Chapter 6 - Treatment Plan

Introduction

- 1 This chapter presents the treatment plan for
- 2 the preservation, repair, and stewardship
- 3 of the archeological landscape of Hopewell
- 4 Culture National Historical Park. An
- 5 evaluation of alternatives by NPS staff was
- 6 conducted during a work session in May
- 7 2015 and the preferred alternative was
- 8 refined through a series of work sessions.
- 9 Alternative 2 was identified as the preferred
- $10\,$ alternative and represents the NPS preferred
- 11 management action.
- 12
- 13 This chapter presents a detailed description
- 14 and implementation of the preferred
- 15 alternative (Alternative 2). The narrative and
- 16 graphics presented in this chapter reflect the
- 17 desired future condition of the archeological
- 18 landscape.
- 19
- 20 The treatment plan emphasizes the
- 21 Hopewell Culture, revealing the grand scale
- 22 and monumentality of the Hopewellian
- 23 constructions, and interpretation of their
- 24 unique lifestyle. The archeological landscape
- 25 will be rehabilitated to depict the story
- 26 of earthwork creation and lifeways of the
- 27 Hopewell people within their geological
- 28 and ecosystem context. The treatment
- 29 plan protects the archeological resources,
- 30 provides a rich visitor experience, and
- 31 fosters continued archeological research
- 32 and investigations. This treatment plan is
- 33 compatible with the GMP and Long-Range
- 34 Interpretive Plan.
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Treatment Approach

- 1 This plan recommends a rehabilitation
- 2 approach for three of the earthwork
- 3 complexes: Mound City Group, Hopewell
- 4 Mound Group, and Seip Earthworks, and
- 5 a preservation approach for Hopeton
- 6 Earthworks and High Bank Works. This
- 7 approach provides for the long-term
- 8 management of the archeological landscape
- 9 and focuses on preserving and protecting
- 10 contributing features while providing a
- 11 holistic visitor experience.

12

- 13 Rehabilitation and preservation are the
- 14 appropriate treatment approaches for the
- 15 Hopewell Culture NHP. The park has a long
- 16 period of significance, has undergone few
- 17 modifications, and has integrity in location,
- 18 setting, materials, workmanship, feeling,
- 19 and associations. A rehabilitation approach
- 20 allows new additions which range from
- 21 visitor orientation to trails, to marking or
- 22 rehabilitation of select archeological features.
- 23 Actions allowed under rehabilitation include
- 24 stabilization, preservation, and repair. The
- 25 visitor experience suffers from the fact that
- 26 most of the mounds and earthworks are very
- 27 difficult to see today because of plowing and
- 28 other surface impacts. Rehabilitation permits
- 29 a variety of treatments that can serve to
- 30 make the primary resources more visible and
- 31 enhance visitor experience.
- 32

33 Although rehabilitation is the overall

- 34 treatment approach, the application of the
- 35 treatment is individualized based on the
- 36 specific characteristics of the earthwork
- 37 complex. At all park units, extant below- and
- 38 above-grade archeological features will be
- 39 preserved.
- 40
- 41 At Mound City Group, previously
- 42 reconstructed mounds will be preserved
- 43 and previously unreconstructed mounds
- 44 and borrow pits have the opportunity to be

- 1 marked and rehabilitated. The treatment of
- 2 Mound City Group maintains this park unit
- 3 as the main visitor orientation area, however
- 4 non-contributing features such as the visitor
- 5 center, and administrative and maintenance
- 6 buildings will be removed from the immediate
- 7 setting. This will focus visitor attention and
- 8 respect towards the earthwork complex.
- 9 Circulation routes will echo the spatial
- 10 organization of the earthwork complex, and
- 11 views to adjacent properties will be screened,
- 12 focusing the experience inward.
- 13
- 14 Preservation at Hopeton Earthworks focuses 15 on the protection of extant resources 16 and allows the park unit to be a focus for 17 archeological research. The desired outcome 18 for the landscape is for the entire earthwork 19 complex and adjacent setting to be protected 20 and preserved. This includes acquisition 21 of adjacent properties that are negatively 22 impacting archeological resources and 23 distract from the setting, and reinterpreting 24 the area as a Hopewell ceremonial site. The 25 park unit will become accessible to visitors, 26 with a new parking area and trails that allow 27 for understanding of the earthworks. 28 29 At Hopewell Mound Group, rehabilitation 30 emphasizes revealing the spatial qualities 31 of the Great Enclosure. Existing large scale 32 intrusions, including utilities, structures, 33 and other non-contributing features that 34 do not reflect the Hopewellian earthwork 35 complex will be removed and/or relocated. 36 Archeological features will be potentially 37 marked to increase visibility and new visitor 38 trails will further emphasize the monumental
- 39 earthwork complex.
- 40
- 41 Rehabilitation at Seip Earthworks includes
 42 preservation of previously reconstructed
 43 archeological features, and allowing
- 44 for marking of features that are not

- 1 currently visible. The full extent of the
- 2 earthwork complex will be preserved,
- 3 which includes property acquisition, and
- 4 removal of the current visitor parking
- 5 area, and non-contributing features that
- 6 have been constructed on top of, or close
- 7 to archeological features. A new visitor
- 8 parking area will be located on an adjacent
- 9 property, with pedestrian routes allowing for
- 10 exploration of the earthwork complex.
- 11
- 12 Preservation is the treatment approach at
- 13 High Bank Works, and focuses on protection
- 14 of the entire earthwork complex. This will
- 15 require acquisition of private inholdings,
- 16 particularly at the Parallel Walls. High Bank
- 17 Works will be a focus for archeological
- 18 research, while also allowing visitor access.
- 19 Pedestrian routes will connect across the
- 20 earthwork complex, and interpretation will
- 21 focus on the construction of the archeological
- 22 features and their astronomical alignments.
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Study Area

- 1 The treatment recommendations for
- 2 the study area guide the preservation
- 3 and rehabilitation of the archeological
- 4 landscape of Hopewell Culture NHP. These
- 5~ recommendations offer guidance for the park
- 6 holistically with measures for preserving
- 7 extant features and qualities, and methods
- 8 for rehabilitating contributing features

9 associated with the study area as a whole. 10

- 11 Treatment recommendations for the
- 12 study area are presented for six landscape
- 13 characteristics: Natural Systems and Features,

14 Spatial Organization/Topography/Views,

- 15 Land Use, Archeological Features, Circulation,
- 16 and Vegetation.
- 17

18 Natural Systems and Features

- 19 Treatment recommendations for natural
- 20 systems and features include preserving
- 21 and protecting the native ecology of rivers,
- 22 streams, plants, and wildlife.
- 23
- 24 1. Preserve extant native vegetation and
- 25 wildlife habitat.
- 26
- 27 2. Protect riparian corridors of the Scioto
- 28 River, Paint Creek, and North Fork Paint
- 29 Creek. Maintain and repair riparian
- 30 vegetation, and mitigate damage from
- 31 erosion, pollution, and invasive species.
- 32
- 33 3. Work with adjacent land owners and local
- 34 and regional partners to protect areas of
- 35 important natural vegetation and views of
- 36 the Appalachian Plateau foothills.
- 37
- 38 4. Integrate and interpret the Scioto River39 valley and natural systems as part of the
- 40 visitor experience.
- 41
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- 43 44

- 1 Spatial Organization/Topography/Views
- 2 Treatment recommendations for the study
- 3 area for the spatial organization focus on
- 4 reestablishing the connection between the
- 5 earthwork complexes to the river and hills
- 6 largely by establishing views between these7 features.
- / 8
- 9 The other focus is for the individual
- 10 earthwork complexes to be perceived as their
- 11 original discrete spaces, separate from visitor
- 12 or administrative and maintenance areas. The
- 13 form, alignment and relationships between
- 14 archeological features of each earthwork
- 15 complex will be reestablished.
- 16
- 17 1. Reestablish spatial connections between
- 18 the earthwork complexes and their
- 19 adjacent waterways by reestablishing
- 20 views and by adding trails.
- 21
- 22 2. Preserve natural topography created by
- river morphology to the greatest extent
- 24 possible. Work with local agencies and
- 25 partners on river management.
- 26
- 27 3. Locate new facilities to not interfere with28 the spatial organization of the earthwork
- 29 complexes.
- 30
- 31 4. Reestablish wooded areas along banks
- 32 of waterways and at the edges of the
- 33 earthwork complexes. Wooded edges
- 34 will serve as a screen for adjacent
- development. Buffer zones are needed
- to protect the setting, and are important
- 37 for establishing and maintaining World
- 38 Heritage Site status.39
- 40 5. Spatially depict each earthwork complex
- 41 to express the original mass, form, and
- 42 scale of the original spaces. Rehabilitate
- 43 the spatial orientation between each
- 44 earthwork complex and the surrounding

- 1 natural landscape to reflect the original
- 2 relationships between earthwork
- 3 complexes to rivers and hills. Work with
- 4 adjacent land owners to protect views
- 5 and provide visual buffers of adjacent
- 6 development.
- 7

8 Land Use

9 Treatment recommendations for land

- 10 use include protection of property where
- 11 earthwork complexes are known to occur,
- 12 and protection of adjacent areas that enrich
- 13 the cultural landscape setting. Partnerships
- 14 and land trusts will be established in

15 order to preserve archeological resources

16 and to protect the earthwork setting by

- 17 establishing buffer zones around the park
- 18 units. When necessary, the park may explore
- 19 the acquisition of land outside of legislated
- 20 boundaries by willing sellers only, following
- 21 congressional action. Adjacent properties to
- 22 preserve through partnerships or acquisition
- 23 include:
- 24
- 25 Hopeton Earthworks. The boundary
- will be expanded to the north and west,
- 27 to the Scioto River. The NPS will work
- 28 with adjacent land owners to protect
- 29 archeological resources and provide
- 30 visual protection for the earthwork
- 31 setting. Additional land or easements will
- 32 be necessary to connect to Mound City
- 33 Group with a bridge across the Scioto
- 34 River.
- 35
- 36 Hopewell Mound Group. The boundary
- 37 on the south at will be extended to North
- 38Fork Paint Creek. The NPS will work with
- 39adjacent land owners to protect these
- 40 lands or purchase the land from willing
- 41 sellers in order to protect significant
- 42 archeological resources and to provide
- 43 visual protection from future residential
- 44 development.
- 45
- 46

- 1 Seip Earthworks. Agreements with
- 2 adjacent land owners will be explored
- 3 to protect the whole of the earthwork
- 4 complex and provide a buffer between
- 5 the cultural landscape and adjacent
- 6 development. Landscape buffers are
- 7 desirable at Paint Creek on the west
- 8 and south sides, and to the east past
- 9 Dill Road to the east of Paint Valley High
- 10 School. From the creek, a northern buffer
- 11 is needed that will follow U.S. Highway
- 12 50 to the edge of the Paint Valley High
- 13 School property. A cooperative agreement
- 14 or easement will be needed to provide
- 15 visitor parking and access to the park unit
- 16 from the high school property.
- 18 At High Bank Works, agreements with
- 19 adjacent land owners will be explored
- in order to protect the entirety of the
- 21 earthwork. The goal is to join the two
- 22 discontiguous properties, in order to
- 23 include the entire earthwork complex
- 24 and to provide access to the Scioto
- 25 River. Potential agreements or property
- 26 acquisition will include land to the west of
- 27 the Large Circle to the edge of the upper
- river embankment; the Parallel Walls;
- and west to the edge of the Scioto River.
- 30 An easement will be necessary to provide
- 31 access across the railroad tracks, and
- 32 to provide access to private land on the
- 33 lower river terrace.
- 34

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35 Archeological Features

- 36 The treatment plan provides for the
- 37 preservation, maintenance, and repair
- 38 of all archeological features. General
- 39 recommendations for the treatment of
- 40 archeological features are presented in
- 41 this section. The individual earthwork
- 42 complex descriptions provide more detailed
- 43 recommendations.
- 44
- 45 A summary of acceptable treatments is
- 46 provided as a matrix "TABLE 6-1. Features

1	Treatme	ent Matrix". The matrix indicates	1		portions of earthwork complexes that
2	the prefe	rred and optional treatment for each	2		remain on private property.
3	archeolog	gical feature, by earthwork complex.	3		
4	"ILLUSTF	RATION 6-1 Implementation Choices"	4	d.	Additional archeological studies are
5	graphical	lly depicts each treatment choice.	5		needed to confirm the accuracy of
6			6		reconstructions.
7	1. <u>Inve</u>	<u>stigations and Research.</u> Further	7		
8	rese	arch will continue to be a focus for	8	0	Additional research, investigations,
9	the s	study area, which has the potential to	9		and surveys are needed to
10	reve	al a vast amount of information about	10		confirm material reconstructions
11	the H	Hopewell.	11		and to better understand the
12			12		construction methodology of the
13	a. /	Additional archeological work is	13		Hopewellian earthwork complexes.
14	r	needed to elucidate the nature	14		Reconstructions of mounds and
15	(of the occupation of the area and	15		earthen walls may not have been built
16	r	reveal information on the life of	16		with materials that match the original
17	e	early peoples and the creation of the	17		materials in the original compositions.
18	e	earthwork complexes.	18		
19			19	e.	Radiocarbon dating, pollen
20	° (Conduct further archeological	20		and phytolith analysis, soil
21	r	research to better understand the	21		micromorphological analysis, etc. may
22	I	Hopewell Culture.	22		reveal historic vegetation patterns.
23			23		
24	°I	More research is needed to reveal	24	f.	Undertake archeological
25	t	the daily lifestyle of the Hopewell	25		investigations for any proposed
26	(Culture including regional settlement	26		improvements that could impact
27	I	patterns, rituals, use of earthwork	27		above- or below-grade archeological
28	(complexes, trade routes, and	28		resources in advance of any work.
29	5	subsistence, etc. Little is known of	29		Integrate archeological investigations
30	e	early American Indian habitation	30		with any and all construction
31	5	sites in relationship to the earthwork	31		activities.
32	(complexes, and modes of circulation	32		
33	((waterways and overland routes)	33	0	Include archeological monitoring
34	ł	oetween earthwork complexes.	34		when undertaking improvements
35			35		(including trail construction) to
36	b. I	Undertake measures to identify	36		identify potential archeological
37	ä	and preserve areas of potential	37		resources.
38	ä	archeological significance.	38		
39	I	Archeological investigation will be an	39	0	Excavation of any type within
40	(on-going process, and the scope of	40		Hopewell Culture NHP will occur
41	ä	archeological work will be expanded.	41		only with consultation with the
42			42		park archeologist and the Midwest
43	C. /	Additional archeological research,	43		Archeological Center.
44	i	nvestigations, and magnetic surveys	44		
45	â	are needed to locate undocumented	45 2 .	Bes	st Practices - Preservation of Features.
46	â	archeological resources, especially for	46	The	e vision for the archeological features

TABLE 6-1.Features Treatment Matrix

	Choice A	Choice B	Choice C	Choice D
Mound City Group				
Previously Reconstructed Mounds (Mounds 1 through 23)	Р	0	N/A	N/A
Mounds X1 & X2; 24 & 25	0	0	Р	N/A
Enclosure (interior space)	Р	0	N/A	N/A
Enclosure Walls	Р	0	N/A	N/A
Borrow pits	Р	0	N/A	N/A
Large Mounds (1, 2, 3, 4, 5, 7, 8, 18)	0	0	N/A	Р
Hopeton Earthworks				
Great Circle	0	Р	N/A	N/A
Square Enclosure	0	Р	N/A	N/A
Parallel Walls	0	Р	N/A	N/A
Circle A	0	Р	N/A	N/A
Circle B	0	Р	N/A	N/A
Circle C	0	Р	N/A	N/A
Mounds (3)	0	Р	N/A	N/A
Borrow pits	0	Р	N/A	N/A
Enclosure Interiors	0	Р	N/A	N/A
Hopewell Mound Group				
Great Enclosure	0	0	Р	N/A
Square Enclosure	0	0	Р	N/A
D-shaped Enclosure	0	0	Р	N/A
Great Circle	0	0	Р	N/A
Mounds (5 verified)	0	0	Р	N/A
Mounds (33 unverified)	0	Р	0	N/A
Ditches	0	Р	0	N/A
Enclosure Interiors	0	Р	N/A	N/A

 $\mathbf{P} = Preferred$

0 = Optional

	Choice A	Choice B	Choice C	Choice D
Seip Earthworks				
Large Circle	0	0	Р	N/A
Seip-Pricer Mound	0	0	N/A	Р
Seip Conjoined Mound*	0	0	N/A	Р
Small Circle	0	0	Р	N/A
Large Square	0	0	Р	N/A
Borrow pits	0	Р	0	N/A
Enclosure Interiors	0	Р	N/A	N/A
High Bank Works	•	•	<u>.</u>	
Great Circle	Р	0	N/A	N/A
Octagon	Р	0	N/A	N/A
Parallel Walls	Р	0	N/A	N/A
South Earthwork	Р	0	N/A	N/A
Borrow pits	Р	0	N/A	N/A
Enclosure Interiors	Р	0	N/A	N/A

P = Preferred

0 = Optional

*Optional: consider rehabilitating the feature if adequate documentation exists and if it assists in protecting resources and improving visitor experience.



