

**Mountain Valley Pipeline, LLC
Mountain Valley Pipeline Project
Docket No. CP16-10-000**

**Implementation Plan
Dated October 2017**

Attachment IP-13e

Hoover, Matthew S.

From: Adams, Rick D <Rick.D.Adams@wv.gov>
Sent: Monday, August 28, 2017 9:52 AM
To: Hoover, Matthew S.
Cc: Cochran, Joseph W; Hendley, John H
Subject: RE: MVP Restoration Plan
Attachments: R&R Plan May 2017.pdf

Good morning Matt,

Joe Cochran and I reviewed the seed mix changes and we're both okay with MVP implementing this alternative in the Restoration Plan. This will be considered a minor modification therefore no reason to submit any additional information. I will forward this information to John Hendley, Environmental Inspector Supervisor and file for future reference. If you need additional information let me know.

Thanks,

From: Hoover, Matthew S. [mailto:MHover@eqt.com]
Sent: Monday, August 28, 2017 8:58 AM
To: Adams, Rick D <Rick.D.Adams@wv.gov>
Subject: RE: MVP Restoration Plan

Good Morning Rick,
I'm just following up to see if you had the chance to review the seed mixes. We'd like to include these with our Implementation Plan and was hoping to get the WVDEP concurrence.

Let me know if you have any questions.

Thanks,
Matt

From: Hoover, Matthew S.
Sent: Wednesday, August 16, 2017 8:52 AM
To: Adams, Rick D (Rick.D.Adams@wv.gov) <Rick.D.Adams@wv.gov>
Subject: MVP Restoration Plan

Hi Rick,
Thanks for taking the time to meet with us yesterday. I appreciate the time and effort that you've put into the Mountain Valley project.

As discussed, I've attached the MVP Restoration Plan that discusses the seed mixes that would replace the standard WVDEP Seed mixes. Please let me know if this is an acceptable alternative.

Thanks,

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Mountain Valley Pipeline Project

Docket No. CP16-10-000

Restoration and Rehabilitation Plan

May 2017

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Appendices

Appendix A – USFS Recommended Species for Seed Mixes

Appendix B – List of Potential Exotic and Invasive Plant Species

For the purpose of responding to Environmental Condition 13, text and tables not applicable to Environmental Condition 13 have been removed from the following pages of this document.

2.0 Seed Mixes

MVP is partnering with the Wildlife Habitat Council (WHC), a nonprofit organization dedicated to assisting corporations, conservation organizations, and individuals with restoration and enhancement of wildlife habitat. The WHC is working with MVP on their commitment toward restoration of the Project ROW and establishment of perennial vegetation using native seed mixes created in collaboration with local seed supplier, Ernst Conservation Seeds, Inc. These seed mixes or an approved equivalent from another supplier will be applied along the Project's ROW except where landowners request a specific seed mix or on state or federally managed land where agencies request alternative seed mixes.

Proposed seed mixes will be distributed to representatives within state and federal agencies for approval and comment. These agencies include the United States Forest Service (USFS), West Virginia Department of Environmental Protection (WVDEP), West Virginia Division of Natural Resources (WVDNR), Virginia Department of Environmental Quality (VDEQ), and the Virginia Department of Conservation and Recreation – Division of Natural Heritage (VDCR-DNH).

2.1 Herbaceous Seed Mixes

A temporary cover crop containing oats (*Avena sativa*), grain rye (*Elymus* spp.), or Japanese millet (*Echinochloa esculenta*) will be applied at 30 pounds per acre to prevent encroachment of non-favorable vegetation and provide erosion control until permanent vegetation can establish.

An upland herbaceous seed mix (Table 1) containing of forbs and grasses capable of establishing quickly to provide soil stabilization and revegetation will be applied at 20 pounds per acre in areas of the ROW not considered riparian, wetland, or within pollinator enhancement areas. In areas highly susceptible to erosion and characterized as steep slope, the upland mix will be applied at 45 pounds per acre. In West Virginia, slopes are considered steep when above a 3:1 grade (33%). In Virginia, the definition of a steep slope varies by county:

- Craig County – slopes greater than 20%
- Giles County – slopes greater than 25%
- Montgomery County – slopes greater than 33%
- Roanoke County – slopes greater than 25%
- Franklin County – slopes greater than 25%
- Pittsylvania County – slopes greater than 20%

Table 1. Upland, steep slope herbaceous seed mix and recommended application rates.

