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8.0 PROPOSED MITIGATION AND MONITORING PLAN

A mitigation and monitoring plan is required for this project as part of the Individual 404 permit review and pursuant to Ohio Administrative Code 3745-1-05. The mitigation discussion that follows describes the mitigation proposal for the Preferred and Minimal Degradation Alternatives. A discussion of how the amount of required mitigation was determined is provided for each alternative, along with the overall objectives of the mitigation plan. No mitigation is proposed under the Non-Degradation Alternative, as direct impacts to jurisdictional waters would not occur.

The sequence of the mitigation discussion below follows the format of the Ohio EPA Section 401 Water Quality Certification Application Completion and Submittal Instructions (rev. 7/2014), as described under Item 7 thereof.

8.1 Overview of Proposed Mitigation

8.1.1 Preferred Design

Stream Mitigation

Under the Preferred Design, WH Holdings LLC proposes impacts to 1,825 linear feet of Stream in order to construct five (5) road crossings as well as grading associated with the project. WH Holdings LLC is proposing to conduct stream restoration on approximately 3,488 linear feet of perennial stream and is proposing to preserve both the restored and un-impacted portions of on-site streams within 50 foot buffer zones (25 feet on each side of stream centerline). This includes proposing to daylight and preserve 2,719 linear feet of Stream 1 that is currently encapsulated in a pipe and impounded within ponds on the golf course. WH Holdings LLC will also restore and preserve 769 linear feet of Stream 7 that is currently impounded within a pond on the golf course. WH Holdings LLC will preserve approximately 3,613 linear feet of perennial stream, approximately 2,227 linear feet of intermittent stream, and approximately 646 linear feet of ephemeral stream. WH Holdings LLC is also proposing to impact ponds 3, 4, 5, 6, and 7, at least in part, for construction of stream corridors and general grading of the site.

Under the Preferred Design, the WH Holdings LLC proposes to mitigate for the impacts to 789 linear feet of perennial Stream 1, 632 linear feet of intermittent Stream 4, 201 linear feet of ephemeral Stream 3, and approximately 8.75 acres of jurisdictional pond by (1) restoring 1,825 linear feet of on-site perennial Stream 1 that is currently encapsulated within a pipe and impounded within a pond; (2) preserving that 1,825 linear feet of restored stream within a 50 foot buffer (25 feet on each side of stream's centerline), and (3) constructing an off-line wet retention basins that include water quality components that meet local and state stormwater requirements.

WH Holdings LLC is proposing that the surplus of stream mitigation, which includes 1,663 linear feet of stream restoration/preservation and 6,486 linear feet of stream preservation, be utilized on future New Albany Company (NACO) projects. This surplus stream mitigation, therefore, be excluded from any requirements of the 404/401 on this project.

Restoration of Stream 1 will serve as the stream mitigation for this project. The segmented portions of Stream 1 located on the golf course scored a 44 on the QHEI. This score indicates the stream is either a MWH stream or a WWH stream. The stream is being considered WWH since the stream



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contains fish upstream of the golf course and since no biological evaluation has been completed on the channel. The 1,061 linear feet of stream encapsulated within a pipe, as well as, the portion of stream impounded within a pond basically would score a 0 on the QHEI. The restored stream will restore functions and values of the stream to the watershed. The daylighted channel will reconnect the streams perennial flow to the groundwater. It will also physically connect downstream and upstream reaches of the stream. It is anticipated that stream habitat for aquatic organisms will increase as part of this project. A riparian buffer zone planted with native live stakes, trees, and shrubs will provide stability to the channel.

The proposed wet retention basins will provide significant water quality benefits by reducing sediments and attached pollutants. The basins will support ecologically functional stormwater treatment to mitigate for the water quality impacts to the jurisdictional ponds. The retention basins will include a water quality component that meets local and state stormwater requirements. The number and size of the basins will be determined by individual site engineers as each lot on the site is developed.

