

April 1, 2014

Ohio EPA, Division of Surface Water
Attn: Isolated Wetlands Permitting
P.O. Box 1049
Columbus, Ohio 43216-1049

RE: ISOLATED WETLAND PERMIT YANKEE TRACE WOODS

Dear Mr. See:

MAKSolve, LLC ("MAKSolve") and our Partner Auxano Environmental, LLC, on behalf of our client Mr. Brian Barnhard, present for your consideration this isolated wetland permit application for Yankee Trace Woods. Please disregard the last submission that was sent to you March 17, 2014. With this submission and the information that was provided from our pre-permit application which included a USGS topographic map of the site, wetland delineation, ORAM score sheets, and site photographs you should have a complete package. The only outstanding item that still needs to be submitted is the Corp of Engineers jurisdictional determination (JD) letter. We have contacted the Huntington Corp District and at this time it is not certain when the JD letter will be issued.

With the isolated wetlands permit package that was submitted on March 17, 2014 we enclosed an application fee of \$250.00, please add that check to the enclosed in the amount of \$205.00 to meet the total application processing fee of \$455.00.

Please feel free to contact me with any questions that you may have and we look forward to future communication.

Respectfully Submitted,

MAKSolve, LLC

A handwritten signature in black ink that reads "Michael A. Kerr".

Michael A. Kerr, CHMM
Managing Partner, Project Manager

Enclosure – Report



GENERAL ISOLATED WETLAND PERMIT APPLICATION (Level One Review)

For impacts of ½ acre or less to Category 1 & 2 isolated wetlands

Please Print or Type (attach additional sheets if necessary)

	Applicant	Agent:
Company Name:		
Address:		
City, State, Zip:		
Contact Person:		
Phone Number(s):		
Fax Number:		
E-Mail Address:		

PROJECT INFORMATION

Project Name: _____ Watershed (USGS 8-Digit HUC): _____

Street: _____ City/Township: _____

County: _____ Latitude: _____ Longitude: _____

Project Description:

Other water-related permits pending, issued, or required for this project:

- | | | |
|---|--|---|
| <input type="checkbox"/> Nationwide Permit (#) | <input type="checkbox"/> Permit To Install | <input type="checkbox"/> NPDES Discharge Permit |
| <input type="checkbox"/> Individual 401 Certification | <input type="checkbox"/> Mining Permit | <input type="checkbox"/> NPDES Storm Water Permit |
| <input type="checkbox"/> Individual 404 Permit | <input type="checkbox"/> Coastal Erosion Area Permit | <input type="checkbox"/> Other: _____ |

I have included the following in this submittal:

- | | |
|---|--|
| <input type="checkbox"/> Maps showing project footprint & wetlands and a USGS topographic map | <input type="checkbox"/> Wetland categorization (including all ORAM score sheets) |
| <input type="checkbox"/> Wetland delineation | <input type="checkbox"/> Site photographs |
| <input type="checkbox"/> Corps isolated waters determination | <input type="checkbox"/> Mitigation proposal (including mitigation bank credit documentation if appropriate) |
| | <input type="checkbox"/> Check for applicable fees |

Are there other aquatic resources on the project site? (please check all that apply)

- | | | |
|--|---|--|
| <input type="checkbox"/> Perennial Streams | <input type="checkbox"/> Intermittent Streams | <input type="checkbox"/> Ephemeral Streams |
| <input type="checkbox"/> Non-isolated wetlands | <input type="checkbox"/> Lakes/Ponds | |

Have any impacts to aquatic resources related to this project already occurred on this site?

- Yes No

Individual Isolated Wetland Information Table*. Please list all isolated wetlands: See Section 3.0 Mitigation Table

Wetland ID	ORAM Score	Category	Size (Acres)			Impacts (Acres)		
			Forest	Non-Forest	Total	Forest	Non-Forest	Total
Totals								
Totals - Category 1 Wetlands								
Totals - Category 2 Wetlands								
Totals - Category 3 Wetlands								

*List more on separate sheets if needed.

List mitigation techniques utilized for the proposed filling:

Onsite (check)	Offsite (check)	Mitigation Acreage				Name of Bank (If applicable)	USGS 8-Digit HUC
		Restored	Created	Enhanced	Preserved		
Totals							

Fee Table:

- a. Application Fee: _____
- b. Review Fee (\$500.00 X ____ . ____): _____ (Maximum \$5,000.00)
(Acres of impacts to the nearest 1/100 of an acre)
- c. Subtotal (add lines a and b): _____ (Maximum \$5,200.00)
- d. After the Fact Fee (equal to line c): _____ (Maximum \$5,200.00)
(Only if impacts have occurred without authorization)
- e. Total Fee Amount (add lines c and d): _____ (Maximum \$10,000.00)