Species	Common Name	WV Seeding Rate (lbs/acre)	VA Seeding Rate (lbs/acre)	pH	Bloom Period (if applicable)
<i>Agrostis perennans</i>	Autumn Bentgrass	3.15	3.15	5.5 - 7.5	Midsummer
<i>Elymus virginicus</i>	Virginia Wildrye	9.45	9.05	5.0 - 7.4	June to October
<i>Panicum clandestinum</i>	Deertongue	4.50	4.50	4.0 - 7.5	May to September
<i>Schizachyrium scoparium</i>	Little Bluestem	11.70	11.25	5.0 - 7.4	July to October
<i>Sorghastrum nutans</i>	Indiangrass	13.59	14.40	5.0 - 7.8	August to October
<i>Asclepias syriaca</i>	Common Milkweed	0.23	0.09		June to August
<i>Aster novae-angliae</i>	New England Aster	0.09	n/a	5.1 - 6.8	August to October
<i>Aster pilosus</i>	Heath Aster	0.05	0.05	5.4 - 7.0	After fall frost
<i>Aster prenanthoides</i>	Zigzag Aster	0.09	n/a	5.5 - 7.2	August to October
<i>Chamaecrista fasciculata</i>	Partridge Pea	n/a	0.45	5.5 - 7.5	July to September
<i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis	0.45	0.45	6.0 - 7.0	April to July
<i>Desmodium paniculatum</i>	Panicledleaf Ticktrefoil	0.14	n/a	6.0 - 7.0	July to August
<i>Eupatorium coelestinum</i>	Mistflower	0.05	0.05	5.5 - 7.5	July to August
<i>Helopsis helianthoides</i>	Oxeye Sunflower	0.36	0.45	5.5 - 7.0	July to August
<i>Liatris graminifolia</i>	Grassleaf Blazing Star	n/a	0.09	5.8 - 6.8	August to October
<i>Monarda fistulosa</i>	Wild Bergamot	0.18	0.23	6.0 - 8.0	June to September
<i>Pycnanthemum incanum</i>	Hoary Mountainmint	0.05	0.05	< 6.8	Summer
<i>Rudbeckia hirta</i>	Blackeyed Susan	0.45	0.45	6.0 - 7.0	May to July
<i>Senna hebecarpa</i>	Wild Senna	0.18	0.23		July to August
<i>Solidago juncea</i>	Early Goldenrod	0.09	n/a		June to July
<i>Solidago nemoralis</i>	Gray Goldenrod	0.14	0.05	6.5 - 7.5	August to September
<i>Tradescantia ohioensis</i>	Ohio Spiderwort	0.09	0.05		late April to mid-July
		45.00	45.00		

An herbaceous seed mix containing facultative wetland species will be applied to forested, emergent, and shrub/scrub wetlands where appropriate (Table 2). In forested wetlands, the herbaceous seed mix will be augmented with the planting of bare-root saplings and shrubs at specified distances from the pipeline centerline. See Section 5.3.1 for more details.

An herbaceous seed mixture containing warm season grass and wildflower species well suited to vegetate the banks of water features will be used within a 100-foot riparian buffer at perennial waterbody crossings (Table 3). At forested perennial stream crossings, a woody seed mixture specific to forest type will be applied with the herbaceous seed mix to temporary workspaces (see Section 2.2), and at 55 select perennial crossings planting of bare root seedlings will occur at specified distances from the pipeline centerline (see Section 5.3.1).

Table 2. Wetland herbaceous seed mix and recommended application rates.