In order to evaluate the proposed mitigation, EMH&T is applying our current understanding of stream mitigation credits, which is as follows:

- The impacts will require a 1:1 replacement ratio, accordingly the ‘debits’ associated with the project would be 1,825.
- The stream restoration (daylighting) would be given a 1:1 credit ratio, provided that the stream meets Ohio EPA’s performance criteria. Assuming those criteria are met, the ‘credits’ awarded for the restoration of the on-site stream would equal approximately 3,488. Approximately 1,825 credits would be utilized for this current project and the surplus of 1,663 credits will be utilized on future NACO projects.
- The stream preservation would be given a 1:6 credit ratio, provided that the stream preservation meets certain criteria. Assuming those criteria are met, “the ‘credits’ awarded for the preservation of the onsite stream would equal approximately 1,081. These surplus credits are proposed to be utilized on future NACO projects.

The mitigation proposed by WH Holdings LLC meets the 1:1 ratio required by Ohio EPA by providing 1,825 ‘credits’ to offset 1,825 ‘debits’. The surplus of stream mitigation will be utilized on future NACO projects. This is summarized in Table 8 below.

TABLE 8
Credit Calculation for the Preferred Design

Mitigation Component	Linear Feet	Credit Ratio	Utilized Credits	Surplus Credits
Stream Restoration	3,488	1:1	1,825	1,663
Stream Preservation	6,486	1:6	-	1,081
Totals			1,825	2,744



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Wetland Mitigation

Required On-Site Mitigation

Based on the approximately 7.70 acre of wetland impacts, the client must mitigate by furnishing 3.60 acres of herbaceous wetland mitigation credit and 10.57 acres of forested mitigation credit, as shown in Table 9 below. WH Holdings LLC is proposing to use on-site wetland mitigation ratios based on rule 3745-1-54 of the Ohio Administrative Code (OAC). A portion of the wetland mitigation is to occur on-site and a portion of the wetland mitigation site is to occur off-site at the Beech Road Wetland Mitigation Site. The impact site is within one (1) mile of the Beech Road Wetland Mitigation Site; therefore, the impact site would qualify to use the on-site mitigation ratios, as shown in Table 1 in rule 3745-1-54.

**Table 9
Wetland Impacts and “On-Site” Mitigation Acreage Based On Preferred**

Name	ORAM Category/ Habitat	Wetland Impact (acres)	On-Site Mitigation Ratio*	Mitigation Acreage (acres)
Herbaceous Wetlands				
Wetland 3	Cat 2/ Herbaceous	0.73	1.5:1	1.10
Wetland 9	Cat 2/ Herbaceous	0.05	1.5:1	0.08
Wetland 10	Cat 2/ Herbaceous	0.02	1.5:1	0.03
Wetland 29	Cat 2/ Herbaceous	0.09	1.5:1	0.14
Wetland 31	Cat 2/ Herbaceous	0.33	1.5:1	0.50
Wetland 32	Cat 2/ Herbaceous	0.30	1.5:1	0.45
Wetland 33	Cat 2/ Herbaceous	0.03	1.5:1	0.05
Wetland 34	Cat 2/ Herbaceous	0.75	1.5:1	1.13
Wetland 35	Cat 2/ Herbaceous	0.02	1.5:1	0.03
Wetland 37	Cat 2/ Herbaceous	0.06	1.5:1	0.09
Sub-Total	-	2.38	-	3.60
Forested Wetlands				
Wetland 3	Cat 2/ Forested	0.73	2:1	1.46
Wetland 8	Cat 2/ Forested	0.06	2:1	0.12
Wetland 11	Cat 2/ Forested	0.11	2:1	0.22
Wetland 12	Cat 2/ Forested	0.31	2:1	0.62
Wetland 13	Cat 2/ Forested	0.10	2:1	0.20



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Table 9 continued

Wetland 14	Cat 1/ Forested	0.05	1.5:1	0.08
Wetland 15	Cat 1/ Forested	0.11	1.5:1	0.17
Wetland 16	Cat 2/ Forested	0.38	2:1	0.76
Wetland 17	Cat 2/ Forested	0.10	2:1	0.20
Wetland 18	Cat 2/ Forested	0.35	2:1	0.70
Wetland 19	Cat 2/ Forested	0.36	2:1	0.72
Wetland 22	Cat 2/ Forested	0.53	2:1	1.06
Wetland 30	Cat 2/ Forested	0.09	2:1	0.18
Wetland 34	Cat 2/ Forested	0.25	2:1	0.50
Wetland 38	Cat 2/ Forested	0.33	2:1	0.66
Wetland 39	Cat 2/ Forested	0.12	2:1	0.24
Wetland 40	Cat 2/ Forested	0.16	2:1	0.32
Wetland 41	Cat 2/ Forested	0.63	2:1	1.26
Wetland 42	Cat 2/ Forested	0.45	2:1	0.90
Wetland 43	Cat 2/ Forested	0.10	2:1	0.20
Sub-Total	-	5.32	-	10.57
Total	-	7.70	-	14.17