Please make fee check payable to: **"Treasurer, State of Ohio"**

I certify that the information provided on this form and submissions related to the project are true and accurate to the best of my knowledge:

Applicant Name (Print): _____ Applicant Signature: _____ Date: _____

Send completed application, including fee check, to: **Ohio EPA, Division of Surface Water
P.O. Box 1049, Columbus, Ohio 43216-1049
ATTN: Isolated Wetlands Permitting**



INDIVIDUAL ISOLATED WETLAND PERMIT APPLICATION (Level Two Review)

For impacts greater than 1/2 acre for Category 1 isolated wetlands and greater than 1/2 acre but not exceeding 3 acres for Category 2 isolated wetlands

Please Print or Type (attach additional sheets if necessary)

Project Name: Yankee Trace Woods

Applicants must submit a completed General Isolated Wetland Permit Application (Level One Review) in addition to providing the following information and/or demonstrations:

1. Please provide an analysis of practicable on-site alternatives to the proposed filling of the isolated wetland that would have a less adverse impact on the isolated wetland ecosystem:
See Attachment 1 with associated Appendix 1-4.
2. Please provide information indicating whether high quality waters, as defined in rule 3745-1-05 of the administrative code, are to be avoided by the proposed filling of the isolated wetland(s):
The higher quality wetlands (Category 2) found around Holes Creek and its tributary and ~0.65 acre of isolated wetland (also Category 2) will be avoided as part of the development (See Attachment 1 and Appendix 1-4). In order to avoid the higher quality wetlands and the stream ~0.51 acre of isolated wetlands will be impacted at the site in order to meet the needs of the developer.
3. Please provide maps and narratives describing buffers provided for any isolated wetland(s) that will be avoided at the site:
See Attachment 2.
4. Please demonstrate that the wetland(s) to be filled are not locally or regionally scarce and do not contain rare, threatened or endangered species:
According to the Ohio Department of Natural Resources (ODNR) there were no State listed threatened or endangered species located within the range of the site. The U.S. Fish and Wildlife (USFWS) service was contacted and the site was within range of the endangered Indiana Bat. It was suggested that if the site was to be developed this year that the bat habitat trees had to be felled by March 31st of this year. (See Appendix 5 for the ODNR response letter and Appendix 6 for the USFWS response). During on site observations there were no noted threatened or endangered species present.
5. Please demonstrate that the project impacts would not result in significant degradation to the aquatic ecosystem:
In order to avoid degradation to waters of the State of Ohio the applicant has avoided the higher quality waters that are found around Holes Creek and its tributary. Additionally, the applicant has planned for creating at a 1:1 ratio the amount of wetlands that will be impacted at the site. Lastly, as part of OEPA anti-degradation requirement the applicant plans on placing a conservation easement around Holes Creek ~550 l.f, its tributary ~190 l.f., wetland fringe ~0.20 acre and wetland H-1 ~0.09 acre (in the areas that Vectren does not already hold an easement) to protect the remaining natural resources.
6. Please provide a comprehensive post-development storm water plan that includes water quality improvement measures:

See Appendix 7 SWPPP, post-development plans includes two detention basins correctly sized to collect storm water run-off from the roadways and the houses prior discharge into Holes Creek.

I certify that the information provided on this form and as part of this submittal regarding the project is true and accurate to the best of my knowledge:

Applicant Name (Print): Brian C Barnard Applicant Signature: [Signature] Date: 3/17/14

Send completed application, including fee check, to: Ohio EPA, Division of Surface Water
P.O. Box 1049, Columbus, Ohio 43216-1049
ATTN: Isolated Wetlands Permitting

**ATTACHMENT 1
ALTERNATIVES ANALYSIS**

1.0 401 FEASIBLE AND PRACTICABLE ALTERNATIVES

The feasible and practicable alternative under 401 guidelines requires that no discharge shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem so long as the alternative does not have other significant adverse environmental consequences.

- A practicable alternative is considered available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose.
- Therefore under the practicable alternatives the applicant must demonstrate that their preferred alternative is the least damaging practicable alternative to the aquatic ecosystem that meets the project purpose.

The project team investigated several alternatives, including alternative configurations and design modifications to the proposed project, to demonstrate avoidance and minimization of jurisdictional waters and to determine the Least Environmentally Damaging Practicable Alternative (LEDPA). The purpose of these investigations was to determine if an alternative could attain the overall project purpose while causing fewer impacts to aquatic features than the original (as presented to City of Centerville Council and Planning/Zoning Commission) proposed project design, as well as avoiding other significant adverse environmental consequences.