Species	Common Name	WV Seeding Rate (lbs/acre)	VA Seeding Rate (lbs/acre)	pH	Bloom Period (if applicable)
<i>Alisma subcordatum</i>	Mud Plantain	0.04	0.04	5.0 - 7.0	Midsummer
<i>Asclepias incarnata</i>	Swamp Milkweed	n/a	0.40		July to August
<i>Aster novae-angliae</i>	New England Aster	0.16	n/a		August to October
<i>Aster prenanthoides</i>	Zigzag Aster	0.14	n/a	5.5 - 7.2	August to October
<i>Aster umbellatus</i>	Flat Topped White Aster	0.10	n/a		August to Late Summer
<i>Carex gynandra</i>	Fringed Sedge	0.10	0.10		May to June
<i>Carex lupulina</i>	Hop Sedge	1.00	1.00	6.2 - 7.0	June to October
<i>Carex lurida</i>	Shallow Sedge	3.00	3.00	4.9 - 6.8	June to July
<i>Carex scoparia</i>	Blunt Broom Sedge	1.00	1.00	4.6 - 6.9	July to August
<i>Carex vulpinoidea</i>	Fox Sedge	7.00	6.90	6.8 - 8.9	June to August
<i>Cinna arundinacea</i>	Wood Reedgrass	0.40	0.40	4.0 - 8.5	August to September
<i>Elymus virginicus</i>	Virginia Wildrye	4.00	4.00	5.0 - 7.4	June to October
<i>Eupatorium coelestinum</i>	Mistflower	0.10	0.10	5.5 - 7.5	July to October
<i>Eupatorium fistulosum</i>	Joe Pye Weed	0.14	0.14	4.5 - 7.0	July to September
<i>Eupatorium perfoliatum</i>	Boneset	0.20	0.20		July to October
<i>Helenium autumnale</i>	Common Sneezeweed	n/a	0.10		July to October
<i>Heliopsis helianthoides</i>	Oxeye Sunflower	0.40	0.40		July to August
<i>Juncus effusus</i>	Soft Rush	0.60	0.60	5.5 - 7.0	May to June
<i>Ludwigia alternifolia</i>	Seedbox	0.10	0.10		August to September
<i>Mimulus ringens</i>	Square Stemmed Monkeyflower	0.10	0.10		June to September
<i>Onoclea sensibilis</i>	Sensitive Fern	0.20	0.20		June to October
<i>Scirpus cyperinus</i>	Woolgrass	0.20	0.20	4.8 - 7.2	July to September
<i>Scirpus polyphyllus</i>	Many-leaved Bulrush	0.20	0.20		July to August
<i>Verbena hastata</i>	Blue Vervain	0.72	0.72		June to October
<i>Vernonia noveboracensis</i>	New York Ironweed	0.10	0.10	4.5 - 8.0	July to September
		20.00	20.00		

Table 3. Riparian herbaceous seed mix and recommended application rates.

Species	Common Name	WV Seeding Rate (lbs/acre)	VA Seeding Rate (lbs/acre)	pH	Bloom Period (if applicable)
<i>Agrostis perennans</i>	Autumn Bentgrass	0.54	0.50	5.5 - 7.5	Midsummer
<i>Andropogon gerardii</i>	Big Bluestem	3.00	3.00	6.0 - 7.5	July to October
<i>Elymus virginicus</i>	Virginia Wildrye	4.00	4.00	5.0 - 7.4	June to October
<i>Juncus effusus</i>	Soft Rush	0.20	0.20	5.5 - 7.0	May to June
<i>Juncus tenuis</i>	Path Rush	0.20	0.20	4.5 - 7.0	May to June
<i>Panicum clandestinum</i>	Deertongue	5.60	5.40	4.0 - 7.5	May to September
<i>Sorghastrum nutans</i>	Indiangrass	3.60	3.60	5.0 - 7.8	August to October
<i>Asclepias incarnata</i>	New England Aster	0.20	n/a	5.0 - 8.0	June to July
<i>Aster novae-angliae</i>	Swamp Milkweed	0.20	0.20		Late Summer
<i>Chamaecrista fasciculata</i>	Partridge Pea	n/a	0.40	5.5 - 7.5	July to September
<i>Eupatorium coelestinum</i>	Mistflower	0.20	0.20	5.5 - 7.5	July to October
<i>Eupatorium fistulosum</i>	Joe Pye Weed	0.14	0.14	4.5 - 7.0	July to September
<i>Eupatorium perfoliatum</i>	Boneset	0.10	0.10		July to October
<i>Geum canadense</i>	White Avens	0.20	0.20	4.5 - 7.5	May to June
<i>Helenium autumnale</i>	Common Sneezeweed	n/a	0.10	4.0 - 7.5	August to September
<i>Heliopsis helianthoides</i>	Oxeye Sunflower	0.40	0.40		July to August
<i>Monarda fistulosa</i>	Wild Bergamot	0.10	0.10	6.0 - 8.0	June to September
<i>Pycnanthemum tenuifolium</i>	Slender Mountainmint	0.06	0.06		July to September
<i>Rudbeckia hirta</i>	Blackeyed Susan	0.60	0.60	6.0 - 7.0	May to October
<i>Senna hebecarpa</i>	Wild Senna	0.08	0.10		July to August
<i>Senna marilandica</i>	Maryland Senna	0.08	n/a	4.0 - 7.0	Summer
<i>Verbena hastata</i>	Blue Vervain	0.40	0.40		June to October
<i>Vernonia noveboracensis</i>	New York Ironweed	0.10	0.10	4.5 - 8.0	July to September
		20.00	20.00		