ILLUSTRATION 6-1 Implementation Choices

1	is p	reservation of all extant archeological			
2	feat	tures. Using best practices, the			
3	earthwork complexes will be cleared				
4	of any woody vegetation and repaired				
5	as r	necessary. Generally, visitor access			
6	will	I not be allowed on the earthwork			
7	con	nnlexes			
8	0011				
9	а	Preserve all extant below- and above-			
10	u.	grade archeological features Stabilize			
11		and renair archeological features as			
12		needed			
12		liceucu.			
14	о	Repair scars with clean artifact and			
15		wood-froe fill dirt			
16		weed free fin dift.			
17	0	Use a harrier fabric to separate			
18		notential archeological artifacts and			
10		fill			
20		1111.			
20	h	Remove undergrowth and trees			
21	υ.	on archeological features taking			
22		massures to preserve the below- and			
23		above-grade features			
25		above-grade reatures.			
25	0	Cut trees and undergrowth Do not			
20		forcibly remove roots as this might			
27		damage below-grade archeological			
29		features			
30					
31	o	Maintain earthwork complexes free of			
32		trees and shrubs			
33					
34	C.	Protect archeological features from			
35	5.	erosion. Control stormwater runoff			
36		and reduce sediment within horrow			
37		nits			
38		pro			
39	d	Protect archeological features from			
40		animal hurrowing, renairing damage			
41		as necessary			
42		ao necessary.			
43	e	Remove non-contributing features			
44		from the earthwork complexes			
45					
46					
10					

1		f.	Monitor stream banks of the Scioto
2			River, Paint Creek, and the North Fork
3			Paint Creek for erosion that threatens
4			archeological resources, and stabilize
5			as necessary.
6			
7	3.	<u>Reł</u>	abilitation of Archeological Spaces.
8		Reł	abilitate archeological spaces to reveal
9		the	ir mass, form and scale.
10			
11		a.	Discontinue cultivation in the
12			archeological landscape.
13			
14		b.	Use a low growing grass mix (<6
15			to 12 inches in height) across the
16			entire archeological space to create
17			a consistent cover. Maintain this
18			grass mix by mowing several times
19			per season. The aesthetic should be
20			an open space of mown grasses at
21			differing heights, that assists in the
22			visibility of the earthworks.
23			
24		0	Use a taller grass / herbaceous
25			mix at the edges of the earthwork
26			complexes to distinguish these from
27			the surrounding landscape.
28			
29		c.	Preserve areas of archeological

- c. Preserve areas of archeological scatter.
 - Discontinue cultivation in areas of known or potential archeological scatter.
 - ^o Use a grass / herbaceous mix as a consistent groundcover in these areas, mown a few times per year.
- If archeological investigations are imminent, either mow the grass / herbaceous mix more frequently to maintain a lower cover, or plant the area with a low grass mixture and mow more frequently.

1 / .	Ro	habilitation of Archeological Features	1	of the space (typically an earthen
т. 2	In .	some locations, rehabilitation of	1	wall) begin plantings of taller grasses
2	arc	cheological features is recommended	2	and herbaceous species to delineate
5 Д	Th	is may include creating three.	<u></u>	the mass and scale of the earthwork
5	dir	nonsignal depictions using new soil or	т 5	compley
5	un 2.0	abble cover or the use of vegetation	5	complex.
7	aı	obble cover, of the use of vegetation.	7	⁰ Choice B: Use a low growing grass
0	2	Pahabilitation of archaological	0	mix (6, 12 inches height) allowing
0	a.	fostures may only be considered at	0	the grass to grow taller on mounds
9		such time as adequate documentation	9	arthon walls, and horrow nits than in
10		is available to oncure authenticity	10	ear then wans, and borrow pits than in
11		This may include magnetic surveys	11	surrounding archeological areas.
12		an other nen invesive methods to	12 12 Eau	rth on Marlinga
13		of other non-invasive methods to	13 Eur	habilitate analogical features that are
14		accurately locate leatures, and/or	14 Kei	hadilitate archeological leatures that are
15		archeological excavations to verify	15 not	t visible above-grade by creating a new
16		dimensions, materials, etc.	16 ear	then feature.
1/	հ	Detential markings or vehabilitation	1/	⁹ Use aloon artifact and wood free fill
18	D.	Potential markings or renabilitation	18	dist assessed by a basis of the fill
19		techniques must be further	19	dirt, separated by a barrier labric to
20		researched to fully understand	20	distinguish new material from old.
21		potential impacts on below-grade	21	
22		archeological features.	22	Base the form, height and mass of the
23			23	renabilitation on current scholarship.
24	с.	The marking / rehabilitation	24	
25		illustrated and described herein	25	^o Plant new archeological features with
26		shows the maximum extent of	26	a grass species to match adjacent
27		change considered appropriate.	27	features.
28		The implementation of these	28	
29		recommendations may be applied in a	29 Col	bble Markings/ Cobble Cover
30		gradual approach that may or may not	30 Rel	habilitate select mounds with a stone
31		result in application of the full extent	31 cot	bble cover, as existed during the period of
32		of the recommendations.	32 sig	nificance.
33	,		33	
34	d.	With adequate documentation,	34	^o Cover visible mounds with a new
35		rehabilitate archeological	35	cobble layer (< 12-inches), to indicate
36		features using these techniques	36	the edges and three-dimensional form
37		(ILLUSTRATION 6-1).	37	of the mound.
38			38	
39 Ve	geta	tion	39	
40 Us	e ve	getation to depict, mass, scale, and	40	
41 for	m o	f features.	41	
42			42	
43	0	Choice A: Use a grass mix for	43	
44		the archeological features and	44	
45		archeological spaces maintained at a	45	
46		low height (< 6 inches). At the edge	46	

1	Cire	cula	tion			
2	Treatment recommendations for the study					
3	area circulation emphasize improved					
4	connections and wayfinding between the					
5	park units, and encouraging alternative					
6	tra	nspo	ortation.			
7						
8	1.	Veł	<u>nicular Circulation.</u> The vehicular			
9		ciro	culation system within the study area			
10		wil	l remain similar to the existing system.			
11		Мо	difications will include relocation			
12		ofv	visitor and administration and			
13		ma	intenance facilities, requiring vehicular			
14		ciro	culation to be relocated as well.			
15						
16	2.	Pec	<u>lestrian Circulation.</u> Pedestrian			
17		con	nnections are needed to link the			
18		ear	thwork complexes and to interpret			
19		ove	erland and waterway routes that may			
20		hav	ve been used by the Hopewell people.			
21						
22		a.	An interconnected water route will			
23			be created to connect the park units,			
24			and an enhanced trail network will			
25			provide better pedestrian and bicycle			
26			access (overland routes). ⁶⁻¹			
27						
28		b.	Re-connect the earthwork complexes			
29			to the rivers and streams by			
30			creating an interconnected water			
31			route between all park units. This			
32			will include making river courses			
33			accessible by canoe and kayak access			
34			at select locations.			
35						
36		C.	Work with Ross County Park District			
37			and partners in their efforts to			
38			establish a greenway trail system			
39			that links the earthwork complexes.			
40			This could tie into the Tri-County			
41			Trail System. NPS will add trail			
42			connections, bicycle racks, and			
43			directional signs.			
44						
45						
46	6-1	NPS	, Hopewell NHP General Management Plan, 24.			



Figure 3-1. Example of a Cobble Marking, at Fort Ancient Archeological Park, Ohio.

1	d.	Work with Ross County Park District
2		in their efforts to establish bike paths
3		along roads and along abandoned
4		railways. ⁶⁻²
5		
6	e.	Work with partners to connect Mound
7		City Group and Hopewell Mound
8		Group with a bike path along state
9		road 104 to the Tri-County Triangle
10		Trail, or a route through the Veterans
11		Affairs medical Center and Pleasant
12		Valley Wildlife Area to the Tri-County
13		Triangle Trail. ⁶⁻³
14		
15	f.	Coordinate with Ross County Park
16		District, City of Chillicothe, and Ohio
17		Department of Natural Resources to
18		locate, design, and construct canoe
19		launches and access trails at each
20		earthwork complex. ⁶⁻⁴
21		
22	g.	Work with the Chillicothe Transit
23		Company to establish a scheduled
24		bus route system to each earthwork
25		complex. ⁶⁻⁵
26		
27		
28		
29 6-2	NPS	, Hopewell NHP General Management Plan, 26.

 <sup>30
 6-3</sup> NPS, Hopewell NHP General Management Plan, 26.
 31
 6-5 NPS, Hopewell NHP General Management Plan, 26.
 31
 6-5 NPS, Hopewell NHP General Management Plan, 26.

	_				
1	h.	Within each earthwork complex, the	1		resources or archeological research
2		pedestrian circulation system will be	2		including geophysical surveys would
3		improved by adding routes that allow	3		not be negatively impacted.
4		for understanding of the earthworks.	4		
5		-	5	e.	Vegetation within the earthwork
6 Ve	aeta	ation	6		complexes will be low (3" to 12")
7 Tr	eatn	pent recommendations for the study	7		and periodically mown. Tall grasses
8 ar	ea ai	re to manage vegetation to preserve	8		(greater than 12") create habitat for
9 th	e e 21	thwork complexes to distinguish	9		destructive hurrowing animals such
10 vi	c cui	administration and maintenance	10		as groundhogs and make it difficult to
10 VI	oiliti	a from the earthwork complexes	10		as groundings, and make it united to
11 Id		rotain and manage native vegetation	11		the process of destructive hurrowing
		retain and manage native vegetation	12		the presence of destructive burrowing
13 al	ong v	waterways and in areas outside	13		animals.
14 ar	cheo	logically sensitive areas.	14	_	
15			15	0	In areas inside the earthwork
16 1 .	Veg	getation types and management	16		complex where frequent mowing
17	tec	hniques will be used to preserve the	17		will take place, there is little point in
18	arc	cheological landscape, assist in framing	18		seeding plant species with wildlife
19	vie	ws, and to screen adjacent land uses.	19		benefit. Here the best choice should
20			20		center on sustainability, drought
21	a.	Discontinue agricultural cultivation	21		tolerance (especially considering the
22		within archeological landscapes. This	22		expectation of summers getting hotter
23		practice has degraded archeological	23		and drier) and durability to foot traffic
24		features over time leaving many	24		and mowing equipment Consider
25		features indiscernible	25		a low-maintenance turf mix that is
25		leatures museermore.	25		naturally short and slow-growing and
20	h	Domovo doad and dving troop within	20		requires less frequent moving such
27	υ.	the englogured Dignt new trees for	27		requires less-inequent mowing, such
28		the enclosures. Plant new trees for	28		as a mix that contains several cultivars
29		visitor snade only after archaeological	29		of fescue. ⁵⁵
30		research is completed to demonstrate	30		
31		these will not adversely impact	31	f.	Avoid tall grasses and shrubs within
32		archaeological resources. New	32		the earthworks, which limit access
33		plantings should be minimal so they	33		for archeological research, especially
34		do not interfere with the spatial	34		the new generation of large-scale
35		organization of the earthwork	35		geophysical survey instruments,
36		complex.	36		which require low, mown vegetation
37			37		for data collection.
38	c.	Test and evaluate machinery used	38		
39		for landscape management to ensure	39	g.	Remove heavy brush and woody
40		maintenance practices will not impact	40	0	vegetation from archeological
41		archeological features	41		features, as this may be damaging
42			42		resources
43	Ь	Burning would be allowed as a	42		1000 al 000.
т.J Д.Л.	u.	vegetation management tool after	т.J.		
77 15		sufficient research is completed	тт 45 —		
40		sumerent research is completed	⁴⁰ 6-6	Pers	sonal communication, Dafna Reiner, Hopewell Culture
46		to demonstrate that archeological	46	NHI	P Biologist: 5/23/2015.

1	h.	Some large trees may be retained	1	3.	Manage the woodland vegetation
2		or planted for visitor shade within	2		surrounding the earthwork complex.
3		the earthwork area after sufficient	3		Maintain a healthy tree cover, free of
4		archaeological research is completed	4		invasive, exotic species.
5		to demonstrate these will not	5		
6		adversely impact archaeological	6	4.	Manage the vegetation associated with
7		resources.	7		the waterways to preserve the native
8			8		riparian vegetation along the river
9	i.	Remove vegetation for safety reasons,	9		terraces.
10		such as hazardous trees, and to	10		
11		eradicate invasive exotic species, in	11	Sm	all Scale Features
12		a manner that protects archeological	12	Sm	all scale features will play a minor role
13		resources.	13	an	d will not distract from the archeological
14			14	lar	idscape.
15	j.	Add vegetation to assist in	15		
16		distinguishing archeological features	16	1.	Further investigation is needed to
17		from non-features. Use vegetation	17		evaluate into the significance of some
18		to reveal mounds, walls, and borrow	18		small scale features.
19		pits.	19		
20			20		a. Those that are found to be non-
21	k.	Maintain a distinct vegetation type	21		contributing and do not serve an
22		on archeological features that is	22		active role in interpretation of the
23		different from that used in visitor and	23		earthwork complex will be removed.
24		administrative areas.	24		
25			25	2.	Any new small scale features will be
26 2 .	Ма	intain a mix of native herbaceous	26		minimal and unobtrusive.
27	spe	ecies, mown 1 to 2 times per year,	27		
28	in a	areas outside and adjacent to the	28		a. Design and situate new small scale
29	ear	rthwork complex.	29		features such as signs and interpretive
30			30		panels, to be low-profile and
31	0	Refer to six seed mixes that are	31		unobtrusive.
32		researched, documented, and	32		
33		proven. ⁶⁻⁷ Choose management	33	3.	Improve interpretation of the earthwork
34		techniques that will favor native	34		complex and cosmology.
35		biodiversity.	35		
36	_		36	4.	Use alternative media to provide visitors
37	0	Choose management techniques that	37		with access to large amounts of research
38		will favor native biodiversity."	38		and documentation of archeological
39			39		features—keyed to specific locations— to
40			40		enhance visitors' understanding of the
41	Dar	anal communication Dafna Dair or Use swell Culture	41		authenticity of the earthwork complexes.
42 6-7	rers NHF	P Biologist; 5/23/2015. See, Stubbendiek. James and	42		
43	Che	ryl D. Dunn. Hopewell Culture National Historical	43		a. Explore ways to enhance
44	Park	k: Review of the Literature on the Influence of Roots	44		interpretation, including electronic
45	Reco	ommendations. (Lincoln: University of Nebraska,	45		(possibly interactive) representations
46	201	1).	46		of what the earthwork complexes may
			47		have looked like.

Best Management Practices

1	The following is a list of best management 1 the groun						
2	pra	ictic	es and methodologies for the care of	2	grade featu		
3	the	cul	tural landscape. The best management	3	archeologi		
4	pra	ctic	es are derived from current practices	4	utility pole		
5	for	ear	thworks preservation from the U.S. and	5	on archeol		
6	abr	oad	l, and provide a context for decision	6			
7	ma	king	g.	76.	Exterminat		
8				8	adjacent to		
9	Ge	nera	al	9	block up bı		
10	1.	Мо	nitoring archeological sites for	10			
11		dai	mage and condition is essential	11 7 .	For erosior		
12		site	e management. Maintain a periodic	12	boarding o		
13		ass	sessment of specific management issues	13	establishin		
14		and	d the general state and conditions of	14			
15		the	e archeological site.	15			
16				16 R e	epair and Rec		
17		a.	Monitoring methods include visual	17 1 .	The Wiscon		
18			assessment; qualitative scoring (good,	18	Resources		
19			fair, poor condition); fixed position	19	for mound		
20			photography (annual, bi-annual)	20	Before pro		
21		,		21	extensive c		
22		b.	Inspect mounds periodically for signs	22	recommen		
23			of erosion, illegal tampering, or other	23	following s		
24			damage.	24	- Decend		
25	n	D	to at a south second of foreign and sign have	25	a. Record		
26	Ζ.	Pr(otect earthworks from erosion by	26	damage		
27		pre	eventing erosion scars. As soon as	27	h D		
28		erc	osion develops, any scars need to be	28	D. Remov		
29		ure	essed with son and re-seeded.	29	area;		
3U 21	2	En	auro positivo drainago avau from	30 21			
22	э.	EII	shoological resources. The land	22	c. Lay get		
34 22		dra	hinago system should provent surface	32 22	Surface		
21		wa	terlogging and the silting up of	24	d Use ha		
25		foo	tures Standing water can damage	35	free soi		
36		fea	tures below-grade	36	the fab		
37		ica	tures below grade.	37	Compa		
38	4	An	v new utilities should be located away	38	the con		
30	1.	fro	m the archeological sites Irrigation	39	wall		
40		lin	es should not be installed within any	40 -			
41		arc	haeological site.	41 6-8	B Hadrian's Wall		
42				42 6-9	Wisconsin Depar		
43	5.	Sig	ns, barriers, fences, etc. should be	43	Wisconsin Dep		
44		mo	vable (i.e., should not extend into	44	Invasive Vegeta		
				45	Aztaian State P National Monu		

ires). Place fences way from cal sites. Fence posts, signs, s, etc should not be placed in or ogical features. te wildlife burrowing into, or , know archaeological features; urrow entrances. n control, revet with sandbags, r geotextile fabric while regroundcover.⁶⁻⁸ construction nsin Department of Natural recommends the following site repairs and restoration.⁶⁻⁹ ceeding, restoration requires consultation. A general ded procedure includes the steps: the nature and extent of e and current mound condition; e leaf litter from the damaged otextile fabric on the ground in the area of damage; nd tools to place new artifactil from an off-site location on ric to replace missing soil. ct new soil by hand to match tour of the existing mound or World Heritage Site, UK

which would disturb below-

rtment of Natural Resources, "Burials,

d Mounds Preservation Policy and Plan;"

artment of Natural Resources, "Woody

ation Removal and Site Restoration," Park, August 7, 2013; and Effigy Mounds

National Monument Cultural Landscape Report.