*On-site mitigation ratios used based on proximity to wetland mitigation site.

Additionally, the client is proposing on-site preservation of upland buffer zone surrounding Category 3 wetlands and Category 2 wetlands (as discussed below). According to the rule, “when non-wetland buffers are a component of acceptable compensatory mitigation, the buffers shall not be considered to fulfill more than 0.5 units of the required mitigation ratio. For example, non-wetland buffers could be used to reduce the mitigation requirement from 2.0:1 to 1.5:1.” For the reasons stated above, WH Holdings LLC is proposing to preserve 60.81 acres of non-wetland buffers and use reduced mitigation ratios on this project, as shown in Table 10 below.



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Table 10
Wetland Impacts and Reduced “On-Site” Mitigation Acreage Based On Preferred

Name	ORAM Category/ Habitat	Wetland Impact (acres)	Reduced Mitigation Ratio*	Mitigation Acreage (acres)
Wetland 3	Cat 2/ Herbaceous	0.73	1:1	0.73
Wetland 9	Cat 2/ Herbaceous	0.05	1:1	0.05
Wetland 10	Cat 2/ Herbaceous	0.02	1:1	0.02
Wetland 29	Cat 2/ Herbaceous	0.09	1:1	0.09
Wetland 31	Cat 2/ Herbaceous	0.33	1:1	0.33
Wetland 32	Cat 2/ Herbaceous	0.30	1:1	0.30
Wetland 33	Cat 2/ Herbaceous	0.03	1:1	0.03
Wetland 34	Cat 2/ Herbaceous	0.75	1:1	0.75
Wetland 35	Cat 2/ Herbaceous	0.02	1:1	0.02
Wetland 37	Cat 2/ Herbaceous	0.06	1:1	0.06
Sub-Total	-	2.38	-	2.38
Forested Wetlands				
Wetland 3	Cat 2/ Forested	0.73	1.5:1	1.01
Wetland 8	Cat 2/ Forested	0.06	1.5:1	0.09
Wetland 11	Cat 2/ Forested	0.11	1.5:1	0.17
Wetland 12	Cat 2/ Forested	0.31	1.5:1	0.47
Wetland 13	Cat 2/ Forested	0.10	1.5:1	0.15
Wetland 14	Cat 1/ Forested	0.05	1:1	0.05
Wetland 15	Cat 1/ Forested	0.11	1:1	0.11
Wetland 16	Cat 2/ Forested	0.38	1.5:1	0.57
Wetland 17	Cat 2/ Forested	0.10	1.5:1	0.15
Wetland 18	Cat 2/ Forested	0.35	1.5:1	0.53
Wetland 19	Cat 2/ Forested	0.36	1.5:1	0.54
Wetland 22	Cat 2/ Forested	0.53	1.5:1	0.80
Wetland 30	Cat 2/ Forested	0.09	1.5:1	0.14



Table 10 continued

Wetland 34	Cat 2/ Forested	0.25	1.5:1	0.38
Wetland 38	Cat 2/ Forested	0.33	1.5:1	0.50
Wetland 39	Cat 2/ Forested	0.12	1.5:1	0.18
Wetland 40	Cat 2/ Forested	0.16	1.5:1	0.24
Wetland 41	Cat 2/ Forested	0.63	1.5:1	0.95
Wetland 42	Cat 2/ Forested	0.45	1.5:1	0.68
Wetland 43	Cat 2/ Forested	0.10	1.5:1	0.15
Sub-Total	-	5.32	-	7.86
Total	-	7.70	-	10.24

*Reduced mitigation ratios used based on preservation of 60.81 acres of non-wetland buffer preservation.

