures Plan.* However, this information is provided to ensure that all parties are aware of the procedures.

7.1 HERBICIDE APPLICATION AND HANDLING

Before application, Noble or its contractor will obtain any required permits from the local authorities. Permits may contain additional terms and conditions that go beyond the scope of this management plan. A licensed contractor will perform the application in accordance with applicable laws and regulations and permit stipulations.

All herbicide applications **must** comply with all laws, procedures, and instructions on the product labels pertaining to the transport, handling, and application of all

chemicals. Application of herbicides will be suspended when any of the following conditions exists:

- Wind velocity exceeds 6 miles per hour (mph) during application of liquids or 15 mph during application of granular herbicides;
- Snow or ice covers the foliage of noxious weeds; or
- Precipitation is occurring or is imminent.

Vehicle-mounted sprayers (e.g., handgun, boom, and injector) will be used mainly in open areas that are readily accessible by vehicle (e.g., the proposed laydown yard). Hand application methods (e.g., backpack spraying, hose and wand spraying) that target individual plants will be used to treat small or scattered weed populations in rough terrain (e.g., the median and road banks). Calibration checks of equipment will be conducted at the beginning of spraying and periodically thereafter to ensure that proper application rates are achieved.

Herbicides will be transported to the Project site daily with the following provisions:

- Only the quantity needed for that day's work will be transported;
- Concentrate will be transported in approved containers only and in a manner that will prevent tipping or spilling, and in a location that is isolated from the vehicle's driving compartment, food, clothing, and safety equipment;
- Mixing will be done off site over a drip catching device and at a distance greater than 200 feet from open or flowing water, wetlands, wells that may contaminate a drinking water supply, or other sensitive resources. No herbicides will be applied at these areas unless authorized by appropriate regulatory agencies; and
- All herbicide equipment and containers will be inspected for leaks daily. Disposal of spent containers will be in accordance with the herbicide label.

7.2 HERBICIDE SPILLS AND CLEANUP

All reasonable precautions will be taken to avoid herbicide spills. In the event of a spill, cleanup will be immediate. Contractors will keep spill kits in their vehicles and in herbicide storage areas to allow for quick and effective response to spills. Items to be included in the spill kit are:

- Personal Protective Equipment (PPE);
- Absorptive clay, "kitty litter," or other commercial adsorbent; and
- Plastic bags and bucket, shovel, fiber brush and screw-in handle, dust pan, caution tape, highway flares (use on established roads only), and detergent.

Response to an herbicide spill will vary with the size and location of the spill, but general procedures include:

- BLM notification and traffic control;
- Dressing the clean-up team in PPE;
- Stopping the leaks;
- Containing the spilled material;
- Cleaning up and removing the spilled herbicide and contaminated adsorptive material and soil; and
- Transporting the spilled pesticide and contaminated material to an authorized disposal site.

7.3 WORKER SAFETY AND SPILL REPORTING

All herbicide contractors will be state licensed to apply pesticides (and certified if restricted use herbicides are used) and obtain and have readily available copies of the appropriate material safety data sheets for the herbicides used. All herbicide spills will be reported in accordance with applicable laws and requirements.

8.0 REFERENCES

United States Department of Agriculture (USDA), 2000. Environmental Assessment for Noxious Weed Management, Dixie National Forest. Forest Service, Intermountain Region.

United States Department of the Interior (USDI), 1991. Final Environmental Impact Statement on Vegetation Treatment on BLM Lands in Thirteen Western States. Washington, D.C.

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Appendix A
State of Nevada Noxious Weed List

NEVADA NOXIOUS WEED LIST BY CATEGORY

(NAC 555.010)

Category A Weeds:

Category A noxious weeds are weeds that are generally not found or that are limited in distribution throughout the State.

African rue	(*Peganum harmala*)
Austrian fieldcress	(*Rorippa austriaca*)
Swainsonpea	(*Sphaerophysa salsula*)
Black henbane	(*Hyoscyamus niger*)
Camelthorn	(*Alhagi* maurorum)
Common crupina	(*Crupina vulgaris*)
Dalmatian toadflax	(*Linaria dalmatica*)
Dyer's woad	(*Isatis tinctoria*)
Eurasian water-milfoil	(*Myriophyllum spicatum*)
Giant reed	(*Arundo donax*)
Giant salvinia	(*Salvinia molesta*)
Goatsrue	(*Galega officinalis*)
Crimson fountain grass	(*Pennisetum setaceum*)
Houndstongue	(*Cynoglossum officinale*)
Hydrilla	(*Hydrilla verticillata*)
Iberian starthistle	(*Centaurea iberica*)
Common St. Johnswort	(*Hypericum perforatum*)
Malta starthistle	(*Centaurea melitensis*)
Mayweed chamomile	(*Anthemis cotula*)
Mediterranean sage	(*Salvia aethiopis*)
Purple loosestrife	(*Lythrum salicaria, L. virgatum* & cultivars)
Purple starthistle	(*Centaurea calcitrapa*)
Rush skeletonweed	(*Chondrilla juncea*)
Sow thistle	(*Sonchus arvensis*)
Spotted knapweed	(*Centaurea maculosa*)
Squarrose knapweed	(*Centaurea virgata*)
Sulfur cinquefoil	(*Potentilla recta*)
Syrian bean caper	(*Zygophyllum fabago*)
Yellow starthistle	(*Centaurea solstitialis*)
Yellow toadflax	(*Linaria vulgaris*)

Category B Weeds:

Category B listed noxious weeds are weeds that are generally established in scattered populations in some counties of the State.

Horsenettle	(*Solanum carolinense*)
Diffuse knapweed	(*Centaurea diffusa*)
Leafy spurge	(*Euphorbia esula*)
Medusahead	(*Taeniatherum caput-medusae*)
Musk thistle	(*Carduus nutans*)
Russian knapweed	(*Acroptilon repens*)
African mustard	(*Brassica tournefortii*)
Scotch thistle	(*Onopordum acanthium*)
Silverleaf nightshade	(*Solanum elaeagnifolium*)

Category C Weeds:

Category C listed noxious weeds are weeds that are generally established and generally widespread in many counties of the State.

Canada thistle	(*Cirsium arvense*)
Hoary cress	(*Cardaria draba*)
Johnsongrass	(*Sorghum halepense*)
Perennial pepperweed	(*Lepidium latifolium*)
Poison-hemlock	(*Conium maculatum*)
Puncture vine	(*Tribulus terrestris*)
Salt cedar (tamarisk)	(*Tamarix* spp.)
Spotted water hemlock	(*Cicuta maculata*)