1	e.	Soil should be obtained from an area				
2		well away from the mounds or other				
3		archeological site;				
4						
5	f.	Do not apply chalk or lime to the				
6		ground surface to outline mounds				
7		or mound damage. Do not place				
8		contemporary objects within new soil.				
9		1 5 7				
10 2.	Rei	pair of earthworks due to animal				
11	dar	mage, per UK recommendations. ⁶⁻¹⁰				
12						
13	а	Block animal hurrows with turf earth				
14	u.	sand or gravel				
15		Sand, or graver,				
15	h	Remove animal hurrows by raking or				
10	υ.	harrowing then reactablish vegetative				
10						
10		cover.				
19 20 2	۸ft	an nomercal of a tree from an				
20 3 .	AIL	er removal of a tree from an				
21	archeological leature, flush cut or					
22	mechanically grind the remaining portion					
23	of the trunk and stump to grade. As					
24	needed, regrade the area with soil that					
25	matches the parent soil as closely as					
26	possible in texture and composition. Use					
27	a n	nanual tamper to gently compact the				
28	soil in the hole. Apply desired seed mix,					
29	a ta	ackifier, fiber-mulch and, if needed				
30	a n	atural organic fertilizer, to enhance				
31	pos	st germination growth. Use a fertilizer				
32	wit	th a low salt index to minimize adverse				
33	effe	ects on archeological resources. In				
34	are	as subject to erosion, lay an erosion				
35	control blanket, made of natural materials					
36	SO 1	that it will decompose, over the				
37	dis	turbed site. Tack the material in place				
38	to j	prevent it from being shifted. ⁶⁻¹¹				
39						
40 4 .	If t	here has been damage due to falling				
41	lim	bs, or other occurrences that have				
42						

1		created holes or depressions in the
2		earthwork, cover the impact depression
3		on the earthwork with a 2" layer of
4		sand. The sand will serve as a tracer
5		laver, similar to that used adjacent to
6		underground utilities, to inform future
7		excavations that there was ground
8		disturbance at that depth. Fill the
9		remaining portion of the depression with
10		soil that matches the parent soil as closely
11		as possible in texture and composition
12		(texture, % sand/silt/clay, % organic
13		matter. fertility. etc.). Use a manual
14		tamper to gently compact the soil into the
15		depression. ⁶⁻¹²
16		r - r
17	Circ	ulation
18	1.	Vehicles should not be driven onto
19		mounds or burial sites. Walking on
20		mounds should be avoided, and trails.
21		roads, and paths should clearly visible
22		and situated to avoid mound or burial
23		sites.
24		
25	2.	Create a single permanent route, rather
26		than many routes. ⁶⁻¹³ Conversely, utilize
27		movable interpretation panels that allow
28		routes to alter in order to reduce wear
29		and erosion. ⁶⁻¹⁴
30		
31	3.	Do not drive vehicles across archeological
32		sites in wet weather.
33		
34	4.	Minimize walking on all earthworks, as a
35		preservation issue as well as respect for
36		the builders and the Hopewell people. ⁶⁻¹⁵
37		
38		
39	6-12	NPS, How to Preserve Earthworks, Case Studies for
40		Emergency Stabilization: http://www.nps.gov/tps/how-
41	6-12	to-preserve/currents/earthworks/case_studies.htm
42	5 15	Sites in Grassland, English Heritage, UK: 2004

 ^{43 6-10} Hadrian's Wall World Heritage Site, UK
 44 6-11 NPS, How to Preserve Earthworks, Case Studies for Emergency Stabilization: http://www.nps.gov/tps/how-to-preserve/currents/earthworks/case_studies.htm

 ⁴² Sites in Grassland, English Heritage, UK: 2004
 43 6-14 Hadrian's Wall World Heritage Site, UK
 6-15 Ohio Historical Society recommendations, Newark

⁴⁴ Earthworks State Memorial

1 5. At Wisconsin State Parks (numerous	1 vegetation, which potentially threaten
2 effigy and burial mounds including	2 earthworks, should be avoided. ⁶⁻¹⁸
3 Aztalan State Park), trails are located	3
4 a minimum of 5' from the base of the	4 2. Establishing grassland. It is desirable to
5 mound or mound group. A trail does	5 select a cover seed mix in which natives
6 not need to be built to provide access	6 dominate. Refer to six seed mixes that are
7 to every mound in a group. Wood chips,	7 researched, documented, and proven. ⁶⁻¹⁹
8 shredded bark, or mowing are used for	8
9 trail maintenance.	9 a. When re-seeding grassland, use
10	10 minimal cultivation techniques, such
11 Vegetation	11 as hydroseeding, slit seeding, direct
12 Establishing vegetation / Seed mixes.	12 drilling, sodding, and hand-seeding. ⁶⁻²⁰
13 Choose management techniques that will	13
14 favor native biodiversity. Newly acquired	14 b. In areas inside the earthwork
15 agricultural fields should be planted in tall	15 complex where frequent mowing
16 native grassland vegetation, favoring high	16 will take place, there is little point in
17 biodiversity mixes where appropriate in	17 seeding plant species with wildlife
18 light of considerations including long-term	18 benefit. Here the best choice should
19 maintenance and weed pressure. Mounds and	19 center on sustainability, drought
20 earthworks at other archeological sites in the	20 tolerance (especially considering the
21 U.S. are typically planted with a combination	21 expectation of summers getting hotter
22 of natural and planted grasses, which are	22 and drier) and durability to foot traffic
23 mown periodically or burned. ⁶⁻¹⁶	and mowing equipment. Consider
24	a low-maintenance turf mix that is
25 1. There are three maintenance regimes	25 naturally short and slow-growing and
that can be followed. Mowing is by far the	26 requires less-frequent mowing, such
27 most popular, with prescribed burning	as a mix that contains several cultivars
28 being an option where native grasses	28 of fescue. ⁶⁻²¹
29 are dominant and the surrounding	29
30 community allows it, or grazing, which	30 c. Consult a native plant specialist to
31 has been successfully used in Europe but	31 determine an appropriate seed mix
32 has not been a technique adopted in the	32 for the area and the unique cultural
33 United States. ⁶⁻¹⁷	33 requirements of the selected mix,
34	34 including soil pH, sowing season,
35 a. The most popular management	35 appropriate application technique,
36 strategy for interpreted earthworks	36
37 is a grass or herbaceous cover	37 6-18 Shaun Eyring and Lucy Lawliss editors, Sustainable Military Farthworks Management, NPS Currents, 1998.
38 that is free of woody species. Well-	38 http://www.nps.gov/tps/how-to-preserve/currents/
39 protected earthworks found with this	39 earthworks/assess.htm
40 cover exhibit a healthy, continuous	40 6-19 Personal communication, Datna Reiner, Hopewell Culture NHP Biologist: 5/23/2015, See Stubbendiek James and
41 carpet of grasses and herbaceous	41 Cheryl D. Dunn. <i>Hopewell Culture National Historical</i>
42 plants. Bare spots, gouges from	42 Park: Review of the Literature on the Influence of Roots
43 careless maintenance practices,	43 <i>Recommendations.</i> (Lincoln: University of Nebraska.
44 animal burrows, and invasive exotic	44 2011).
45	45 6-20 Farming the Historic Landscape, Caring for Archaeological

⁴⁶ 6-16 Wisconsin State Parks; Poverty Point, Louisiana; Etowah, Georgia; Cahokia, Illinois

47

Sites in Grassland, English Heritage, UK: 2004 46 6-21 Personal communication, Dafna Reiner, Hopewell Culture

NHP Biologist; 5/23/2015.

⁶⁻¹⁷ NPS, Sustainable Military Earthworks Management: www. nps.gov/tps/how-to-preserve/currents/earthworks/ imp_manage.htm

1	and germination period. Use a higher
2	diversity mix where appropriate.
3	Allow for seed mixes to vary, as
4	scholarship evolves.
5	147 1.
63.	weeds.
/	a The desired shareston of the
8	a. The desired character of the
9	anasaland as nessible. The park should
10	grassianu as possible. The park should
11	identified by the US Department of
12	Agriculture and the Obio Department
13	of Agriculture 6-22 Some eventic species
14	are acceptable maintained at loss
15	than 25 % of cover
17	
17	h Establishing a weed-free seedhed at
10	the initial planting is critical to long-
20	term weed control More general
21	use of herbicides may be justified at
22	nlanting and in the first few years to
23	reduce herbicide use over the long
2.4	term.
25	
26	c. Control weeds by topping or targeted
27	use of selected herbicides. Apply
28	herbicides selectively with spot
29	treatments, spraving specific small
30	problem areas, or applying herbicide
31	to individual plants with a wick
32	applicator.
33	
34 4 .	Mowing.
35	-
36	a. Mowing dates have a pronounced
37	effect on the growth of different
38	grasses and affect bird nesting
39	habitat. Mow both cool-season and
40	warm-season grasses in late winter
41	or early spring. Mowing at this time
42	
43 6-2	2 United States Department of Agriculture, "Federal
44	Noxious Weeds," (USDA: Natural Resources Conservation
45	Service, 2012); and United States Department of

lays down organic mulch in the 1 form of grass clippings, which helps 2 3 in erosion control. Do not mow 4 sites after early to mid-July that are covered predominantly by native 5 6 warm-season grasses or where native 7 grasses are being encouraged. This 8 permits full development of the leaves and flowering stalks followed by seed 9 maturation, which typically occurs in 10 October. 11 12 b. In general, when native grasses are 13 the desired dominant species on 14 earthworks, allow the grass to grow 15 at least ten to twelve inches between 16 mowing and set the minimum mower 17 height at six inches.⁶⁻²³ 18 19 c. When earthworks are mown, care 20 should be taken to avoid damage by 21 raising the blade of the mower. Avoid 22 23 mowing while soil is wet, and use a hand mower or low impact tires if 24 possible.6-24 25 26 27 d. Test and evaluate machinery used for landscape management to ensure 28 29 maintenance practices will not impact archeological features. 30 31 e. Vegetation outside of the earthworks 32 33 should be mown once to three times per year after November 1st, 34 determined by the degree of weeds 35 and woody vegetation. Mow only 36 one third to one half every year 37 thereafter, depending on invasion 38 39 level of woody species. Define areas to be mowed each cycle based on the 40 spatial organization/topography/ 41 42

⁶⁻²³ Shaun Eyring and Lucy Lawliss editors, Sustainable

⁴³ Military Earthworks Management; NPS Currents, 1998; 44 http://www.nps.gov/tps/how-to-preserve/currents/

Agriculture, "Ohio State-listed Noxious Weeds," (USDA:

⁴⁶ Natural Resources Conservation Service, 2003).

⁴⁵ earthworks/assess.htm 6-24 Management Recommendations for Burial Sites, Iowa

⁴⁶ Office of the State Archaeologist

1		views of the cultural landscape, with a	1		and treating with herbicide to prevent
2		view toward preserving archeological	2		re-growth. Cut material should be
3		features and enhancing visitor	3		disposed of well away from the
4		experience.	4		archeological site.
5			5		
6	f.	Burning would be allowed as a	6	с.	Remove brush from the mounds
7		vegetation management tool after	7		annually and haul away from the
8		sufficient research is completed	8		mound area by hand.
9		to demonstrate that archeological	9		
10		resources or archeological research	10	d.	Where vegetation is to be thinned
11		including geophysical surveys would	11		for creating or maintaining views,
12		not be negatively impacted.	12		minimize cutting to create narrow
13			13		views through the forest, capturing a
14	a.	Ideal prescribed burning occurs	14		glimpse of the view through trunks of
15		in March before most bird nesting	15		the largest trees.
16		activity and before peak activity	16		
17		of herpetofauna, however, some	17	e.	Trees threaten resources due to
18		mortality is possible. Early Spring	18		damage by roots, and wind thrown
19		burning can also adversely affect	19		trees can uproot archeological
20		insect populations by destroying	20		features.
21		over-wintering eggs, larvae and	21		
22		pupae of insects. This intensity of this	22	0	Many earthwork sites have removed
23		adverse effect is reduced by allowing	23		trees from mounds, within the walls
24		significant adjacent patches of native	24		of earthen enclosures, as well as the
25		grassland to remain unburned.	25		area immediately adjacent (within
26			26		15 feet) of mounds and earthwork
27 5 .	Re	moval of vegetation. Remove vegetation	27		walls. (examples include Newark
28	for	safety reasons, such as hazardous	28		Earthworks, Ohio; Poverty Point
29	tre	es, and to eradicate invasive exotic	29		World Heritage Site, Louisiana; Angel
30	spe	ecies, in a manner that protects	30		Mounds State Historic Site, Indiana;
31	arc	cheological resources. Remove heavy	31		Toltec Mounds, Arkansas)
32	brı	ush and woody vegetation from	32		
33	arc	cheological features, as this may be	33	0	Recommend only removing trees if
34	da	maging resources. Avoid tall grasses	34		they pose an imminent threat to the
35	an	d shrubs within the earthworks, which	35		earthworks or if there is an over-
36	lim	nit access for archeological research,	36		riding need to remove the tree for an
37	esp	pecially the new generation of large-	37		interpretation, preservation, or access
38	SCa	ale geophysical survey instruments,	38		reason. ⁶⁻²⁵
39	wh	nich require low, mown vegetation for	39		
40	dat	ta collection.	40	0	Trees and brush should be removed
41			41		from within 8' of a mound or earthen
42	a.	Removal of woody vegetation and	42		wall. Tree cutting is to be done when
43		extensive clearance should be phased.	43		the ground is frozen to reduce damage
44			44		
45	b.	Removal of vegetation should include	45 6-	25 Ohio	o Historical Society recommendations, Newark
46		cutting stumps close to ground level	46	Eart	hworks State Memorial

1	to archeological features. Remove
2	trees from mound by cutting by hand
3	down to 6" below ground level and
4	filling the resulting cavity with clean
5	soil, followed by reseeding. This
6	method requires periodic soil filling
7	as the tree decomposes. Alternately,
8	trees may be cut to the ground level
9	and left to decompose naturally. ⁶⁻²⁶
10	
11	Restrict the need for irrigation to small areas
12	or rare occasions such as extreme droughts or
13	plant establishment periods. ⁶⁻²⁷
14	
15	
16	
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44	6-26 Management Recommendations for Burial Sites, Iowa
4 5	Unice of the State Archaeologist

⁴⁵Office of the State Archaeologist6-27 NPS, Georgia Trust for Historic Preservation. Guide to46Sustainable Earthworks Management, 90% Draft, 1998

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Mound City Group

 The treatment plan for Mound City Group emphasizes the interpretation of Hopewell ceremonialism. The archeological landscape will be rehabilitated to focus visitor experience on the creation and use of the mounds. This will be accomplished through preservation of the reconstructed mounds and earthen walls, delineation of previously unreconstructed mounds, improvements in circulation routes, removal of damaging vegetation, and separation between the 	 The treatment plan for Mound City Group illustrates the desired landscape condition (ILLUSTRATION 6-3). 5 Spatial Organization/Topography/Views The vision for the spatial organization at Mound City Group is for the forms and patterns of the archeological landscape to be visible and viewed without contemporary intrusions.
 12 visitor orientation area and the ceremonial 13 landscape. In accordance with the GMP, 14 Mound City Group will be the mostly highly 15 developed, and will function as a central point 16 for park orientation and interpretation.⁶⁻²⁸ 17 	 The spatial organization will be strengthened by removal of non- contributing features; removal of vegetation that obscures the earthwork complex and archeological features; marking / rehabilitation of non-extant
18 Rehabilitation is the treatment approach 19 for Mound City Group. This approach allows 20 for repair, alterations, and additions while 21 preserving those features which convey its 22 historic and cultural significance.	 above-grade mounds and borrow pits; and rerouting pedestrian circulation routes to define the spatial qualities of the earthwork complex.
 23 24 Treatment goals for Mound City Group 25 include the following: 26 27 • Preserve extant above-grade archeological 28 features. 	 23 a. Complete the spatial depiction of 24 the three-dimensional form of the 25 earthwork complex and surroundings 26 by marking nonvisible archeological 27 features. 28
 29 30 • Spatially depict the three-dimensional arthwork complex. 	 29 b. Remove hazardous trees and woody 30 vegetation that impact or may impact 31 intact archeological resources. 32
 Relocate visitor facilities (building, roads, parking, etc.) away from the earthwork complex. Reveal the relationship to the Scioto River and Hopeton Earthworks. Remove non-contributing features that 	 c. Remove non-contributing features from the immediate surroundings of the earthwork complex, including the visitor center, park administration, maintenance, parking, roads, utilities, etc. Relocate these facilities either off- site or to less intrusive areas on-site, away from the earthwork complex.
 41 impact the archeological landscape. 42 43 • Provide an authentic visitor experience. 44 6-28 GMP 30. 	 41 42 d. Maintain a consistent vegetation 43 type on the archeological features 44 to distinguish them from visitor and