On-Site Preservation and Enhancement

Ohio EPA encourages the preservation and/or enhancement of high quality avoided wetlands as a component of mitigation. Therefore, wetland mitigation is proposed to include preservation of on-site Category 3 wetlands and enhancement of on-site Category 2 wetlands, as described below:

- Wetland 20 and Wetland 21 are Category 3 wetlands that are proposed to be preserved on the site. These two (2) wetlands comprise 2.50 acres. On-site enhancement of Wetlands 1, 2, and 28, an avoided Category 2 wetland, is proposed. Together these wetlands comprises 2.81 acres on the site. All preserved and enhanced wetlands will be preserved within a Conservation Easement. According to rule 3745-1-54, wetland preservation and enhancement can be used as a component of the mitigation plan to reduce the wetland restoration requirement. Wetland restoration must, at a minimum, replace impacted wetlands at a 1:1 ratio. The wetland preservation and enhancement can be used to mitigate at a rate of at least two acres of wetland preservation for every remaining acre of compensatory wetland mitigation requirement. The wetland preservation requirement can be calculated using the following equation:

$$P/E = [(LMR - 1) \times 2] \times N$$

Where: P/E = Minimum number of acres of wetlands to be preserved and/or enhanced;
LMR = left side of mitigation ratio; N = number of impacted wetlands

For the purposes of this project, all preservation/enhancement credit has been applied toward the forested wetland mitigation. A mitigation ratio of 1.5:1 has been used within the equation to calculate the minimum number of acres of preservation and enhancement to be completed (i.e. 7.86 acres of forested mitigation for 5.32 acres of forested impact, as shown in Table 10). Thus for this project: $P/E = [1.5 - 1] \times 2 \times 5.32 = 5.32$



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- Therefore, in order to satisfy the mitigation requirement, WH Holdings LLC has the option of either: (1) restoring 7.86 acres of forested wetlands within one mile of the project site and restoring 2.38 acres of herbaceous wetlands within one mile of the project site or (2) restoring 5.32 acres of forested wetlands within one mile of the project site, restoring 2.38 acres of herbaceous wetlands within one mile of the project site, and completing 5.31 acres of Category 3 wetland preservation and/or Category 2 wetland enhancement.

Accordingly, WH Holdings LLC is proposing as part of their mitigation: (1) the perpetual preservation of 2.50 acres of forested Category 3 wetlands (Wetlands 20 and 21); (2) the enhancement and perpetual preservation of 2.81 acres of Category 2 wetland (Wetlands 1, 2, and 28), for a total of 5.31 acres of preservation and enhancement is requested.

On-Site Restoration

The on-site preservation and enhancement will be coupled with on-site restoration and restoration at the Beech Road Pooled Mitigation Site, as described below:

- On-site wetland restoration within the preservation area. A topographical depression is located on the site between Wetlands 26 and 28. This area is currently in agricultural production. WH Holdings LLC is proposing to conduct earthwork in this area and create approximately three (3) acres of forested wetland. This area will contain vernal pool habitat and be planted with a diverse assemblage of native herbs, shrubs, and trees. The restored wetland will be preserved within a Conservation Easement.
- Off-site wetland restoration at the Beech Road Mitigation Wetland Site. WH Holdings LLC will use the credits from NACO's Beech Road Mitigation Wetland Site to account for 2.38 acres of herbaceous wetland mitigation and 2.32 acres of forested wetland mitigation.

Preferred Design Wetland Mitigation Summary

To fulfill the mitigation requirement, the applicant is proposing the on-site preservation of 2.50 acres of Category 3 wetland, the on-site enhancement of 2.81 acres of Category 2 wetlands, the on-site restoration/creation of approximately 3 acres of forested wetland, and the restoration/creation of 4.70 acres of forested and herbaceous wetland at the Beech Road Pooled Mitigation Site. The Beech Road consolidated wetland mitigation site is described in the *Beech Road East-Northeast Site: Wetland Final Mitigation Plan, New Albany Company, LLC* (January 4, 2013) under USACE File No. LRH-2010-549-SCR-Haines Ditch and Ohio EPA Project ID No. 123999.