Portions of the ROW within Braxton, Lewis, Fayette, and Nicholas counties, West Virginia and Giles and Montgomery counties, Virginia not considered as steep slope, riparian, or wetland will receive an herbaceous seed mix designed for native pollinators (Table 4). These select counties crossed by the Project contain either historical or extant records for presence of the federally endangered rusty patch bumblebee (*Bombus affinis*). MVP will voluntarily apply the aforementioned pollinator seed mix in an attempt to provide or enhance available foraging habitat necessary for the rusty patched bumblebee's recovery efforts in West Virginia and Virginia.

Table 4. Upland meadow, pollinator herbaceous seed mix and recommended application rates.

Species	Common Name	WV Seeding Rate (lbs/acre)	VA Seeding Rate (lbs/acre)	pH	Bloom Period (if applicable)
<i>Elymus virginicus</i>	Virginia Wildrye	4.00	4.00	5.0 - 7.4	June to October
<i>Schizachyrium scoparium</i>	Little Bluestem	11.66	11.68	5.0 - 7.4	July to October
<i>Sorghastrum nutans</i>	Indiangrass	1.00	1.00	5.0 - 7.8	August to October
<i>Asclepias syriaca</i>	Common Milkweed	n/a	0.10	June to August	<i>Asclepias syriaca</i>
<i>Asclepias tuberosa</i>	Butterfly Milkweed	0.20	0.10	4.8 - 6.8	June to August
<i>Aster novae-angliae</i>	New England Aster	0.14	n/a	5.1 - 6.8	August to October
<i>Chamaecrista fasciculata</i>	Partridge Pea	n/a	0.60	5.5 - 7.5	July to September
<i>Chamaecrista nictitans</i>	Sensitive Partridge Pea	n/a	0.06		June to October
<i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis	0.40	0.44	6.0 - 7.0	June to August
<i>Echinacea purpurea</i>	Purple Coneflower	0.60	n/a	6.5 - 7.2	Late Summer
<i>Eupatorium coelestinum</i>	Misflower	0.10	0.04	5.5 - 7.5	July to October
<i>Heliopsis helianthoides</i>	Oxeye Sunflower	0.40	0.40	5.5 - 7.0	July to August
<i>Lespedeza virginica</i>	Slender Bushclover	n/a	0.10		July to September
<i>Liatris graminifolia</i>	Grassleaf Blazing Star	n/a	0.10	5.8 - 6.8	August to October
<i>Liatris spicata</i>	Marsh Blazing Star	0.16	n/a	5.6 - 7.5	July to September
<i>Monarda fistulosa</i>	Wild Bergamot	0.12	0.10	6.0 - 8.0	June to September
<i>Parthenium integrifolium</i>	Wild Quinine	0.10	n/a	unknown	Late May to Late August
<i>Penstemon laevigatus</i>	Appalachian Beardtongue	0.20	0.10	unknown	May to June
<i>Pycnanthemum incanum</i>	Hoary Mountainmint	0.04	0.20	< 6.8	Summer
<i>Rudbeckia fulgida var. fulgida</i>	Orange Coneflower	0.04	0.02		July to October
<i>Rudbeckia hirta</i>	Blackeyed Susan	0.60	0.04	6.0 - 7.0	May to July
<i>Senna hebecarpa</i>	Wild Senna	0.10	0.60		July to August
<i>Solidago juncea</i>	Early Goldenrod	0.04	0.10		June to July
<i>Solidago nemoralis</i>	Gray Goldenrod	0.04	0.04	6.5 - 7.5	August to September
<i>Tradescantia ohioensis</i>	Ohio Spiderwort	0.06	0.04		Late April to Mid-July
<i>Tradescantia virginiana</i>	Virginia Spiderwort	n/a	0.10		late April to mid-July
		20.00	20.00		

2.2 Woody Seed Mix

Herbaceous seed mixes will be augmented with an oak-hickory forest woody seed mix to revegetate temporary workspaces and access roads within impacted forested areas. All species proposed within the woody seed mix are native to the Project area and are summarized in Table 5. At minimum, three of the five overstory, four of the seven understory, and two of the four shrub species will comprise the woody seed mix.