1		administrative areas, and adjacent	1		magnetometry or other non-invasive
2		woodlands.	2		archeological techniques.
3			3		
<u>л</u>	ρ	Maintain the enclosed space of the	4	h	Fyaluate features that may be
т г	ι.	anthuarly complex by proceeding the	T	υ.	significant in their own right but that
5		earthwork complex by preserving the	5		significant in their own right, but that
6		woodland vegetation surrounding the	6		are non-contributing features to the
7		enclosure wall. The wooded edges	7		archeological landscape, including
8		will also serve as a screen for adjacent	8		Camp Sherman remnants.
9		development.	9		
10			10 2 .	Be	st Practices - Preservation of Features.
11	f.	Add trees and vegetation between the	11	Pre	eserve all extant below- and above-
12		earthwork complex and the adjacent	12	gra	ade archeological features. Stabilize and
13		properties to the west and south to	13	rer	hair features as necessary following
14		screen the earthwork complex from	11	ho	st practices
15		those uses. Puffer zones are needed to	15	DC.	st practices.
15		these uses. Duffel Zoffes are frequento	15	-	Due source all enteret helesse and shares
16		protect the setting, and are important	16	a.	Preserve all extant below- and above-
17		for establishing and maintaining	17		grade archeological features.
18		World Heritage Site status. Work	18		
19		with adjacent land owners to	19	b.	Preserve and maintain existing
20		provide visual buffers of adjacent	20		reconstructed mounds and the
21		development.	21		earthen walls as contributing features.
22			22		
23	g.	Create and maintain a view between	23	c.	Stabilize and repair archeological
24	-	the overlook and the river, by thinning	24		features as needed, following best
25		vegetation along a small portion of the	25		practices.
26		riverbank.	26		r · · · · · ·
2.7			2.7	d.	Do not allow visitor access on top of
28	h	Thin vegetation to create a narrow	28		the mounds horrow nits or earthen
20		view at the southeast side of the	20		walls
20		oarthwork complex so the Mount	20		wans.
21		Logan Dange and the meanning and	30 21 2	Do	habilitation of Anaboological Spaces
31		Logan Range and the mooninise and	31 3 .	<u>Re</u>	habilitation of Archeological Spaces.
32		soistice sunrise alignments can be	32	Ke.	nabilitate archeological spaces to reveal
33		observed.	33	the	eir mass, form and scale. Delineate
34			34	the	e earthwork complex by markings or
35 Arc	cheo	ological Features	35	reł	nabilitating archeological features when
36 Th	e tre	eatment plan recommends	36	no	discernible topographical relief occurs
37 pre	eser	vation and rehabilitation of the extant	37	in	LiDAR imagery or through visual
38 ano	d re	constructed archeological features at	38	ob	servations.
39 Mo	unc	l City Group.	39		
40			40	a.	Depict the archeological space of
41 1 .	Inv	vestigations and Research. Continue	41		the earthwork complex through the
42	inv	vestigations and archeological research	42		following techniques. Use a consistent
43	inc	luding the following research needs	43		nalette of materials
44		search the following research needs.	4.4		parette of inderidis.
15	2	Identify currently unknown	 / E	о	Use one consistent vegetation
45	d.	recourses at the outlying areas using	40		time and upgetation management
40		resources at the outlying areas using	40		type and vegetation management

1	technique to depict the space of the	1
2	enclosure and earthwork complex.	2
3	The aesthetic should be an open space	3
4	of mown grasses at differing heights	4
5	that assists in the visibility of the	5
6	earthworks.	6
7		7
8	^o Use a different vegetation	8
9	management technique for	9
10	archeological features such as mounds	10
11	and walls to differentiate between	11
12	the three-dimensional archeological	12
13	features and adjacent spaces.	13
14		14
15	° Use a taller grass / herbaceous mix	15
16	at the edges of the archeological	16
17	spaces and in areas of archeological	17
18	scatter, to distinguish these from the	18
19	surrounding landscape.	19
20		20
21	° Differentiate between the	21
22	earthwork complex and visitor and	22
23	administrative / maintenance areas	23
24	by maintaining distinct vegetation	24
25	types in the two areas. This can be	25
26	accomplished by planting a mix of	26
27	grass species that differs in color and	27
28	texture, or by maintaining grasses at a	28
29	different height.	29
30		30
31 4 .	Rehabilitation of Archeological Features.	31
32	Rehabilitation of non-extant archeological	32
33	features is recommended. This may	33
34	include creating three-dimensional	34
35	depictions using new soil, a cap of stone	35
36	cobble, or the use of vegetation.	36
37		37
38	a. Rehabilitate non-extant archeological	38
39	features to depict their mass, form	39
40	and character, as documented by	40
41	Squire and Davis in 1846, Brown	41
42	in 2012 and the 2010 magnetic	42
43	survey, or based upon most recent	43
44	archeological investigations.	44
45		45
46		46
		47

 ^o Specific treatment for each archeological feature is provided in ILLUSTRATION 6-3. Cross section examples provided in ILLUSTRATION 6-1 represent examples of applicable rehabilitation techniques.
b. Use earthen markings to rehabilitate outlines and dimensions of non-extant mounds.
^o Specific features to be rehabilitated include the following.
 Extra-mural mounds X1 and X2; Mounds #24 and #25.
 Use a material that differs from the material of the previously reconstructed mounds, to distinguish new material from old.
 Where discernible topographical relief occurs, only vegetation or non- permanent markings will be used to delineate features.
c. Use vegetation to delineate outlines and dimensions of borrow pits.
 Protect intact the reconstructed borrow pits and the northeast borrow pit (not reconstructed). Preserve the northeast borrow pit as is, and provide special visitor interpretation to appreciate an intact, authentic, unreconstructed borrow pit.
^o Reconstruction of the northeast borrow pit would require careful and extensive archeological excavation that should only be excavated after extraordinary justification.
d. Use a cobble cover to rehabilitate the outlines and dimensions of large,

1	^o Specific features to be rehabilitated	1
2	with cobble cover include the	2
3	following.	3
4		4
L L	-Mounds #1 2 2 1 5 7 8 18	5
5	- Mounus #1, 2, 3, 4, 3, 7, 0, 10	5
6		6
7	e. Consider marking other archeological	7
8	features that were part of the	8
9	ceremonial landscape. This	9
10	may include charnel houses or	10
11	other structures that would have	11
12	accompanied the mounds. These	12
13	could be marked with simple	13
14	techniques as listed previously, or	14
15	temporary installations that could be	15
16	set un seasonally or for special events	16
17	set up seasonany of for special events.	10
10 Cir	culation	10
10 Cli 10 Ma	culation	10
19 MO	bund City Group will continue to serve	19
20 as	a primary visitor orientation facility,	20
21 ho	wever the existing circulation system	21
22 wi	ll be modified to add routes that foster	22
23 un	derstanding of the archeological features	23
24 an	d connections to natural features.	24
25		25
26 1 .	<u>Vehicular Circulation.</u> The vehicular	26
27	circulation system will be modified to	27
28	reroute vehicular parking and access	28
29	routes to less intrusive locations.	29
30		30
31	a Remove existing entrance drives	31
32	visitor and administrative narking	32
22	areas and vehicular access routes	22
24	areas and venicular access routes.	24
34	h Delegate webigular results and nervice	25
35	b. Relocate venicular routes and parking	35
36	area outside the earthwork complex	36
37	and screen from view.	37
38		38
39 2.	Pedestrian Circulation. The existing	39
40	pedestrian circulation system will remain	40
41	and be improved by adding routes that	41
42	assist in defining the spatial qualities of	42
43	the earthwork complex.	43
44		44
45	a. Maintain the existing nature trail, and	45
46	establish as a universally accessible	46
47	route	

b.	Add a pedestrian trail from the new
	visitor center and parking area to the
	earthwork complex.

- c. Establish a trail to follow the edge of the river terrace, north to south, connecting to the existing nature trail.
- d. Establish a loop trail through the North Forty.
- e. Maintain informal access within the enclosure and through the mounds (i.e., no formal trails).
- f. Maintain existing river walk trail with steps, walls, and overlook at the river edge.
- g. Provide access to the river bank, and create a new kayak / canoe access point along the Scioto River.
- h. Create pedestrian routes between Mound City Group and other park units.
- 28 ^o Build a pedestrian bridge over the Scioto River and a trail connection to 29 Hopeton Earthworks. 30
- 31

32 Vegetation

- 33 Treatment of vegetation at Mound City Group
- 34 will focus on preservation of the archeological
- 35 features. Vegetation will be managed to assist
- 36 in defining the spatial organization of the
- 37 earthwork complex, and to frame views and
- 38 screen adjacent development. Archeological
- 39 features will be maintained as low, mown
- 40 vegetation. Vegetation outside the earthwork
- 41 complex will be managed as tall or woody
- 42 vegetation.
- 43
- 44
- 45 46

1 1 .	Vegetation management techniques will	1
2	be used to preserve the archeological	2
3	features.	3
4		4
5	a. Remove trees and woody vegetation	5
6	that impact archeological features	6
7	or diminish the earthwork's spatial	7
8	qualities.	8
9		9
10	^o Maintain the woody vegetation on the	10
11	northeast corner of the enclosure wall	11
12	and Mound #1.	12
13		13
14	^o Maintain exiting trees within the	14
15	enclosure. Consider adding trees to	15
16	the enclosure for shade, provided the	16
17	new trees will not negatively impact	17
18	archeological features.	18
19		19
20	b. Reintroduce grasses where trees	20
21	and woody vegetation have been	21
22	removed. ⁶⁻²⁹	22
23		23
24 2 .	Utilize distinct vegetation management	24
25	techniques to reveal the form and spaces	25
26	of the earthwork complex.	26
27		27
28	a. Use a low growing grass mix (<6	28
29	to 12 inches in height) in spaces	29
30	of the earthwork including the	30
31	enclosure, mounds, and borrow	31
32	pits. Archeological features may be	32
33	managed as tall and less frequently	33
34	mown (<12 inches in height) to	34
35	further differentiate.	35
36		36
37	^o Plant the reconstructed mounds with	37
38	a low mown vegetation (<6 to 12	38
39	inches in height).	39
40		40
41	^o Plant the reconstructed earthen wall	41
42	with a low mown vegetation (<6 in	42
43	height).	43
44		44
$45 {6-2}$	9 Stubbendiek, <i>Review of the Literature on the Influence of</i>	45
46	Roots.	46

- ^o Plant the reconstructed borrow pits (7) with low mown vegetation (<6 in height).
- ^o Plant the spaces within the earthen walls with a low mown vegetation (3 to <6 in height).
- ^o Plant the non-extant mounds (24, 25 X1, X2) with a taller mown vegetation (<12 inches) prior to rehabilitation.
- ^o Plant the northeast borrow pit with a shorter mown vegetation to assist with visibility.
- 16 17 **3**. Maintain the North Forty as a mix of
- native herbaceous species, mown 1 to 18
- 2 times per year. Allow for mowing to 19 20
- accommodate planned archeological 21 research.

1

- 23 **4**. Maintain riparian vegetation along the river edge, and existing woodland 24 vegetation around the earthwork 25 complex. 26 27
- 28 ^o Remove exotic, invasive species as 29 possible in the woodlands, using an 30 integrated pest management plan. 31
- Establish wooded edges at key locations 32 5. 33 and at the property boundaries to screen adjacent development. 34 35
- a. Add a screen of trees between the 36 37 visitor center and the earthwork 38 complex, prior to removal of visitor 39 center.
- b. Add a screen of trees and shrubs at 41 the southern property boundary, 42 to create a buffer between the 43 archeological landscape and adjacent 44 use to the south. Work with adjacent 45 land owners to establish and maintain 46 the screen. 47

1	c. Work with Ross Correctional Institute	1 1 .
2	to provide a screen of trees and	2
3	shrubs as a visual buffer on the west	3
4	side of SR 104.	4
5		5
6	Buildings and Structures	6
7	Mound City Group will continue as a primary	7
8	visitor orientation facility, however all	8
9	buildings and structures will be relocated	9
10	as far from the earthwork complex as	10
11	possible, in order to protect the setting of the	11
12	archeological landscape.	12
13		13
14	1. Evaluate buildings and structures that	14
15	may be significant in their own right, but	15 2.
16	that are non-contributing features to the	16
17	archeological landscape. This includes	17
18	the Mission 66 Visitor Center and the	18
19	administration building.	19
20		20
21	2. Relocate the visitor center, administrative	21
22	and maintenance facilities off-site or in	22
23	a location that is less intrusive to the	23
24	earthwork complex, to be determined.	24
25		25
26	a. Remove existing picnic area,	26
27	including picnic shelter, tables, and	27
28	corresponding small scale features.	28
29	Remove the wood framed shelter at	29
30	the canal lock stones.	30
31		31
32	b. Locate any new buildings or	32
33	structures off-site or a less intrusive	33
34	location on-site. 6-30	34
35		35 3 .
36	Small Scale Features	36
37	The small scale features at Mound City Group	37
38	will play a minor role and will not detract	38
39	from the archeological landscape. Any new	39
40	small scale features will be minimal and	40
41	unobtrusive.	41
42	6-30 Per the GMP "Facilities will be designed located and	42
43	managed to minimize impacts on resources and to	43
44	maximize the quality of the visitor experience Only the	44
45	uevelopment necessary to properly guide visitors and protect resources will be allowed and will be out of site	45
46	of the earthworks" (<i>GMP</i> , 18-19).	46

1 1 .	Further investigation is needed into the
2	significance of some small scale features.
3	Evaluate features that may be significant
4	in their own right, but that are non-
5	contributing features to the archeological
6	landscape, including the CCC/WPA walls
7	and steps.
8	
9	a. Remove small scale features that
10	are found to be non-contributing
11	and do not serve an active role in
12	interpretation of the earthwork
13	complex.
14	
15 2.	Maintain small scale features that serve
16	an active role in visitor interpretation or
17	experience of the earthwork complex.
18	
19	a. Maintain the WPA/CCC walls at the
20	entrance, and repair as needed.
21	
22	b. Maintain the WPA/CCC walls along
23	the river trail, and repair as needed.
24	
25	c. Maintain and repair the WPA/CCC
26	stone grill.
27	
28	d. Preserve the canal lock stones
29	remaining from the Ohio Erie Canal.
30	While these are not contributing
31	features, these stones are part of the
32	overall history of the area and will be
33	preserved in-situ.
34	
35 3 .	Design and situate new small scale
36	teatures such as signs and interpretive
37	panels, to be low-profile and unobtrusive
38	within sight of the earthwork complex.
0.0	



Legend	
	NPS Boundary
No	100 Year Floodplain
	River Embankment
	Woodland
1	Tall Grass and Forbs
	Low Mixed Grasses
	Trail
	Existing Mound / Wall to Protect
0	Borrow Pit - Mark with Vegetation
-	Non Extant Feature - Rehabilitate
۲	Existing Large Mound - Potential Rehabilitate with Cobble Marking

Sources: FEMA Floodplains Map #39141C0200D, 39141C0355D, 39141C0335D, 39141C0175D; http://www.fws.gov/wetlands/-Data/Mapper.html; 2014 Google Maps; 1978 Mound City Land Use Plan

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	AND ENVIRONMENTAL ASSESSMENT TITLE OF DRAWING
ULTURE NATIONAL	MOUND CITY GROUP - PREFERRED ALTERNATIVE
RICAL PARK	HOPEWELL CULTURE NATIONAL HISTORICAL PARK
RATION 6-3	REGION COUNTY STATE 6-29