Taking into account both the proposed restoration, the proposed preservation, and the proposed enhancement WH Holdings LLC is proposing to mitigate for impacts at a 1.3:1 ratio. This was calculated using the credits presented in Table 11. Given the project impacts of 7.70 acres, and the 10.35 acres of calculated credits generated from the proposed mitigation, the resultant mitigation ratio is 1.3:1.



TABLE 11
Calculation of Planned Mitigation Ratio for Preferred

Mitigation Method	Acres	Factor	Credit (ac)
On-site preservation of upland buffers	-	(1)	-
On-site preservation of Category 3 wetlands	2.50	(2)	1.25
On-site enhancement of Category 2 wetland	2.81	(3)	1.40
On-site restoration/creation of Category 2 wetlands	7.70	(4)	7.70
Total	13.01	-	10.35
Ratio (7.70 ac impact)	-	-	1.3:1

- (1) Per OAC 3745-1-54, non-wetland (upland) buffers which are adjacent to wetlands assigned to category 2 or category 3 and which are avoided may be a component of acceptable compensatory mitigation. The buffers shall not be considered to fulfill more than 0.5 units of the required mitigation ratio. For example, non-wetland buffers could be used to reduce the mitigation requirement from 2.0:1 to 1.5:1. Thus, credit results in reducing mitigation ratios by 0.5 units.
- (2) Per OAC 3745-1-54, two (2) acres of preservation is required for every remaining acres of preservation beyond the 1:1 wetland restoration/creation requirement. Thus, the credit is equal to the acreage preserved
- (3) Per OAC 3745-1-54, two (2) acres of enhancement is required for every remaining acres of enhancement beyond the 1:1 wetland restoration/creation requirement. Thus, the credit is equal to the acreage enhanced minus the overage past the 1:1 in-kind (forested) wetland restoration/creation.
- (4) Per OAC 3745-1-54, at least one (1) acre of in-kind restored/created wetland is required for every acre of wetland that is impacted. Thus, the credit is equal to the acreage.

8.1.2 Minimal Degradation Alternative

Stream Mitigation

There is no difference in the stream impacts between the Preferred Alternative and Minimal Degradation Alternative. Therefore, WH Holdings LLC proposes the same stream mitigation components for the Minimal Degradation Alternative as is proposed for the Preferred Design.

Wetland Mitigation

The Minimal Degradation Alternative will avoid Wetlands 14, 15, 17, 18, and 19; thereby lowering cumulative wetland impacts to 6.73 acres. Based on the approximately 6.73 acres of wetland impacts, the client must mitigate by furnishing 3.60 acres of herbaceous wetland mitigation credit and 8.70 acres of forested mitigation credit, as shown in Table 12 below. WH Holdings LLC is proposing to use *on-site* wetland mitigation ratios based on rule 3745-1-54 of the Ohio Administrative Code (OAC). A portion of the wetland mitigation is to occur on-site and a portion of the wetland mitigation site is to occur off-site at the Beech Road Wetland Mitigation Site. The impact site is within one (1) mile of the Beech Road Wetland Mitigation Site; therefore, the impact site would qualify to use the on-site mitigation ratios, as shown in Table 1 in rule 3745-1-54.



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**Table 12
Wetland Impacts and “On-Site” Mitigation Acreage Based On Minimal**