Table 5. Oak-hickory forest woody seed mix and recommended application rate.

Layer	Species	Common Name	Seeding Rate (lbs/acre)
Overstory	<i>Fagus grandifolia</i>	American Beech	0.3
	<i>Liriodendron tulipifera</i>	Tulip Poplar	0.3
	<i>Pinus strobus</i>	White Pine	0.3
	<i>Pinus virginiana</i>	Virginia Pine	0.3
	<i>Prunus serotina</i>	Black Cherry	0.3
Understory	<i>Amelanchier canadensis</i>	Canadian Serviceberry	0.3
	<i>Cercis canadensis</i>	Eastern Redbud	0.3
	<i>Cornus florida</i>	Flowering Dogwood	0.3
	<i>Diospyros virginiana</i>	Persimmon	0.3
	<i>Ilex opaca</i>	American Holly	0.3
	<i>Nyssa sylvatica</i>	Black Gum	0.3
	<i>Sassafras albidum</i>	Sassafras	0.3
Shrub	<i>Hamamelis virginiana</i>	Witch Hazel	0.3
	<i>Lindera benzoin</i>	Spicebush	0.3
	<i>Vaccinium angustifolium</i>	Lowbush Blueberry	0.3
	<i>Viburnum acerifolium</i>	Mapleleaf Viburnum	0.3
	<i>Vitis aestivalis</i>	Grape	0.3

2.3 Jefferson National Forest

MVP will follow the USFS’s recommendations for restoration and rehabilitation of the permanent ROW, as defined in the Plan of Development, to reduce impacts to visual resources, in a manner that preserves MVP’s ability to access, monitor, patrol, and inspect the ROW in accordance with PHMSA requirements (49 CFR Part 192). MVP consulted with the USFS regarding appropriate seed mixtures for use within the Jefferson National Forest (JNF). The USFS indicated that the initial goal of seeding on the JNF is to establish vegetative cover to minimize surface erosion and sedimentation, while the secondary goal is to establish an assortment of native species congruent with local ecological communities and benefits for wildlife and pollinators. Species recommended by the USFS (Appendix A) for use in upland, riparian, and steep slope areas are comparable to those species contained in the seed mixes prepared by Ernst Conservation Seeds, Inc. As such, MVP will apply the herbaceous seed mixes described in Section 2.1 in appropriate areas within the JNF. In addition, MVP will add the woody seed mix described in Section 2.2 to herbaceous seed mixes applied within temporary workspaces of the ROW.

As requested by the USFS, all leguminous seeds shall be either pre-inoculated, or mixed with inoculant specified for use on that particular seed according to manufacturer's directions. Inoculants shall be manually applied at double the manufacturer's rate and inoculant shall be mixed with legume seed prior to mixing with other seeds. For hydroseeding, a minimum of five times the dry seeding rate of inoculant will be used.

pipeline and compromising the integrity of the pipeline coating. A mix of shrubs and trees will be planted within the remaining sections of the ROW parallel to the waterbody and extending up to 100 feet, where possible, from the top of either side of the stream bank. Stream banks will be treated with lime and fertilizer, then the bare-root saplings and a riparian herbaceous cover seed will be applied and lightly covered with soil before mulch is added to the area. A sediment barrier will be maintained at the edge of the water until revegetation is successful. Plantings will be completed between October 1 and April 30 of the same year as construction, and no plantings will occur when soils are frozen.

Table 8. Native tree and shrub species for bare root plantings within riparian areas and forested wetlands.