Hopeton Earthworks

1	The treatment plan for Hopeton Earthworks	1 • Remove non-contributing features that	t
2	emphasizes research and education. The	2 impact visitor's ability to discern the	
3	majority of the site will not be open to the	3 archeological landscape.	
4	general public. Limited development will	4	
5	allow visitors to learn about the Hopewell	5 • Provide an authentic visitor experience	e.
6	culture from a distance and to view the	6	
7	earthworks. ⁶⁻³¹ The archeological landscape	7 The treatment plan for Hopeton Earthwor	ks
8	will be protected and marked to focus	8 (ILLUSTRATION 6-4) illustrates the desire	d
9	visitor experience on the creation and	9 landscape condition.	
10	use of the earthwork complex. This will	10	
11	be accomplished through preservation of	11 Spatial Organization/Topography/Views	
12	extant below- and above-grade archeological	12 The vision for the spatial organization is fo	or
13	features. Because Hopeton Earthworks is	13 the forms and patterns of the archeologica	ıl
14	located within the 100-year flood zone, this	14 landscape to be revealed. The spatial quali	ities
15	includes protection of the riparian corridor	15 of the earthwork complex will be depicted	to
16	vegetation and avoiding treatments that	16 improve visitor's understanding.	
17	would have potential to increase flooding	17	
18	risks. In addition, the legibility and visibility	18 1. The spatial organization will be repair	ed
19	of the earthwork complex will be increased	19 through removal of non-contributing	
20	by better delineation of the archeological	20 features; removal of vegetation that	
21	features. Visitor experience will be improved	21 obscures the earthwork complex and	
22	by management of circulation, vegetation, and	22 archeological features; protection and	
23	views. In addition, non-contributing features	23 marking of non-extant above-grade	
24	will be removed.	24 archeological features; and establishin	g
25		25 pedestrian circulation routes to provid	le
26	Preservation is the treatment approach for	26 views of the earthwork complex.	
27	Hopeton Earthworks. This approach protects	27	
28	and preserves those features which convey its	a. Spatially depict the three-dimension	onal
29	historic and cultural significance.	29 form of the earthwork complex and	d
30		30 surroundings using vegetation or	
31	Treatment goals for Hopeton Earthworks	31 by marking nonvisible archeologic	al
32	include the following:	32 features.	
33		33	
34	Preserve extant above-grade archeological	b. Remove hazardous trees and wood	ly
35	features.	35 vegetation that impact the earthwo	ork
36		36 complex or diminish the visitor's	
37	Spatially depict the three-dimensional	37 understanding of the earthwork's	
38	earthwork complex.	38 spatial qualities. In particular, rem	ove
39		39 vegetation impacting Circle A and	
40	 Provide opportunities for visitors to 	40 fencerow vegetation north and we	st
41	access and view the earthwork complex.	41 of the Great Circle.	
42		42	
43	Reveal the relationship to the river and	43 c. Delineate the mass, scale and form	l
44	Mound City Group.	44 of the earthwork complex by using	5
		45 vegetation to mark non-extant abo	ve-

1		grade archeological features, i.e.,	1
2		earthen walls, mounds, and borrow	2
3		pits, and the spaces of the earthwork.	3
4			4
5	d.	Work with property owners to	5
6		establish protection (through	6
7		acquisition, easements or other	7
8		agreements) for the land within the	8
9		bend of the Scioto River surrounding	9
10		the Hopeton Earthworks to	10
11		manage for conservation and visual	11
12		consistency with the earthwork	12
13		complex.	13
14		1	14
15	e.	Create a view between the earthwork	15
16		complex and the river, and between	16
17		the Mound City Group and Hopeton	17
18		Earthworks, by thinning vegetation	18
19		along a portion of the riverbank.	19
20			20
21	f.	Provide interpretive information	21
22		about the earthwork complex and	22
23		cosmology.	23
24			24
25	g.	Consider using alternative media	25
26	0	to provide visitors with access	26
27		to large amounts of research and	27
28		documentation of features at the park	28
29		unit—keved to specific locations – to	29
30		enhance visitors understanding of	30
31		the authenticity of the earthwork	31
32		complex.	32
33		<u>F</u>	33
34 A	rcheo	ological Features	34
35 T	he tre	eatment plan provides for protection	35
36 ai	nd ma	arking of archeological features. All	36
37 ex	xtant	below- and above- grade archeological	37
38 fe	ature	es, as well as spaces with known	38
39 o i	r pote	ential archeological scatter will be	39
40 p	reser	ved, stabilized and repaired as needed.	40
41 fc	ollow	ing best practices. The archeological	41
42 fe	ature	es will be marked with vegetation and	42
43 in	iterpi	reted to provide a compelling visitor	43
44 ez	xperi	ence. Non-extant archeological features	44
45 w	vill be	marked with vegetation to depict their	45
46 m	ass, f	form, and character, as documented by	46
		-	

1 2	Squ rec	iire ent a	and Davis in 1846, or based upon most archeological investigations. Refer to
3	the cross section examples provided under		
4	Stu	dy A	rea for a graphic representation of
5	app	olica	ble techniques (ILLUSTRATION 6-1).
6			
7	1.	Inv	<u>estigations and Research.</u> Continue
8		inv	estigations and archeological research,
9		inc	luding the following research needs.
10			
11		a.	Identify currently unknown
12			resources at the outlying areas using
13			magnetometry or other non-invasive
14			archeological techniques.
15			
16		b.	Investigate techniques for marking
17			of archeological features to fully
18			understand potential impacts on
19			below-grade archeological features.
20			0
21	2.	Bes	t Practices - Preservation of Features.
22		Pre	serve all extant below- and above-
23		gra	de archeological features. Stabilize and
24		rep	air features as necessary, following
25		bes	t practices.
26			· F · · · · · · · ·
27		a.	Preserve all extant below- and above-
28		-	grade archeological features.
29			8
30		b.	Stabilize and repair archeological
31		5.	features as needed, following best
32			practices.
33			process.
34		c	Do not allow visitor access on top of
35		0.	the mounds or earthen walls or in
36			horrow nits
37			borrow pits.
38		d	Monitor the streambank and stabilize
39		u.	areas of erosion that threaten
10			archeological resources
11			areneological resources.
12			
13			

1 3.	<u>Repair of Archeological Spaces.</u> Repair
2	archeological spaces to reveal their mass,
3	form, and scale. Delineate the earthwork
4	complex by marking archeological
5	features when no discernible
6	topographical relief occurs in LiDAR
7	imagery or through visual observations.
8	
9	a. Depict the archeological space of
10	the earthwork complex through the
11	following techniques. Use a consistent
12	palette of materials.
13	
14	^o Use one consistent vegetation
15	type and vegetation management
16	technique to depict the space of the
17	enclosure and earthwork complex.
18	
19	^o Use a different vegetation
20	management technique for
21	archeological features such as mounds
22	and earthen walls to differentiate
23	between the three-dimensional
24	archeological features and adjacent
25	spaces.
26	
27	 Use a taller grass / herbaceous mix
28	at the edges of the archeological
29	spaces and in areas of archeological
30	scatter, to distinguish these from the
31	surrounding landscape.
32	
33 4 .	<u>Marking of Archeological Features.</u>
34	Marking of non-extant archeological
35	features using vegetation is
36	recommended.
37	
38	^o Cross section examples provided
39	in ILLUSTRATION 6-1 represent
40	examples of applicable rehabilitation
41	techniques.
42	
43	b. Use vegetation to depict outlines and
44	dimensions of verified non-extant
45	archeological and other above-grade
46	features.

1	^o Verified features to be delineated
2	include the following.
3	
4	 Portions of the Great Circle walls
5	 Portions of the Square Enclosure
6	walls
7	 Portions of the Parallel Walls
8	– Circle B
9	–Circle C
10	 Three mounds within the Square
11	Enclosure
12	 Borrow pits
13	
14	^o Specific features to be delineated
15	when verified include the following.
16	
17	–Circle A
18	– Unverified portions of the Parallel
19	Walls.
20	
21	Circulation
22	The vision for the circulation system at
23	Hopeton Earthworks is to establish visitor
24	access and interpretive routes to provide
25	visitors with an understanding of the physical
26	earthwork complex. An entrance road,
27	parking area, and pedestrian routes will be
28	added. Pedestrian trails, an overlook and
29	wayside will be established to provide access.
30	
31	Access to the earthwork complex via the river
32	will be improved to reflect this circulation
33 24	A new trail and bridge will be added
34 25	A new trail and bridge will be added,
35	establishing a link to Mound City Group.
30	1 Vanigular Circulation The ovisting
37 20	1. <u>vehicular circulation</u> . The existing
30 20	Farthworks will be modified to provide
10	access for visitors and to remove routes
тU 41	that impact the archeological landscape
+1 47	that impact the archeological lanuscape.
TL	

43 a. Remove vehicular circulation
44 routes that do not contribute to the
45 significance of the archeological
46 landscape and impact the integrity

1 2		of the known extant archeological features.	1 2	Vegeta Treatm	tion nent of vegetation at Hopeton
3	0		3	Earthw	vorks will focus on creating
4 5	Ū	Remove the quarry access road that	4	greater	visibility and preservation of the
5		runs over the square Enclosure.	5	manag	ed to assist in defining the spatial
7	0	Remove Pit Road. Overly Road. quarry	7	organiz	zation of the earthwork complex.
8		service routes, and Vaughn Road.	8	framin	g views and screening undesirable
9			9	views.	
10	b.	Provide a parking area on the north	10		
11		side of Hopetown Road.	11	The ear	rthwork complex will be maintained
12 12 2	Do	destrian Cinculation Add nodestrian	12	free of	woody vegetation surrounded by
13 Z.	tra	uestrian circulation. Add pedestrian	13	grassia	aving trees and forcerow vegetation
14	wa	wside	14	and rei	ntroducing grasses Woodland will
16	wa	yside.	16	be reta	ined along the eastern and southern
17	a.	Establish trails that allow for	17	proper	ty lines.
18		understanding of the earthworks.	18		
19			19	1. Veg	getation types and management
20	b.	Near the parking lot, construct an	20	tec	hniques will be used to preserve the
21		embankment and install a drainage	21	arc	heological features.
22		pipe to allow drainage to/from Dry	22		N N N N N N
23		Run.	23	a.	Remove trees and woody vegetation
24 25	c	Provide an overlook east of Circles R	24		ar diminish the spatial qualities of
25 26	ι.	and C to present a visual overview of	25 26		the earthwork complex However
2.7		the earthwork complex.	20		if vegetation is helping to stabilize
28			28		archeological features, do not remove
29	d.	Create pedestrian routes between	29		it.
30		Hopeton Earthworks and Mound City	30		
31		Group.	31	0	Remove woody vegetation on Circle A.
32	_		32	_	
33	0	Provide a trail along Hopetown Road	33	0	Remove fencerow vegetation between
34		to Mound City Group.	34		the Great Circle and Circle A.
35	o	Puild a podestrian bridge across the	35	0	Add vegetation parth of Circle A to
30 37		Scioto River to connect to Mound City	30 37		screen adjacent land use
38		Group	38		serven aujacent land use.
39		droup	39	0	Remove fencerow vegetation north
40	e.	Provide access to the river bank at	40		and west of the Great Circle.
41		Mound City Group by creating a new	41		
42		kayak / canoe access.	42	0	Allow for shade trees, provided they
43			43		do not negatively impact archeological
44	f.	Create an interconnected water route	44		resources.
45		between all park units with new	45	1	
46		canoe / kayak access.	46	b.	Reintroduce grasses where trees and woody vegetation have been removed.

1	2.	Utilize distinct vegetation types to reveal	1	
2		the form and spaces of the earthwork		
3		complex:	3	
4			4	
5		a. Use a low growing grass mix (<6	5	
6		to 12 inches in height) in spaces of	6	
7		the earthwork complex including	7	
8		the enclosure, mounds and borrow	8	
9		pits. Archeological features may be	9	
10		managed as tall and less frequently	10	
11		mown to further differentiate.	11	
12			12	
13		b. Use tall grasses and forbs in areas	13	
14		surrounding the earthwork complex.	14	
15			15	
16	3.	Maintain vegetation that stabilizes steep	16	
17		slopes or protects archeological features	17	
18		from impacts.	18	
19			19	
20		a. Vegetation along the streambanks of	20	
21		Dry Run.	21	
22			22	
23		b. Vegetation that screens views to	23	
24		the south and east of the earthwork	24	
25		complex.	25	
26			26	
27	4.	Add vegetation on the north of Circle	27	
28		A, to screen views from the complex to		
29		adjacent land use.	29	
30	D 1		30	
31	BU	lidings and Structures	31	
32	LOI	ig-term treatment recommendations are	32	
33	10 I	emove an buildings and structures from	33	
34	une	ear unwork complex and surrounding	34	
35	are	a, in order to protect the setting of the	35	
30 27	arc	neological lanuscape.	30 27	
32	1	Remove buildings and structures that do	38	
30	1.	not contribute to the significance of the	30	
40		archeological landscape and impact the	40	
41		integrity of the known extant earthwork	41	
42		complex including the utility lines and	42	
43		poles adjacent to the quarry access road	43	
44		that crosses over the Square Enclosure.	44	
45		1	45	
46	2.	NPS will work with property owners to	46	
47		develop a long-term plan to eventually		

remove the buildings and structures that are impacting the earthwork complex including: the quarry operation buildings, structures, roads, and utilities.