Name	ORAM Category/ Habitat	Wetland Impact (acres)	On-Site Mitigation Ratio*	Mitigation Acreage (acres)
Herbaceous Wetlands				
Wetland 3	Cat 2/ Herbaceous	0.73	1.5:1	1.10
Wetland 9	Cat 2/ Herbaceous	0.05	1.5:1	0.08
Wetland 10	Cat 2/ Herbaceous	0.02	1.5:1	0.03
Wetland 29	Cat 2/ Herbaceous	0.09	1.5:1	0.14
Wetland 31	Cat 2/ Herbaceous	0.33	1.5:1	0.50
Wetland 32	Cat 2/ Herbaceous	0.30	1.5:1	0.45
Wetland 33	Cat 2/ Herbaceous	0.03	1.5:1	0.05
Wetland 34	Cat 2/ Herbaceous	0.75	1.5:1	1.13
Wetland 35	Cat 2/ Herbaceous	0.02	1.5:1	0.03
Wetland 37	Cat 2/ Herbaceous	0.06	1.5:1	0.09
Sub-Total	-	2.38	-	3.60
Forested Wetlands				
Wetland 3	Cat 2/ Forested	0.73	2:1	1.46
Wetland 8	Cat 2/ Forested	0.06	2:1	0.12
Wetland 11	Cat 2/ Forested	0.11	2:1	0.22
Wetland 12	Cat 2/ Forested	0.31	2:1	0.62
Wetland 13	Cat 2/ Forested	0.10	2:1	0.20
Wetland 16	Cat 2/ Forested	0.38	2:1	0.76
Wetland 22	Cat 2/ Forested	0.53	2:1	1.06
Wetland 30	Cat 2/ Forested	0.09	2:1	0.18
Wetland 34	Cat 2/ Forested	0.25	2:1	0.50
Wetland 38	Cat 2/ Forested	0.33	2:1	0.66
Wetland 39	Cat 2/ Forested	0.12	2:1	0.24
Wetland 40	Cat 2/ Forested	0.16	2:1	0.32
Wetland 41	Cat 2/ Forested	0.63	2:1	1.26



Table 12 continued

Name	ORAM Category/ Habitat	Wetland Impact (acres)	On-Site Mitigation Ratio*	Mitigation Acreage (acres)
Wetland 42	Cat 2/ Forested	0.45	2:1	0.90
Wetland 43	Cat 2/ Forested	0.10	2:1	0.20
Sub-Total	-	4.35	-	8.70
Total	-	6.73	-	12.30

*On-site mitigation ratios used based on proximity to wetland mitigation site.

Additionally, the client is proposing preservation of upland buffer zone surrounding Category 3 wetlands and Category 2 wetlands. According to the rule, “when non-wetland buffers are a component of acceptable compensatory mitigation, the buffers shall not be considered to fulfill more than 0.5 units of the required mitigation ratio. For example, non-wetland buffers could be used to reduce the mitigation requirement from 2.0:1 to 1.5:1.” For the reasons stated above, WH Holdings LLC is proposing to preserve 70.45 acres of non-wetland buffers and use reduced mitigation ratios on this project, as shown in Table 13 below.

**Table 13
Wetland Impacts and Reduced “On-Site” Mitigation Acreage Based On Minimal**

Name	ORAM Category/ Habitat	Wetland Impact (acres)	Reduced Mitigation Ratio*	Mitigation Acreage (acres)
Herbaceous Wetlands				
Wetland 3	Cat 2/ Herbaceous	0.73	1:1	0.73
Wetland 9	Cat 2/ Herbaceous	0.05	1:1	0.05
Wetland 10	Cat 2/ Herbaceous	0.02	1:1	0.02
Wetland 29	Cat 2/ Herbaceous	0.09	1:1	0.09
Wetland 31	Cat 2/ Herbaceous	0.33	1:1	0.33
Wetland 32	Cat 2/ Herbaceous	0.30	1:1	0.30
Wetland 33	Cat 2/ Herbaceous	0.03	1:1	0.03
Wetland 34	Cat 2/ Herbaceous	0.75	1:1	0.75
Wetland 35	Cat 2/ Herbaceous	0.02	1:1	0.02
Wetland 37	Cat 2/ Herbaceous	0.06	1:1	0.06



Table 13 Continued

Sub-Total	-	2.38	-	2.38
Forested Wetlands				
Wetland 3	Cat 2/ Forested	0.73	1.5:1	1.01
Wetland 8	Cat 2/ Forested	0.06	1.5:1	0.09
Wetland 11	Cat 2/ Forested	0.11	1.5:1	0.17
Wetland 12	Cat 2/ Forested	0.31	1.5:1	0.47
Wetland 13	Cat 2/ Forested	0.10	1.5:1	0.15
Wetland 16	Cat 2/ Forested	0.38	1.5:1	0.57
Wetland 22	Cat 2/ Forested	0.53	1.5:1	0.80
Wetland 30	Cat 2/ Forested	0.09	1.5:1	0.14
Wetland 34	Cat 2/ Forested	0.25	1.5:1	0.38
Wetland 38	Cat 2/ Forested	0.33	1.5:1	0.50
Wetland 39	Cat 2/ Forested	0.12	1.5:1	0.18
Wetland 40	Cat 2/ Forested	0.16	1.5:1	0.24
Wetland 41	Cat 2/ Forested	0.63	1.5:1	0.95
Wetland 42	Cat 2/ Forested	0.45	1.5:1	0.68
Wetland 43	Cat 2/ Forested	0.10	1.5:1	0.15
Sub-Total	-	4.35	-	6.48
Total	-	6.73	-	8.86