Species	Common Name	Indicator Status	Riparian Planting	Forested Wetland Planting
Native Trees				
<i>Acer rubrum</i>	Red Maple	FAC	X	X
<i>Acer saccharinum</i>	Silver Maple	FACW	X	X
<i>Betula nigra</i>	River Birch	FACW	X	X
<i>Carpinus caroliniana</i>	American Hornbeam	FAC	X	X
<i>Carya glabra</i>	Pignut Hickory	FACU	X	
<i>Carya ovata</i>	Shagbark Hickory	FACU	X	
<i>Chionanthus virginicus</i>	White Fringe Tree	FAC+	X	
<i>Diospyros virginiana</i>	Common Persimmon	FAC-	X	
<i>Fraxinus pennsylvanica</i>	Green Ash	FACW	X	X
<i>Juniperus virginiana</i>	Eastern Red Cedar	FACU	X	X
<i>Liquidambar styraciflua</i>	Sweet Gum	FAC	X	X
<i>Liriodendron tulipifera</i>	Tuliptree	FACU	X	X
<i>Nyssa sylvatica</i>	Black Gum	FAC	X	
<i>Platanus occidentalis</i>	American Sycamore	FACW-	X	X
<i>Populus deltoids</i>	Eastern Cottonwood	FAC	X	
<i>Quercus bicolor</i>	Swamp White Oak	FACW+	X	X
<i>Quercus falcata</i>	Cherrybark Red Oak	FACW	X	X
<i>Quercus phellos</i>	Willow Oak	FAC+	X	X
<i>Quercus nigra</i>	Water Oak	FAC	X	
<i>Quercus palustris</i>	Pin Oak	FACW	X	X
<i>Salix nigra</i>	Black Willow	FACW	X	X
<i>Ulmus americana</i>	American Elm	FACW-	X	X
Native Shrubs				
<i>Alnus serrulata</i>	Brook-side Alder	OBL		X
<i>Amelanchier canadensis</i>	Canada Serviceberry	FAC	X	
<i>Aronia arbutifolia</i>	Red Chokecherry	FACW	X	X
<i>Baccharis halimifolia</i>	Groundsel Bush	FACW-	X	X
<i>Cephalanthus occidentalis</i>	Buttonbush	OBL		X
<i>Cornus amomum</i>	Silky Dogwood	FACW	X	X
<i>Cornus stolonifera</i>	Red-osier Dogwood	FAC	X	X

Species	Common Name	Indicator Status	Riparian Planting	Forested Wetland Planting
<i>Hamamelis virginiana</i>	American Witchhazel	FAC-	X	
<i>Ilex verticillata</i>	Common Winterberry	FACW+	X	X
<i>Itea virginica</i>	Virginia Willow	OBL		X
<i>Iva frutescens</i>	Marsh Elder	FACW+	X	X
<i>Leucothoe racemosa</i>	Fetter-bush	FACW	X	X
<i>Lindera benzoin</i>	Spicebush	FACW-	X	X
<i>Lyonia ligustrina</i>	Maleberry	FACW	X	X
<i>Magnolia virginiana</i>	Sweetbay Magnolia	FACW+	X	X
<i>Physocarpus opulifolius</i>	Eastern Ninebark	FACW-	X	X
<i>Sambucus canadensis</i>	American Elder	FACW-	X	X
<i>Vaccinium corymbosum</i>	Highbush Blueberry	FACW-	X	X
<i>Virburnum dentatum</i>	Arrow-wood	FAC	X	
<i>Viburnum prunifolium</i>	Black-haw	FACU	X	

4.2 Forested Wetlands

Bare-root saplings and shrubs (Table 8) will be planted in combination with an herbaceous wetland seed mix (Table 2) to ultimately restore of the impacted palustrine forested wetlands within the temporary ROW and the non-maintained portion of the permanent ROW to their pre-construction condition. Similarly, native shrubs (Table 8) will be planted in combination with an herbaceous wetland seed mix (Table 2) to revegetate the 50-foot-wide portion of the permanent ROW. The final species mix will depend on nursery stocks, availability, soil condition, and nearby species composition; however, six different tree species and four different shrub species, at minimum, will be planted at each forested wetland.

4.3 Loggerhead Shrike Foraging and Nesting Habitat

The Project is expected to impact a total of 57.04 hectares (140.95 ac) of habitat suitable for nesting and foraging, and 1.45 hectares (3.59 ac) of foraging habitat. Of this, 16.01 hectares (39.56 ac) of nesting and foraging habitat and 0.41 hectare (1.01 ac) of foraging habitat will be permanently impacted. Within the permanently impacted areas and temporarily impacted foraging habitat, a native herbaceous vegetation seed mix or landowner-approved seed mix matching pre-construction conditions will be used for revegetation. For temporarily, disturbed areas that are considered suitable for nesting and foraging, either of the aforementioned seed mixes will be used for revegetation along with planting of native shrubs/trees. As recommended by the VDGIF, native shrubs/trees removed from suitable habitat will be replaced with the same native species (e.g., eastern red cedar [*Juniperus virginiana*] will be replaced with eastern red cedar). Nonnative shrubs/trees that provide suitable nesting substrate and are removed as a result of Project-related activities will be replaced with its native, functional counterpart (e.g., Osage orange [*Maclura pomifera*], which is a nonnative,