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Legend	
	Legislated Boundary
	Protect Adjacent Lands
~~~~~	100 Year Floodplain
711%	Creek Embankment
	Woodland
Part of	Tall Grass and Forbs
	Low Mixed Vegetation
	Trail
Р	Parking
-	Existing Feature to Protect and Mark with Vegetation
Terrare and the second	Earthen Wall / Feature to Protect and Mark with Vegetation
-	Unverified Feature to Protect and Mark with Vegetation
	Historic Borrow Pit to Protect and Mark with Vegetation
	Borrow Pit to Protect and Mark with Vegetation
0	Overlook
W	Wayside

#### Note:

Since site documentation was completed in October 2014, the parking lot at Hopetown Road and trail between the parking lot and overlook have been designed through a separate project. Therefore, these features are treated as existing conditions in the preferred alternative for the CLR/EA.

*Locations for mown trails may vary.

	TIC# 353 128149
RCH 2016	CULTURAL LANDSCAPE REPORT
TED STATES	
CULTURE NATIONAL ORICAL PARK	NAME OF PARK HOPEWELL CULTURE NATIONAL HISTORICAL PARK
TRATION 6-4	MIDWEST ROSS OHIO 6-37

# **Hopewell Mound Group**

1	In accordance with the GMP. visitor use	1 The treatme	nt plan for Hopewell Mound
2	and interpretation will be emphasized at	2 Group (ILLU	STRATION 6-5) illustrates the
3	the Hopewell Mound Group, Legislated	3 desired land	scape condition.
4	boundaries will be expanded to ensure	4	I
5	maximum protection of archaeological	5 Spatial Orga	nization/Topography/Views
6	resources and the landscape context of the	6 The vision fo	or the spatial organization is
7	earthworks, including the viewshed. ⁶⁻³² The	7 for forms an	d patterns of the archeological
8	treatment plan for Hopewell Mound Group	8 landscape to	be revealed. The full spatial
9	emphasizes the interpretation of Hopewell	9 qualities of t	he earthwork complex and the
10	Culture. The archeological landscape will	10 relationship	to the surrounding landscape
11	be rehabilitated to focus visitor experience	11 will be depic	ted.
12	on the creation and use of the earthwork	12	
13	complex. This will be accomplished through	13 1. Spatial o	rganization will be rehabilitated
14	preservation of extant below- and above-	14 through	removal of non-contributing
15	grade archeological features. Also, the	15 features	removal of vegetation that
16	legibility and visibility of the earthwork	16 obscures	s the earthwork complex and
17	complex will be improved by delineating	17 archeolo	gical features, marking of
18	the archeological features and the visitor	18 non-exta	int above-grade archeological
19	experience will be enhanced by managing	19 features	and establishment of pedestrian
20	circulation, vegetation, and views.	20 circulati	on routes that allow for
21		21 understa	anding of the earthworks.
22	Rehabilitation is the treatment approach for	22	
23	the Hopewell Mound Group. Rehabilitation	23 a. Spat	ially depict the three-dimensional
24	allows for compatible use through repair.	24 form	of the earthwork complex and
25	alterations, and additions while preserving	25 surr	oundings using vegetation or
26	those features that convey historic and	26 by m	arking nonvisible archeological
27	cultural significance.	27 featu	ires.
28		28	
29	Treatment goals for Hopewell Mound Group	29 b. Rem	ove hazardous trees and woodv
30	include the following:	30 vege	tation that impact the earthwork
31	0	31 com	plex and diminish the visitor's
32	Preserve extant above-grade archeological	32 unde	erstanding of the spatial qualities
33	features.	33 of th	e earthwork complex.
34		34	1
35	• Spatially depict the three-dimensional	35 ° Seleo	ctively remove woody vegetation
36	earthwork complex.	36 alon	g the eastern portion of the north
37		37 wall	of the Great Enclosure to improve
38	• Reveal the relationship to the river and	38 view	rs of the earthwork.
39	other earthwork complexes.	39	
40	•	40 c. NPS	will work with the local
41	Remove non-contributing features that	41 com	munity and landowners to
42	impact visitor's ability to discern the	42 deve	lop a long-term plan for removal
43	archeological landscape.	43 of no	on-contributing features that
44		44 impa	act spatial organization of the
45	• Provide an authentic visitor experience.	Ĩ	

1		earthwork complex, including Sulphur	1
2		Lick Road and buildings located on	2
3		archeological features.	3
4	_		4
5	d.	Delineate the mass, scale, and form of	5
6		the earthwork complex by marking	6
7		non-extant above-grade archeological	7
8		features, i.e., earthen walls, mounds,	8
9		and borrow pits, and the spaces of the	9
10		earthwork.	10
11			11
12	e.	Provide interpretive information	12 <b>2</b> .
13		about the earthwork complex and	13
14		cosmology.	14
15	_		15
16	f.	Consider using alternative media	16
17		to provide visitors with access	17
18		to large amounts of research and	18
19		documentation of features at the park	19
20		unit—keyed to specific locations – to	20
21		enhance visitors understanding of	21
22		the authenticity of the earthwork	22
23		complex.	23
24			24
25	Archeo	logical Features	25
26	The tre	atment plan provides for protection	26
27	and rel	nabilitation of archeological features.	27
28	All exta	ant below- and above- grade	28
29	archeo	logical features, as well as spaces with	29
30	known	or potential archeological scatter	30
31	will be	preserved, stabilized and repaired	31
32	as need	led, following best practices. The	32
33	archeo	logical features will be marked and	33 <b>3</b> .
34	interpr	eted to provide a compelling visitor	34
35	experie	ence. Non-extant archeological features	35
36	will be	marked to depict their mass, form	36
37	and cha	aracter, as documented by Shetrone	37
38	in 1922	2 to 1925, or based upon most recent	38
39	archeo	logical investigations. Refer to the cross	39
40	section	examples provided under Study Area	40
41	for a gr	aphic representation of applicable	41
42	rehabil	itation techniques (ILLUSTRATION	42
43	6-1).		43
44			44
45	1. <u>Inv</u>	estigations and Research. Continue	45
46	inv	estigations and archeological research,	46

47 including the following research needs.

1	a.	Identify currently unknown
2		resources at the outlying areas using
3		magnetometry or other non-invasive
1		archeological techniques
т _		areneological teeninques.
)	,	
C	b.	Investigate techniques for marking
7		or rehabilitation of archeological
3		features to fully understand potential
9		impacts on below-grade archeological
0		features.
1		
22	Res	t Practices - Preservation of Features
2 2.	Dro	sorve all extant below, and above
3	rie	de archeological features. Stabilize and
4	gra	de al cheological leatures. Stabilize allu
5	rep	air features as necessary, following
6	bes	st practices.
7		
8	a.	Preserve all extant below- and above-
9		grade archeological features.
0		
1	b.	Stabilize and repair archeological
2		features as needed, following best
3		nractices
4		praedeesi
5	c	Do not allow visitor access on top of
6	ι.	the mounds or earthon walls or in
7		hormour nite
/		borrow pits.
8	,	
9	d.	Monitor the streambank and stabilize
0		areas of erosion that threaten
1		archeological resources.
2		
3 <b>3</b> .	<u>Reł</u>	nabilitation of Archeological
4	<u>Spa</u>	aces. Rehabilitate archeological
5	spa	ces to reveal their mass, form and
6	sca	le. Delineate the earthwork complex
7	by 1	marking archeological features when
8	no	discernible topographical relief occurs
9	in I	LiDAR imagery or through visual
0	ohs	servations.
1	0.00	
2	а	Depict the archeological space of
-	u.	the earthwork complex through the
1		following techniques. Use a consistent
-+ -		ionowing techniques. Use a consistent
5		parette of materials.

1	^o Use one consistent vegetation	1	verified non-extant archeological and
2	type and vegetation management	2	other above-grade features.
3	technique to depict the space of the	3	5
4	enclosure and earthwork complex.	4	^o Use a non-permanent material that
5	•	5	differs from the extant materials
6	^o Use a different vegetation	6	of the archeological features to
7	management technique for	7	differentiate these as contemporary
8	archeological features such as mounds	8	features.
9	and walls to differentiate between	9	
10	the three-dimensional archeological	10	^o Verified features to be delineated
11	features and adjacent spaces.	11	include the following.
12		12	
13	^o Use a taller grass / herbaceous mix	13	– Southern portion of the east wall of
14	at the edges of the archeological	14	the Great Enclosure.
15	spaces and in areas of archeological	15	– South east and north walls of the
16	scatter to distinguish these from the	16	Square Enclosure
17	surrounding landscape	17	– East and south walls of the D-Shaped
18	Surrounding fundscupe.	18	Enclosure
19	^o Maintain a distinct vegetation	19	– North east and south walls of the
20	management technique to	20	Great Circle
21	differentiate between the	21	- Five mounds
22	earthwork complex and visitor and	21	Tive mountus.
22	administrative / maintenance areas	22	^o Specific features to be delineated
23	administrative / maintenance areas.	23	when verified include the following
25 <b>A</b>	Rehabilitation of Archeological Features	25	when vermed mende the following.
25 <b>т.</b> 26	Rehabilitation of non-extant archeological	25	- North portion of west wall of the
20	features is recommended. This may	20	Great Enclosure
27	include creating three-dimensional	27	- South portion of the west wall of the
20	depictions using new soil or the use of	20	Great Enclosure
20	vogetation	20	- Portions of the north and west walls
21	vegetation.	21	of the D-Shaped Enclosure
22	a Pohabilitato non ovtant archoological	22	- Dortion of the west wall of the Creat
34	a. Reliabilitate non-extant archeological	32	Circle
24	and character as degumented by	24	Thirty three mounds
25	Shotrong in 1022 to 1025, or based	25	The ditch at the southeast portion of
35	Shellone in 1922 to 1925, of Dased	35	- The ditch at the southeast portion of
36	upon most recent archeological	36	The ditch arrows d the Great Enclosure.
3/	investigations.	37	- The ditch around the D Changed
38		38	- The ditch around the D-Shaped
39	Cross section examples provided	39	Enclosure.
40	in ILLUSTRATION 6-1 represent	40	- The ditch at the northern portion of
41	examples of applicable rehabilitation	41	the west wall of the Great Enclosure.
42	techniques.	42	
43		43	
44	b. Use markings, e.g. soil, rock cobble,	44	
45	gravel paths, flags, or vegetation to	45	
46	depict outlines and dimensions of	46	

#### 1 Circulation

2 The existing circulation system at Hopewell 3 Mound Group will be modified to remove 4 routes that do not relate to the archeological 5 landscape, and add routes that foster 6 understanding of the archeological landscape. 7 The vision for the circulation system at 8 Hopewell Mound Group is to improve existing 9 pedestrian circulation by adding routes that 10 allow for understanding of the earthwork 11 complex and removing routes that do not 12 support this goal. Sulphur Lick Road and the 13 bicycle route will eventually be removed from 14 locations where they impact the earthwork 15 complex. The visitor parking area will remain 16 in its current location with access provided 17 from the east. 18 19 Access to the earthwork complex via the river 20 will be added to reflect this circulation route 21 that existed at the time of the Hopewell. 22 23 1. Vehicular Circulation. Remove vehicular routes that impact the earthwork 24 25 complex. 26 27 a. NPS will work with the township and other local community 28 representatives to develop a long-29 range plan to remove the portions of 30 Sulphur Lick Road and the trail that 31 are impacting the earthwork complex. 32 33 This will occur only when local access needs have been addressed. 34 35 36 **2**. Pedestrian Circulation. Add pedestrian 37 trails and an overlook, update existing overlooks, and add links to the North 38 39 Fork Paint Creek to improve visitor 40 understanding of the earthwork complex. 41 a. Retain the existing overlook and 42 viewshed at the northeast corner of 43 the Great Enclosure and update the 44 wayside. 45 46

- b. Add a new overlook at a location to the west of the existing overlook that gives the best overview of the earthwork complex.
- C. Update the existing overlook on the east side of the Square Enclosure to provide improved orientation to the earthwork complex.
- d. Create pedestrian and bicycle links to the North Fork Paint Creek to improve the relationship of the earthwork complex to the river.
- Relocate the rails to trails path to the e. south of the south wall of the Great Enclosure.
- f. Create an interconnected water route 20 21 between all park units with a new 22 canoe / kayak access.

## 24 Vegetation

- 25 Treatment of vegetation at Hopewell Mound
- 26 Group will focus on creating greater visibility
- 27 and preservation of the archeological
- 28 features. Vegetation will be managed to
- 29 assist in defining the spatial organization of
- 30 the earthwork complex, framing views and
- 31 screening undesirable views.
- 32

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- 33 In most locations, the earthwork complex
- 34 will be maintained free of woody vegetation
- 35 surrounded by grassland. This appearance
- 36 will be achieved by removing trees and
- 37 fencerow vegetation and reintroducing
- 38 grasses. Woody vegetation will be
- 39 maintained in locations where it is protecting 40 archeological resources.
- 41
- 42 1. Vegetation types and management
- techniques will be used to preserve the 43
- archeological features. 44
- 45
- 46

1 <b>2.</b>	Utilize distinct vegetation types to reveal
2	the form and spaces of the earthwork
3	complex:
4	
5	a. Use a low growing grass mix (<6
6	to 12 inches in height) in spaces of
7	the earthwork complex, mounds,
8	and borrow pits. Archeological
9	features may be managed as tall
10	and less frequently mown to further
11	differentiate.
12	
13	b. Use tall grass and forbs in areas
14	surrounding the earthwork complex.
15	
16 <b>3</b> .	Maintain vegetation that stabilizes steep
17	slopes or protects the earthwork complex
18	from impacts.
19	
20	a. Maintain vegetation along the west
21	portion of the north wall of the Great
22	Enclosure.
23	
24	b. Maintain vegetation that screens
25	views to the visitor parking area at the
26	east side of the earthwork complex.
27	
28 <b>4</b> .	Add vegetation to screen undesirable
29	views at the southwest portion of the
30	property.
31	
32 <b>Bu</b>	ildings and Structures
33 Loi	ng-term treatment recommendations are to
34 rer	nove all buildings and structures from the
35 ear	thwork complex, in order to protect the
36 set	ting of the archeological landscape.
37	
38 1.	The park will work with property owners
39	to develop a long-term plan to remove
40	buildings that impact the earthwork
41	complex.
42	
43 <b>2</b> .	The park will work with utility
44	companies to develop a long-term plan
45	to mitigate the effects of the high-voltage
46	transmission towers and overhead

3	but	other possible choices for mitigation
4	<b>CO</b> Ι	ıld include:
5		
6	a.	Relocation of transmission towers
7		and lines to a new site beyond the
8		viewshed of the earthwork complex
9		(off NPS property).
10		
11	b.	Relocation of transmission towers and
12		lines to a location where they do not
13		impact the earthwork complex within
14		NPS property.
15		
16	с.	Replace transmission towers with
17		substations outside the earthwork
18		complex and relocate high voltage
19		lines underground.
20		
21	d.	Replace the existing lattice towers
22		with less intrusive towers.
23		
24	e.	Move the existing overlook to
25		minimize the visual impact of the
26		towers by orienting views to the north
27		south rather than east west.
28		
29	Small S	Scale Features
30	The sm	all scale features at Hopewell Mound
31	Group	play a minor role and do not distract

lines that are impacting the earthwork complex. Removal is the preferred option,

32 from the archeological landscape. Any new

- 33 small scale features will be minimal and
- 34 unobtrusive.

Public Review Draft

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Legend	
	Legislated Boundary
	Protect Adjacent Lands
S	100 Year Floodplain
7417	Creek Embankment
100	Woodland
1000	Tall Grass and Forbs
	Low Mixed Vegetation
	Trail
<b>V</b>	Visitor Orientation
Р	Parking
	Existing Feature to Protect and Mark
	Earthen Wall / Feature to Mark
	Unverified Feature - Potential to Mark
- •	Existing Ditch / Borrow Pit to Mark with Vegetation
_	Ditch - Potential to Mark
0	Overlook
*	Unverified Habitation Site- Potential to Mark with Vegetation

	TIC# 353 128149
RCH 2015	TITLE OF PROJECT CULTURAL LANDSCAPE REPORT
ED STATES T OF THE INTERIOR	
ULTURE NATIONAL RICAL PARK	NAME OF PARK HOPEWELL CULTURE NATIONAL HISTORICAL PARK
TRATION 6-5	MIDWEST ROSS OHIO 6-45

# Seip Earthworks

1 The treatment plan for Seip Earthworks 2 emphasizes the interpretation of Hopewell 3 ceremonialism. The archeological landscape 4 will be rehabilitated to focus visitor 5 experience on the creation and use of 6 earthwork. This will be accomplished through 7 delineation of previously unreconstructed 8 mounds and earthen walls, improvements 9 in circulation routes, removal of damaging 10 vegetation, and separation between the 11 visitor orientation area and the ceremonial 12 landscape. Located within the 100-year 13 flood zone, treatment recommendations 14 for Seip Earthworks include protecting the 15 riparian corridor to maintain a healthy 16 stream corridor, and placing visitor services 17 out of the floodplain. In accordance with the 18 GMP, Seip Earthworks will provide a gateway 19 for a grand tour of the Hopewell sites, with 20 interpretive facilities and linkages with the 21 nearby school and community.⁶⁻³³ 22 23 Rehabilitation is the treatment approach for 24 Seip Earthworks. Rehabilitation allows for 25 compatible uses through repair, alterations, 26 and additions while preserving those features 27 which convey its historic and cultural 28 significance. 29 30 Treatment goals for Seip Earthworks include 31 the following: 32 33 • Preserve extant above-grade archeological 34 features. 35 36 • Spatially depict the three-dimensional 37 earthwork complex. 38 39• Relocate visitor facilities (buildings, roads, parking, etc.) away from the earthwork 40 complex. 41 42 43 • Reveal the relationship to the river and other earthwork complexes. 44 45

- 1 Remove non-contributing features that 2 impact the visitor's ability to discern the archeological landscape. 3
- 4
- 5• Provide an authentic visitor experience.
- 6

7 The preferred alternative for Seip Earthworks 8 includes protecting all archeological features

- 9 either through conservation easements or
- 10 acquiring property from willing sellers, in
- 11 order protect the entirety of the earthwork.
- 12 Currently, portions of the Large Circle