*Reduced mitigation ratios used based on preservation of 70.45 acres of non-wetland buffer preservation.

On-Site Preservation and Enhancement

Wetland mitigation is proposed to occur through a combination of the following:

- Wetland 20 and Wetland 21 are Category 3 wetlands that are proposed to be preserved on the site. These two (2) wetlands comprise 2.50 acres. On-site enhancement of Wetlands 2, 17, and 28, avoided Category 2 wetlands, is proposed. Together these wetlands comprise 1.84 acres on the site. All preserved and enhanced wetlands will be preserved within a Conservation Easement. According to rule 3745-1-54, wetland preservation and enhancement can be used as a component of the mitigation plan to reduce the wetland restoration requirement. Wetland restoration must, at a minimum, replace impacted wetlands at a 1:1 ratio. The wetland preservation and enhancement can be used to mitigate



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at a rate of at least two acres of wetland preservation for every remaining acre of compensatory wetland mitigation requirement. The wetland preservation requirement can be calculated using the following equation:

$$P/E = [(LMR - 1) \times 2] \times N$$

Where: P/E = Minimum number of acres of wetlands to be preserved and/or enhanced;
LMR = left side of mitigation ratio; N = number of impacted wetlands

For the purposes of this project, all preservation/enhancement credit has been applied toward the forested wetland mitigation. A mitigation ratio of 1.5:1 has been used within the equation to calculate the minimum number of acres of preservation and enhancement to be completed (i.e. 6.48 acres of forested mitigation for 4.35 acres of forested impact, as shown in Table 10). Thus for this project: $P/E = [1.5 - 1] \times 2 \times 4.35 = 4.35$

- Therefore, in order to satisfy the mitigation requirement, WH Holdings LLC has the option of either: (1) restoring 6.74 acres of forested wetlands within one mile of the project site and restoring 2.38 acres of herbaceous wetlands within one mile of the project site or (2) restoring 4.36 acres of forested wetlands within one mile of the project site, restoring 2.38 acres of herbaceous wetlands within one mile of the project site, and completing 4.34 acres of Category 3 wetland preservation and/or Category 2 wetland enhancement.

Accordingly, WH Holdings LLC is proposing as part of their mitigation: (1) the perpetual preservation of 2.50 acres of forested Category 3 wetlands (Wetlands 20 and 21); (2) the enhancement and perpetual preservation of 1.84 acres of Category 2 wetland (Wetlands 2, 17, and 24), for a total of 4.34 acres of preservation and enhancement is requested.

On-Site Restoration

The on-site preservation and enhancement will be coupled with restoration at the Beech Road Pooled Mitigation Site, as described below:

- On-site wetland restoration within the preservation area. A topographical depression is located on the site between Wetlands 26 and 28. This area is currently in agricultural production. WH Holdings LLC is proposing to conduct earthwork in this area and create approximately three (3) acres of forested wetland. This area will contain vernal pool habitat and be planted with a diverse assemblage of native herbs, shrubs, and trees. The wetland will be preserved within a Conservation Easement.
- Off-site wetland restoration at the Beech Road Mitigation Wetland Site. WH Holdings LLC will use the credits from NACO's Beech Road Mitigation Wetland Site to account for 2.38 acres of herbaceous wetland mitigation and approximately 1.36 acres of forested wetland mitigation.