- 13 and Small Circle are in private ownership.
- 14 Agreements with adjacent properties will
- 15 be necessary to provide visitor access to the
- 16 parking and orientation area.
- 17

18 The treatment plan for Seip Earthworks

19 (ILLUSTRATION 6-6) illustrates the desired

20 landscape condition.

21

## 22 Spatial Organization/Topography/Views

23 The vision for the spatial organization is for

- 24 the forms and patterns of the archeological
- 25 landscape to be revealed. The full spatial
- 26 gualities of the earthwork complex and the
- 27 relationship to the surrounding landscape 28 will be depicted.
- 29

30 1. The spatial organization will be

rehabilitated through removal of non-31

contributing features; removal of 32

vegetation that obscures the earthwork 33

complex and archeological features; 34

rehabilitation of non-extant above-grade 35

- archeological features; and establishing 36
- pedestrian circulation routes that assist 37 38
  - in defining the spatial qualities of the
- earthwork complex. 39 40
  - Spatially depict the three-dimensional a. form of the earthwork complex and surroundings through markings and vegetation.

41

42

43

44

45

⁶⁻³³ GMP. 36.

1	b.	Remove hazardous trees and woody	1
2		vegetation that impact archeological	2
3		features or diminish the visitor's	3
4		understanding of the spatial qualities	4
5		of the earthwork complex and	5 <b>Arc</b>
6		individual spaces.	6 Th
7			7 and
8	0	When considering the removal of	8 fea
9		trees for visitor understanding of	9
10		spatial qualities, consider benefit	10 <b>1</b> .
11		of shade trees in some locations.	11
12		provided they will not damage	12
13		archeological resources.	13
14			14
15	C.	Remove non-contributing features	15
16	с.	from the immediate surroundings of	16
17		the earthwork complex	17
18		the curtilwork complex.	18
10	0	Remove the Blackstone House and	10
20		fish camp buildings	20
20		nsh camp bundings.	20
21	0	Relacate the nicnic shelter parking	21
22		reads and utilities of ther to a loss	22
23		intrusive area on site further from the	23
24		anthuark complex or off site	24
25		earthwork complex, or on-site.	25
20	٦	Maintain a consistant vagatation	20
27	a.	Maintain a consistent vegetation	27
28		type on the archeological features to	28
29		distinguish them from visitor areas	29
30		and the adjacent landscape.	30 Z.
31			31
32	e.	Add a dense screen of trees and	32
33		vegetation between the earthwork	33
34		complex and the adjacent properties	34
35		on the north and east.	35
36			36
37	f.	Create a view between the earthwork	37
38		complex and the river, by thinning	38
39		vegetation along a portion of the	39
40		riverbank.	40
41			41
42	g.	Work with property owners to	42
43		establish protection (through	43
44		easements or other agreements) for	44
45		the inholding on U.S. 50, west third	45
46		of small circle and buffer around the	46

east half of the square to manage for conservation and visual consistency with the earthwork complex.

## 5 Archeological Features

- 6 The treatment plan provides for protection
- 7 and rehabilitation of the archeological
- 8 features at Seip Earthworks.

10 <b>1</b> . 11 12	Investiga investiga including	tions and Research. Continue tions and archeological research, the following research needs.
14 14 15 16 17 18 19 20 21 22 23 24	a. Curre availa of eau Earth to fill recon appro mark inforn rehab	ently, less information is able on the form and height thwork complex at Seip works. New research is helping this gap, however the treatment nmendations favor "softer" baches to mound and earthwork ing until such time as research ms a "harder" approach to bilitation.
24 25 26 27 28 29	b. Ident resou magn arche	ify currently unknown arces at the outlying areas using aetometry or other non-invasive cological techniques.
30 <i>2</i> . 31 32 33 34 35 36 37	Best Prac Preserve grade arc repair fea best prac a. Prese recon	tices - Preservation of Features. all extant below- and above- cheological features. Stabilize and atures as necessary, following tices. erve and maintain the existing astructed Seip-Pricer Mound and
38 39 40 41	the re Circle b. Stabil	econstructed wall of the Large e as contributing features.
42 43	featu pract	res as needed, following best ices.

1 <b>3</b> .	Rehabilitation of Archeological Spaces.	1
2	Rehabilitate archeological spaces to reveal	2
3	their mass, form, and scale. Delineate	3
4	the earthwork complex by markings	4
5	or rehabilitating archeological features	5
6	when no discernible topographical relief	6
7	occurs in LiDAR imagery or through	7
8	visual observations. The desired aesthetic	8
9	should include open spaces with	9
10	vegetation at different heights, that assists	10
11	in the visibility of the earthworks.	11
12		12
13	a. Depict the archeological space of	13
14	the earthwork complex through the	14
15	following techniques. Use a consistent	15
16	palette of materials.	16
17		17
18	b. Use vegetation types or vegetation	18
19	management techniques to	19
20	differentiate between different types	20
21	of features and the surroundings.	21
22		22
23	c. Maintain a different vegetation type	23
24	on the earthwork complex from	24
25	adjacent areas of archeological scatter	25
26	and riparian areas.	26
27		27
28 4.	<u>Rehabilitation of Archeological Features.</u>	28
29	Rehabilitation of non-extant archeological	29
30	features is recommended. This includes	30
31	creating three-dimensional depictions	31
32	using new soil or vegetation.	32
33	Debekilitete ver entert enekeele sieel	33
34	a. Renabilitate non-extant archeological	34
35	features to depict their mass, form,	35
36	and character, as documented by	36
37	Squier and Davis in 1848, or based	3/
38	upon most recent archeological	38
39	investigations.	39
4U 41	^o Specific treatment for each	40 1
41 12	archoological foature is provided in	41 12
42 12	ILLUSTRATION 6.6 Cross section	4Z
45 1.1.	evamples provided in ULUSTRATION	43 11
15 15	6-1 represent examples of applicable	44
т5 46	rehabilitation techniques	43 1.6
10		тО

- b. Use earthen markings to rehabilitate outlines and dimensions of non-extant earthen walls.
  - ^o Specific features to be rehabilitated include the following.
  - Small Circle
  - Large Circle
  - Large Square
- ^o Where discernible topographical relief occurs, only vegetation or nonpermanent markings will be used to delineate features.
- ^o Use the most current, reliable archeological investigations to locate markings or rehabilitations, and to determine the size and scale. At this time, the most current information is 2015 magnetic surveys.
- ^o Use a non-permanent material that differs from the extant materials of the archeological features and the reconstructed Seip-Pricer Mound, to differentiate these as contemporary.
- c. Use vegetation to delineate outlines and dimensions of borrow pits.
- d. Use a cobble marking / cover to rehabilitate the outlines and dimensions of mounds.
  - ^o Specific features to be rehabilitated with cobble include the following.
  - Seip-Pricer Mound
  - Seip Conjoined Mound (Note: additional earthen marking needed to reflect original mound mass)

#### 1 Circulation

Ŧ	CIII	cuiu		T
2	The	e exi	isting circulation system at Seip	2
3	Earthworks will be modified in order to			
4	protect the archeological features, and to 4			
5	pro	vid	e an engaging visitor experience. A	5
6	nev	v pa	arking area and visitor orientation is	6
7	rec	omi	nended to be located at the adjacent	7
8	Pai	nt V	alley High School Property, with	8
9	peo	lest	rian trails connecting the orientation	9
10	are	a. ea	arthwork complex, and river.	10
11		,		11
12	1.	Veł	nicular Circulation. The vehicular	12
13		circ	culation system will be modified to	13
 14		rele	ocate vehicular routes as far from the	14
15		ear	thwork complex as possible.	15
16				16 '
17		a.	Remove existing parking area and	17
18		u	adjacent pedestrian paths.	18 1
19				19 :
20		h	Remove road and drive to the	201
21		0.	Blackstone House	20
22			Brackstone nouse.	21
2.3		C.	Remove and relocate Dill Road where	2.3
2.4		C.	it crosses and damages archeological	2.4
25			features	25
26				26
27		d	Create a new visitor parking area at	20
28		u.	the Paint Valley High School Property	28
29			with vehicular access from Highway	20
30			50	30
31			50.	31
32	2	Per	destrian Circulation The existing	32
33		nec	lestrian circulation system will be	33
34		imi	proved by adding routes that assist	34
35		ind	lefining the spatial qualities of the	35
36		ear	thwork complex Routes will be added	36
37		tha	t express and allow for understanding	37
38		oft	he earthwork's geometry	38
39		01 (	ale careful of the geometry.	39
40		а	Provide pedestrian access from the	40
41			new visitor orientation area to the	41
42			earthwork complex	42
43			car anyon complex.	43
44		h	Allow for informal pedestrian access	4.4
45		0.	inside the earthwork complex	45
46			providing access to the Small Circle	46
10			programs access to the binan direct,	10

Large Circle, and the small square, connecting to the visitor orientation area.

c.	Provide a trail to Paint Creek that
	forms a loop trail along the creek
	and connects back to the earthwork.
	Create an overlook and canoe/kayak
	access point on the creek.

^o Provide access and information to the interconnected water route between all park units.

1

## Vegetation

Treatment of vegetation at Seip Earthworks will focus on preservation of the archeological features. Vegetation will be managed to assist in defining the spatial organization of the earthwork complex, to clarify the visitor experience.

1. Vegetation management techniques will be used to preserve the archeological

- features.
- a. Remove trees and woody vegetation that impact archeological features or diminish the spatial qualities of the earthwork complex, specifically the fencerow vegetation around the perimeter of the previously stateowned property, and the removal of trees at the west half of the Small Circle.

2. Vegetation will be used to interpret various spaces including utilizing different grass types and mowing techniques to indicate spaces and distinct archeological features. Utilize distinct vegetation types to reveal the form and spaces of the earthwork complex: a. Use low mown vegetation in spaces of earthwork complexes including

1	the interior of the Large Circle, Small	1
2	Circle, and small square (archeological	2
3	features may be managed as low/	3
4	mown, or tall/unmown to further	4
5	differentiate).	5
6		6
7	^o Plant the reconstructed Seip-Pricer	7
8	Mound with taller vegetation (<6 to	8
9	12 inches in height), or marked with a	9
10	stone cobble cover.	10
11		11
12	^o Plant the earthen walls with taller	12
13	vegetation (<6 to 12 inches in height).	13
14		14
15	^o Plant the extant Seip-Conjoined	15
16	Mound with taller vegetation (<6 to	16
17	12 inches in height), or marked with a	17
18	stone cobble cover.	18
19		19
20	^o Plant borrow pits with taller mown	20
21	vegetation (<6 to 12 inches in height).	21
22		22
23	^o Plant interior spaces of the enclosures	23
24	with shorter mown vegetation (<6	24
25	inches in height).	25
26		26
27	b. Use a mix of native herbaceous	27
28	species maintained consistently	28
29	(mow 1-2 times per year) in areas	29
30	surrounding earthwork complex.	30
31		31
32 <b>3</b> .	Maintain woodland and riparian	32
33	vegetation along the edge of Paint Creek	33
34	and at the property boundaries.	34
35		35
36 <b>4</b> .	Establish a wooded edge to screen	36
37	negative views and impacts, specifically	37
38	to the east to screen the Paint Valley High	38
39	School.	39
40		40
41 5.	Consider planting shade trees that can	41
42	benefit visitors in summer or provide	42
43	scenic landscape value. Provide trees	43
44	in strategic locations where no known	44
45	features exist around the earthworks.	45
46		46

1	Bui	Idings and Structures			
2	The	The preferred alternative includes assessing			
2	the	historical significance of the evisting			
л Л	ctri	instorical significance of the existing			
4	boo	avec they regatively impact the			
5	Dec	ause they negatively impact the			
6	arc	neological lanuscape. New structures will			
7	be a	added to provide visitor functions, sited			
8	awa	ay from the archeological features.			
9					
10	1.	Evaluate buildings and structures that			
11		may be significant in their own right, but			
12		that are non-contributing features to the			
13		archeological landscape.			
14					
15		^o Prepare HABS documentation and/			
16		or a National Register evaluation for			
L7		the Blackstone House to document the			
18		building prior to demolition.			
19					
20		^o Document the fish camp buildings			
21		prior to demolition.			
22					
23	2.	Remove non-contributing buildings			
24		and structures from the archeological			
25		landscape, after full documentation.			
26					
27		a. Remove the Blackstone House and			
28		outhuildings.			
29					
30		h. Remove fish camp buildings and			
31		related structures			
32		i clutcu ști uctul cși			
33		c Remove existing nicnic area including			
24		nicnic shelter nortable restroom			
25		tables and corresponding small scale			
26		fosturos			
27		leatures.			
)/ )0	2	Add now structures and small scale			
20	5.	foatures for visitor orientation to assist			
10		in the interpretation of the conthuser			
rU 1 1		complex on the Daint Valley High School			
r1 12		property			
tZ		property.			
t3					
+4					
ł5					
ł6					

# 1 Small Scale Features

2	The preferred alternative allows for small			
3	scale features that assist in visitor experience			
4	and interpretation of the earthwork complex			
5	una m	er pretation of the cartinvork complex.		
6	Small s	scale features that are non-contributing		
7	and do	not serve an active role in		
, 8	internr	retation of the earthwork complex will		
9	he rem	oved		
10	berein			
11	а	Remove small scale features at the		
12	а.	nicnic area including parking area		
12		hollards nichic tables drinking		
14		fountain and trash and recycling		
15		recentacles		
16		receptacies.		
17	h	Remove small scale features at the		
18	υ.	Blackstone House including fences		
10		and overhead utility lines		
20		and overhead utility lines.		
21	C	Remove overhead utility lines on Dill		
21	с.	Road		
22		Noau.		
23	4 Ne	w small scale features will be minimal		
25	1. ne and	d unobtrusive		
26	and			
20	а	Design and situate new small scale		
28	а.	features such as signs and interpretive		
20		nanels to be low-profile and		
30		unohtrusive Consider movable nanels		
31		that will not impact resources below-		
32		grade		
33		Sidde		
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
.0				



## Legend





#### Sources:

Magnetic Survey 2015, GIS HOCU 2012 LiDAR; 1848, High Bank Works, Davis and Squire; Seip Marshall NAD83; https://msc.fema.gov/portal/search?Address Query=chillicothe; http://www.fws.gov/wetlands/Data/Mapper.html; 2014 Google Maps

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RCH 2016	CULTURA	TITLE OF PROJECT	REPORT	
TED STATES NT OF THE INTERIOR				
CULTURE NATIONAL	SEIP EARTHWO	DRKS - PREFEF NAME OF PARK	RRED ALTER	NATIVE
ORICAL PARK	HOPEWELL CULTU	JRE NATIONAL	HISTORICAL	PARK
STRATION 6-6	REGION MIDWEST	COUNTY ROSS	<u>STATE</u> OHIO	6-53

illustrates the desired

# **High Bank Works**

1 The treatment plan for High Bank Works	1 earthwork. Currently, the middle portion
2 emphasizes the interpretation of Hopewell	2 of the earthwork (the Parallel Walls) are
3 ceremonialism. The archeological landscape	3 in private ownership. Easements will be
4 will be preserved, while allowing visitors to	4 necessary to provide access to the lower
5 discover the creation and use of the mounds.	5 terrace, the Scioto River, and the South
6 This will be accomplished through delineatio	n 6 Earthwork.
7 of unreconstructed mounds, improvements in	n 7
8 circulation routes, and removal of damaging	8 The treatment plan for High Bank Works
9 vegetation. In accordance with the GMP,	9 (ILLUSTRATION 6-7) illustrates the desir
10 High Bank Works will be used primarily for	10 landscape condition.
11 research and as an archeological preserve. ⁶⁻³⁴	11
12	12 Spatial Organization/Topography/Views
13 Preservation is the treatment approach for	13 The vision for the spatial organization
14 High Bank Works. This approach protects and	d 14 at High Bank Works is for the forms and
15 preserves those features which convey its	15 patterns of the archeological landscape to
16 historic and cultural significance.	16 be revealed. The full spatial qualities of th
17	17 earthwork complex and the relationship t
18 Treatment goals for High Bank Works include	e 18 the surrounding landscape will be depicted
19 the following:	19
20	20 1. The spatial organization will be repai
21 • Preserve extant above-grade archeologica	al 21 through removal of non-contributing
22 features.	22 features; removal of vegetation that
23	23 obscures the earthwork complex and
24 • Spatially depict the two-dimensional	archeological features; and establishing
25 earthwork complex.	25 pedestrian circulation routes that ass
26	in defining the spatial qualities of the
27 • Locate visitor facilities (roads, parking)	27 earthwork complex.
away from earthwork complex.	28
29	a. Spatially depict the three-dimension
30 • Reveal the relationship to the river and	30 form of the earthwork complex ar
31 other earthwork complexes.	31 surroundings through vegetation
32	32 management. Delineate the mass,
33 • Remove non-contributing features that	33 scale, and form of the earthwork
impact the visitor's ability to discern the	34 complex by marking non-extant
35 archeological landscape.	35 above-grade archeological feature
36	36 i.e. earthen walls, mounds, and
<ul> <li>Provide an authentic visitor experience.</li> </ul>	37 borrow pits, and the spaces of the
38	38 earthwork
39 The preferred alternative for High Bank	39
40 Works includes protecting all archeological	40 h Remove hazardous trees and
41 features either through concervation	41 woody vegetation that impact the
42 easements or acquiring property from willing	$\sigma$ 42 archeological features or diminish
43 sellers in order protect the entirety of the	43 visitor's understanding of the sna
	1.5 visitor s understanding of the system $1.5$
	- 45 and individual spaces
чэ 6-34 НОСО GMP, 39.	and multitudal spaces.

- atial organization is for the forms and ological landscape to spatial qualities of the and the relationship to lscape will be depicted. nization will be repaired of non-contributing l of vegetation that thwork complex and tures; and establishing ation routes that assist patial qualities of the lex. ict the three-dimensional arthwork complex and s through vegetation t. Delineate the mass, rm of the earthwork narking non-extant archeological features, valls, mounds, and and the spaces of the
- rdous trees and ation that impact the features or diminish the erstanding of the spatial he earthwork complex al spaces.

1	c.	Remove non-contributing features	1 <b>2.</b>	<u>Bes</u>	t Practices - Preservation of Features.
2		from the immediate surroundings	2	Pre	serve all extant below- and above-
3		of the earthwork complex, including	3	gra	de archeological features. Stabilize and
4		buildings, structures, roads, utilities,	4	rep	air features as necessary, following
5		etc.	5	bes	t practices.
6			6		
7	d.	Maintain a consistent vegetation	7 <b>3.</b>	<u>Rep</u>	pair of Archeological Spaces.
8		type on the archeological features to	8	Rep	air archeological spaces to reveal
9		distinguish them from the adjacent	9	the	ir form and scale. Delineate the
10		landscape. Clarify the forms of the	10	ear	thwork complex by marking with
11		earthwork complex by utilizing	11	veg	etation or utilizing vegetation
12		two distinct vegetation types. One	12	mai	nagement techniques that highlight
13		vegetation type will be used on the	13	the	archeological features when no
14		earthwork complex, and another type	14	dise	cernible topographical relief occurs
15		will be used in adjacent areas.	15	in L	iDAR imagery or through visual
16			16	obs	ervations.
17	e.	Create a view between the earthwork	17		
18		complex and the river, by thinning	18	a.	Depict the three-dimensional form of
19		vegetation along a portion of the	19		the earthwork complex through the
20		riverbank and opening select views of	20		use of one or more of the following
21		Paint Creek and Scioto River.	21		techniques. Use a consistent palette of
22			22		materials.
23	f.	Add vegetative buffers to screen	23		
24		negative views, specifically the	24	0	Use vegetation types or vegetation
25		railroads tracks and road at the	25		management techniques to
26		northeast property line.	26		differentiate between the earthwork
27			27		complex and the surrounding
28 <b>A</b>	rcheo	ological Features	28		landscape.
29 TI	he tre	eatment plan provides for protection	29		
30 ar	nd re	pair of the archeological features at	30	0	Use a taller grass / herbaceous mix
31 H	igh B	ank Works to spatially depict the	31		at the edges of the archeological
32 m	assiv	ve earthen walls, borrow pits, and	32		spaces and in areas of archeological
33 m	nound	ls that are not currently visible. The	33		scatter, to distinguish these from the
34 de	esire	d aesthetic should include open spaces	34		earthwork complex and woodland
35 ar	nd lov	w vegetation that assists with visibility	35		areas.
36 of	fthe	earthworks.	36		
37			37 <b>4</b> .	Pre	servation of Archeological Features.
38 1.	. <u>Inv</u>	vestigations and Research. Continue	38	Nor	n-extant archeological features at
39	inv	vestigations and archeological research,	39	Hig	h Bank Works will be preserved, and
40	inc	cluding the following research needs.	40	mai	rked through the use of vegetation or
41		5 5	41	oth	er impermanent methods.
42	a.	Identify currently unknown	42		•
43		resources at the outlying areas using	43	a.	Repair non-extant archeological
44		magnetometry or other non-invasive	44		features to depict their mass, form
45		archeological techniques.	45		and character, as documented by
46		~ 1	46		the 2013 Burks magnetic survey, or

1	based upon most recent archeological	1
2	investigations.	2
3	0	3
4	^o Specific treatment for each	4
5	archeological feature is provided in	5
6	ILLUSTRATION 6-7. Cross section	6
7	examples provided in ILLUSTRATION	7
8	6-1 represent examples of applicable	8
9	marking techniques.	9
10	0	10
11 b.	Use vegetation maintained at different	11
12	heights to depict outlines and	12
13	dimensions of non-extant mounds and	13
14	earthen walls.	14
15		15
16	^o Specific features to be delineated	16
17	include the following.	17
18	5	18
19	– Great Circle	19
20	-Octagon	20
21	– Parallel Walls	21
22	– South Earthwork	22
23	–Borrow pits	23
24	L	24
25 Circula	ation	25
26 The vi	sion for the circulation system at High	26
27 Bank	Works is to remove all non-contributing	27
28 featur	es, including roads and parking areas,	28
29 and to	add pedestrian routes that assist in	29
30 defini	ng the spatial qualities of the earthwork	30
31 compl	ex. Access to the earthwork complex	31
32 via the	e river will be added to reflect the	32
33 circula	ation route that existed at the time of	33
34 the Ho	ppewell.	34
35	-	35 (
36 1. <u>V</u> e	hicular Circulation. The vehicular	36
37 cir	culation system will be modified	37
38 to	remove vehicular routes from the	38 ;
39 ea	rthwork complex, while providing for	39
40 sa	fe visitor and maintenance access.	40
41		41
42 a.	Remove existing gravel and dirt roads.	42
43		43
44 b.	Add a second vehicular route and	44
45	parking area, open to visitors, at the	45
46	South Earthwork.	46

- 2. <u>Pedestrian Circulation</u>. A network of pedestrian paths will provide access to the earthwork and the edge of the Scioto River.
  - a. Improve pedestrian access at the north parking area into the earthwork complex. Work long-term with the railroad company to provide safe access across the railroad tracks.
  - b. Improve existing pedestrian circulation by adding routes that allow for understanding of the earthwork complex.
    - ^o Maintain informal pedestrian circulation routes throughout the interior space of the earthworks.
    - ^o Add a path from the south vehicular entry into the South Earthwork.
  - c. Create a path from the south vehicular entry to the Scioto River. Create a canoe / kayak access at the river edge. Provide a river overlook in this location.

## Vegetation

- Vegetation at High Bank Works will
- be managed to provide visibility and
- preservation of the earthwork complex.
- Trees and shrubs that grow on the earthwork
- complex will be removed, hardwood forest
- will be maintained around the earthwork
- complex, and riparian vegetation will remain
- along the river edge.
- 1. Vegetation management techniques will
- be used to preserve the archeological
- features.
- - a. Remove hazardous trees and woody vegetation that impact contributing archeological features or diminish

1 2	the spatial qualities of the earthwork complex, specifically the area	<ol> <li>Add a vegetative buffer along the</li> <li>northeast property line to screen the</li> </ol>
3	southwest of the Octagon.	3 existing railroad and road from the
5	b. Remove the native grassland at the	5
6	Octagon.	6 Small Scale Features
7	0	7 The preferred alternative allows for small
8 2.	Vegetation will be used to interpret	8 scale features that assist in visitor experience
9	various spaces including utilizing	9 and interpretation of the earthwork complex.
10	different grass types and mowing	10
11	techniques to indicate spaces and distinct	11 1. Small scale features that are non-
12	archeological features. Use two distinct	12 contributing and do not serve an active
13	vegetation types to reveal the form and	13 role in interpretation of the earthwork
14	spaces of the earthwork complex:	14 complex will be removed.
15		15
16	a. Low/mown vegetation in spaces of	16 a. Remove all non-contributing small
17	earthwork complex including the	17 scale features. This includes the fence
18	interior of the Great Circle, Octagon,	18 adjacent the Large Circle, the utility
19	Parallel Walls and South Earthwork	19 poles and lines along the dirt access
20	(archeological features may be	20 road.
21	managed as low/mown, or tall/	
22	unmown to further differentiate).	22 2. Any new small scale features will be
23	⁹ Plant the Creat Circle Octagon	23 minimal and unobtrusive.
24 25	Plant the Great Circle, Octagon,	24
25	with taller vegetation (26 inches in	25 d. Design and situate new sinal scale
20	height)	20 reactives such as signs and interpretive
28	neight).	28 unobtrusive
29	^o Plant borrow nits with taller mown	29
30	vegetation (<6 inches in height).	30 b Add a fence along the northeast
31	vegetation ( 'e menee in norghe).	31 property line to provide a separation
32	^o Plant interior spaces of the enclosures	32 between the earthwork and existing
33	with shorter mown vegetation (3 to	33 railroad.
34	<6 inches in height).	34
35		35
36	b. Use a mix of native herbaceous	36
37	species maintained consistently	37
38	in areas surrounding earthwork	38
39	complex.	39
40		40
41	° This could be the same mix as	41
42	currently used in the Octagon. Mow	42
43	once a year, in the winter.	43
44		44
45 <b>3</b> .	Maintain woodland and riparian	45
46 47	vegetation along the edge of the Scioto River.	46



## Legend





· \ . \ . | . | . | .











**Tall Grass and Forbs** 

Woodland

Low Mixed Vegetation

Legislated Boundary

Creek Embankment

**Protect Adjacent Lands** 



Parking



Ρ

Existing Feature to Protect and Mark with Vegetation

**Unverified Feature to Protect and** Mark with Vegetation



Borrow Pit to Protect and Mark with Vegetation

#### Sources:

Burks 2013 High Bank Works Magnetic Survey; Burks 2013 Turpen Tract-High Bank Works Magnetic Survey; GIS HOCU 2012 LiDAR; 1848, High Bank Works, Davis and Squire; http://www.fws.gov/wetlands/Data/Mapper.html; https://msc.fema.gov/portal; 2014 Google Maps

#### TIC# 353 128149

RCH 2016		
	AND ENVIRONMENTAL ASSESSMENT TITLE OF DRAWING	
	HIGH BANK WORKS - PREFERRED ALTERNATIVE	
ORICAL PARK		ĸ
TRATION 6-7	REGION COUNTY STATE 6-5	:0
	MIDWEST RUSS OHIO 00	

## Implementation

This section provides guidance for implementing the treatment recommendations. The recommendations are organized into distinct tasks, with subtasks identified. These tasks will guide preparation of Project Management Information System (PMIS) project statements.

The tasks are presented by park unit, in table form. Each task has been assigned a phase, or priority, that indicates when implementation should occur. These phases include: Phase 1 (1 to 5 years); Phase 2 (5 to 10 years); and Phase 3 (10 to 15 years).

CLR Treatment Recommendation / FMSS Work Order	CLR Task Component/ FMSS Task Component	Phase / Priority Phase 1 (1 to 5 years) Phase 2 (5 to 10 years) Phase 3 (10 to 15 years)
Mound City Group		
Task 1. Protect Views	Task 1.1 Establish screen/vegetation buffer at property edges Task 1.2 Thin veg to reveal mountain views Task 1.3 Screen Visitor Center	Phase 1
Task 2. Relocate Visitor Center, Administrative, and Maintenance Buildings	Task 2.1 Determine new location for Administrative and Visitor Center Task 2.2 Remove Visitor Center, picnic shelter, Administrative, Maintenance Buildings, and relocate	Phase 3
Task 3. Remove vehicular circulation	Task 3.1 Determine new access routes Task 3.2 Remove existing roads, parking areas	Phase 3
Task 4. Investigate Small Scale Features	Task 4.1. Document features for significance Task 4.2 Repair/ remove as determined	Phase 2
Task 5. Add Trails	Task 5.1 Create river access point Task 5.2 Create new trail through North 40 Task 5.3 Extend river trail Task 5.4 Create trail and connection across river to Hopeton Earthworks Task 5.5 Extend bike path from Tri County Triangle Trail to Mound City Group	Phase 2
Task 6. Protect Soundscape	Task 6.1 Create agreement/partnership to mitigate noise	Phase 1
Task 7. Establish Native Vegetation (North Forty)	Task 7.1 Transition North Forty from haying to native grasses and forbs	Phase 1 to 3
Task 8. Maintain Previously Reconstructed Mounds (Mounds 1 through 23)	Task 8.1 Establish grass mix, mown 3-6" Task 8.2 Establish cobble marking on largest mounds (#1,2,3,4,5,7,8,18)	Phase 1 Phase 2

#### TABLE 6-2. Implementation

CLR Treatment Recommendation / FMSS Work Order	CLR Task Component/ FMSS Task Component	Phase / Priority Phase 1 (1 to 5 years) Phase 2 (5 to 10 years) Phase 3 (10 to 15 years)
Mound City Group, Cont.		
Task 9. Rehabilitate Mounds X1 & X2; 24 & 25	Task 9.1 Conduct archeological investigations to verify Task 9.2 Rehabilitate mounds	Phase 3
Task 10. Maintain Enclosure (interior space)	Task 10. Establish grass mix, mown 3-6"	Phase 1
Task 11. Maintain Enclosure Walls	Task 11. Establish grass mix, mown 6-12"	Phase 1
Task 12. Maintain Borrow pits	Task 12. Establish grass mix, mown 6-12"	Phase 1
Task 13. Maintain Non- reconstructed borrow pit	Task 13. Establish grass mix, mown 6-12"	Phase 1
CLR Treatment Recommendation / FMSS Work Order	CLR Task Component/ FMSS Task Component	Phase / Priority Phase 1 (1 to 5 years) Phase 2 (5 to 10 years) Phase 3 (10 to 15 years)
Hopeton Earthworks		
Task 1. Protect Views and Land Use	Task 1.1 Establish vegetation to screen property edges	Phase 1
Task 2. Visitor Parking, access	Task 2.1 Create visitor parking, visitor orientation	Phase 3
Task 3. Remove gravel road	Task 3.1 Remove existing road	Phase 2
Task 4. Add Trails	Task 4.1. Add a nature trail through the park unit, and connect trail to Mound City Group	Phase 3
Task 5. Establish Native Vegetation (outside of earthworks)	Task 5.1 Transition vegetation from haying to native grasses and forbs	Phase 1
Task 6. Maintain and Rehabilitate Great Circle, Square	Task 6.1 Verify extents and establish grass mix, mown 6-12"	Phase 2
Task 7. Maintain earthwork enclosures (interior spaces)	Task 7.1 Transition from haying to establish grass mix, mown 3-6"	Phase 2
Task 8. Maintain and Rehabilitate Parallel Walls, Circle A, B, and C	Task 8.1 Verify extents and establish grass mix, mown 6-12"	Phase 2
Task 9. Maintain and Rehabilitate Mounds	Task 9.1 Verify extents and establish grass mix, mown 6-12"	Phase 3
Task 10. Maintain Borrow pits	Task 10.1 Establish grass mix, mown 6-12"	Phase 2

CLR Treatment Recommendation / FMSS Work Order	CLR Task Component/ FMSS Task Component	Phase / Priority Phase 1 (1 to 5 years) Phase 2 (5 to 10 years) Phase 3 (10 to 15 years)
Hopewell Mound Group		
Task 1. Protect Views	Task 1.1 Establish vegetation to screen the adjacent land uses	Phase 1
	Task 1.2 Remove utilities that cross earthworks	Phase 3
Task 2. Visitor access	Task 2.1 Provide visitor parking area	Phase 2
Task 3. Remove Sulphur Lick Road	Task 3.1 Work with agencies, community to provide a new route	Phase 3
Task 4. Trails and river access	Task 4.1. Relocate Tri-County Trail away from earthworks Task 4.2 Maintain nature trail and add overlook Task 4.3 Provide creek access	Phase 2
Task 5. Establish Native Vegetation (outside of earthworks)	Task 5.1 Transition vegetation from haying to native grasses and forbs	Phase 1
Task 6. Maintain and Rehabilitate Great Enclosure, Square Enclosure, and D-shaped Enclosure	Task 6.1 Establish grass mix, mown 6-12" Task 6.2 Verify extents and rehabilitate	Phase 1 Phase 3
Task 7. Maintain earthwork enclosures (interior spaces)	Task 8.1 Transition from haying to establish grass mix, mown 3-6"	Phase 1
Task 8. Maintain and Rehabilitate Mounds (5 verified)	Task 8.1 Establish grass mix, mown 6-12" Task 8.2 Verify extents and rehabilitate	Phase 1 Phase 3
Task 9. Verify and Rehabilitate Mounds (33 unverified)	Task 9.1 Verify Mounds, archeological research Task 9.2 Establish grass mix, mown 6-12" Task 9.3 Rehabilitate	Phase 1 Phase 2 Phase 3
Task 10. Rehabilitate Ditches	Task 10.1 Establish grass mix, mown 3-6"	Phase 1 Phase 3
Task 11. Maintain Borrow pits	Task 11.1 Establish grass mix, mown 6-12"	Phase 1

CLR Treatment Recommendation / FMSS Work Order	CLR Task Component/ FMSS Task Component	Phase / Priority Phase 1 (1 to 5 years) Phase 2 (5 to 10 years) Phase 3 (10 to 15 years)
Seip Earthworks		
Task 1. Protect Views and Land Use	Task 1.1 Establish vegetation to screen the school from the earthworks	Phase 1
Task 2. Relocate Visitor Parking, picnic, access	Task 2.1 Determine new location for parking, visitor orientation Task 2.2 Remove picnic shelter, parking, and associated features.	Phase 3
Task 3. Move Dill Road	Task 3.1 Determine new route, to be located off of earthwork features. Task 3.2 Remove existing road and utility poles	Phase 3
Task 4. Add Trails	Task 4.1. Add a nature trail to follow Paint Creek and create a loop through the park unit Task 4.2 Connect trail to the greater greenway trail system	Phase 1
Task 5. Document and remove Blackstone House and Fish Camp Buildings	Task 5.1 Document the Fish Camp buildings and related structures, and remove Task 5.2 Document the Blackstone House Task 5.3 Remove the Blackstone House, outbuildings, and other associated features (road, utilities)	Phase 1 - 2
Task 6. Establish Native Vegetation (outside of earthworks)	Task 6.1 Transition vegetation from haying to native grasses and forbs	Phase 1
Task 7. Maintain and Rehabilitate Large Circle	Task 8.1 Establish grass mix, mown 6-12" Task 8.2 Verify extents and rehabilitate circle	Phase 2
Task 8. Maintain earthwork enclosures (interior spaces)	Task 8.1 Transition from haying to establish grass mix, mown 3-6"	Phase 1
Task 9. Maintain Seip-Pricer Mound	Task 09.1 Establish cobble marking on mound	Phase 3
Task 10. Maintain Conjoined Mound	Task 10.1 Verify extents, add soil to define mound, as determined necessary Task 10.2 Establish cobble marking on mound	Phase 3
Task 11. Rehabilitate Small Circle and Large Square	Task 11.1 Establish grass mix, mown 6-12" Task 11.2 Verify extents and rehabilitate	Phase 1 Phase 3
Task 12. Maintain Borrow pits	Task 12.1 Verify extents and establish grass mix, mown 6-12"	Phase 2

CLR Treatment Recommendation / FMSS Work Order	CLR Task Component/ FMSS Task Component	Phase / Priority Phase 1 (1 to 5 years) Phase 2 (5 to 10 years) Phase 3 (10 to 15 years)
High Bank Works		
Task 1. Protect Views and Land Use	Task 1.1 Establish a view to the river from the earthwork complex Task 1.2 Establish vegetation to screen the adjacent railroad tracks from the earthwork complex	Phase 1
Task 2. Provide Visitor access	Task 2.1 Provide a new parking area and visitor access to the South Earthwork Task 2.2 Provide visitor parking area and safe passage across the railroad tracks	Phase 2
Task 3. Remove gravel road	Task 3.1 Remove gravel roads and utilities that cross the earthworks	Phase 3
Task 4. Add Trails and river access	Task 4.1. Add a nature trail to the river edge, with river access. Create a looped trail through the park unit.	Phase 2
Task 5. Establish Native Vegetation (outside of earthworks)	Task 5.1 Transition vegetation from haying to native grasses and forbs	Phase 1
Task 6. Maintain and Rehabilitate Great Circle	Task 6.1 Verify extents and establish grass mix, mown 6-12"	Phase 1
Task 7. Maintain earthwork enclosures (interior spaces)	Task 8.1 Transition from haying to establish grass mix, mown 6-9"	Phase 1
Task 8. Maintain and Rehabilitate Octagon	Task 8.1 Establish grass mix, mown 6-12"	Phase 1
Task 9. Maintain and Rehabilitate Parallel Walls	Task 9.1 Verify extents and establish grass mix, mown 6-12"	Phase 2
Task 10. Rehabilitate South Earthwork	Task 10.1 Verify extents and establish grass mix, mown 6-12"	Phase 2
Task 11. Maintain Borrow pits	Task 11.1 Verify extents and establish grass mix, mown 6-12"	Phase 1

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