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Minimal Degradation Alternative Wetland Mitigation Summary

To fulfill the mitigation requirement, the applicant is proposing the on-site preservation of 2.50 acres of Category 3 wetland, the on-site enhancement of 1.84 acres of Category 2 wetlands, the on-site restoration/creation of approximately 3 acres of forested wetland, and the restoration/creation of 1.36 acres of forested and herbaceous wetland at the Beech Road Pooled Mitigation Site. The Beech Road consolidated wetland mitigation site is described in the *Beech Road East-Northeast Site: Wetland Final Mitigation Plan, New Albany Company, LLC* (January 4, 2013) under USACE File No. LRH-2010-549-SCR-Haines Ditch and Ohio EPA Project ID No. 123999.

Taking into account both the proposed restoration and the proposed preservation, WH Holdings LLC is proposing to mitigate for impacts at a 1.3:1 ratio, exceeding the required mitigation ratio for the proposed impacts. This was calculated using the credits presented in Table 14. Given the project impacts of 6.73 acres, and the 8.91 acres of calculated credits generated from the proposed mitigation, the resultant mitigation ratio is 1.3:1.

**TABLE 14
Calculation of Planned Mitigation Ratio for Minimal**

Mitigation Method	Acres	Factor	Credit (ac)
On-site preservation of upland buffers	-	(1)	-
On-site preservation of Category 3 wetlands	2.50	(2)	1.25
On-site enhancement of Category 2 wetland	1.84	(3)	0.92
On-site restoration/creation of Category 2 wetlands	6.74	(4)	6.74
Total	11.08	-	8.91
Ratio (6.73 ac impact)	-	-	1.3:1

- (1) Per OAC 3745-1-54, non-wetland (upland) buffers which are adjacent to wetlands assigned to category 2 or category 3 and which are avoided may be a component of acceptable compensatory mitigation. The buffers shall not be considered to fulfill more than 0.5 units of the required mitigation ratio. For example, non-wetland buffers could be used to reduce the mitigation requirement from 2.0:1 to 1.5:1. Thus, credit results in reducing mitigation ratios by 0.5 units.
- (2) Per OAC 3745-1-54, two (2) acre of preservation is required for every remaining acres of preservation beyond the 1:1 wetland restoration/creation requirement. Thus, the credit is equal to the acreage preserved
- (3) Per OAC 3745-1-54, two (2) acre of enhancement is required for every remaining acres of enhancement beyond the 1:1 wetland restoration/creation requirement. Thus, the credit is equal to the acreage enhanced minus the overage past the 1:1 in-kind (forested) wetland restoration/creation.
- (4) Per OAC 3745-1-54, at least one (1) acre of in-kind restored/created wetland is required for every acre of wetland that is impacted. Thus, the credit is equal to the acreage.



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8.2 Wetland Mitigation Bank

This option is not proposed for this project. There are no mitigation banks within the Upper Scioto Watershed that currently have available mitigation credits; therefore, this section is not applicable.

8.3 In-Lieu Fee Mitigation

This option is not proposed for this project. Pursuant to Ohio State rules and law, compensatory mitigation for wetland impacts authorized under a 401 WQC must be considered in the following order:

- On-site (permittee responsible mitigation)
- Off-site (permittee responsible) mitigation within the same watershed
- An approved wetland mitigation bank.

The proposed mitigation plan is to implement permittee responsible mitigation within the same watershed as the impacts.

8.4 Permittee-Responsible Mitigation

WH Holdings LLC proposes to complete onsite (permittee responsible) mitigation for both the Preferred and Minimal Degradation Alternatives. The proposed mitigation, as described in Section 8.1, will be achieved on the project property and at the Beech Road Wetland Mitigation Site. Details regarding the site setting, property ownership, mitigation activities, monitoring and performance standards are further discussed in the Mitigation and Monitoring Plan, which is to be provided under separate cover.

8.5 Protection in Perpetuity

Per the requirements of the Ohio Administrative Code and Ohio Revised Code, the stream and wetland preservation areas proposed as part of the mitigation will be protected in perpetuity via Conservation Easements. The Conservation Easements will be filed by WH Holdings LLC and likely held by the City of New Albany.

A draft copy of the proposed Conservation Easements and an aerial photograph showing the boundaries of the proposed mitigation area will be included in the attached Mitigation and Monitoring Plan, which will be provided under separate cover.



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