The following discussion considers and evaluates each alternative in terms of its a) consistency with the basic project purpose; b) potential impacts to waters of the State and U.S.; c) other environmental impacts; and d) cost, logistic, and technological considerations. If an alternative is considered substantially inconsistent with the project purpose, no further evaluation is provided.

1.1 PROJECT PURPOSE

The ~13.812 acres of property was purchased, prior to the housing and subsequent economic downturn in 2006, as an investment property in a highly sought after area of Washington Township. The property was recently annexed by the City of Centerville from the Township in order to expedite site development and the facilitation of fire/police access to Paragon Road and Yankee Trace Boulevard. The site is currently surrounded by a golf club housing development to the west and private home owners to the north, south, and east. Since the housing downturn in 2006 the property has not been farmed (as it had in the past) and has sat idle. With a perceived upturn in the housing market the owners have proposed to construct a desirable residential subdivision (Yankee Trace Woods). The subdivision will include a main road off of Paragon Road (Hidden Branches Drive), internal roads, utilities, lots, and a community walk way.

According to the U.S. Census information the Centerville, Ohio housing market has been depressed from 2010-2012 with very little development occurring in that timeframe (See Appendix 1). One issue is that most of the land in Centerville has been developed and there is very little area to build new homes. Most of the housing developments were built from 1960 to 1999 and then development dropped off sharply after 2009. The Woods at Yankee Trace would add 27 new home sites which would help the current tax base for the City; contribute to Centerville School District revenue base, and create an opportunity for much needed growth in the housing market for the area.

Additionally, The Woods at Yankee Trace subdivision is strategically located between the existing north-south collector street called Yankee Trace Boulevard to the west and the recently improved north-south arterial known as Paragon Road to the east. Paragon Road was just recently improved from the Estates of Paragon south to the City of Centerville's corporation line, including the frontage of the proposed Woods at Yankee Trace development. These improvements softened two sharp curves to significantly improve safety and traffic flow in this area.

Public safety response times are a significant issue in this area. Response times for public safety vehicles of all types will be considerably lowered for a significant number of residents in the area by construction of the proposed Hidden Branches Drive (main road for the subdivision). This road will provide a vital connection between the Paragon Road arterial and the Yankee Trace Boulevard connector, effecting a very significant reduction in response times for police, fire and rescue units as is evidenced by letters of support from the Chief, Centerville Police Department, and Chief, Washington Township/Centerville Fire Department.

In order to construct the 27 new home sites and make it a viable developable parcel the following natural resources will be impacted. The minimum degradation and preferred alternative proposes to fill 0.51± acres of isolated wetlands. Best management practices will be utilized during construction and two permanent detention basins will be constructed to intercept storm water runoff from the proposed project area before being discharged into Holes Creek.

1.1.1 Alternative A – Original Design

Alternative A involves a total of 0.88± acres of wetland impacts (0.76 acre of Category 2 isolated forested wetland, 0.12 acre of Category 2 isolated scrub shrub wetland, and 0.01 acre impact to Category 3 forested wetland) and 310 l.f. of impacts to an ephemeral stream channel. The concept plan and cross-sections for this alternative are included in Appendix 2. This alternative would maximize the developable area by creating 31 developable lots but would be detrimental to the surrounding wetlands. Additionally, the revenue that the additional lots would bring would not outweigh the cost to mitigation which would be more expensive. So an alternative that lessened impacts to wetlands and made the development of the site still feasible was created. Impacts for this alternative are discussed in section 1.1.2 below.

Wetland/Stream Impact Tables

Wetland	Size (acres)	ORAM Category	Regulatory Authority	Acreage To Be Impacted	Acreage Avoided
A-1	0.23	51- Category 2 - Forested	Isolated - OEPA	0.23	0%
B-1	0.16	46.5- Category 2 - Forested	Isolated - OEPA	0.16	0%
C-1	0.08	46.5- Category 2 - Forested	Isolated – OEPA	0.08	0%
D-1	0.15	44- Category 2 - Forested	Isolated – OEPA	0.15	0%
E-1	0.04	47.5- Category 2 – Scrub Shrub	Isolated – OEPA	0.04	0%
F-1	0.06	49.5- Category 2 – Scrub Shrub	Isolated – OEPA	0.06	0%
G-1	0.02	46.5- Category 2 – Scrub Shrub	Isolated – OEPA	0.02	0%
H-1	0.09	44- Category 2 - Forested	Isolated – OEPA	0.09	0%
I-1	0.05	34.5- Modified Category 2 - Forested	Isolated - OEPA	0.05	0%
Stream Channel Fringe Wetland	0.28	63- Category 3 - Forested	Connected – ACOE and OEPA	0.01	96%
Total	1.16			0.88	25%

Drainage Designation	Linear Feet Located on Site	QHEI/HHEI Score	Regulatory Authority	Classification	Linear Feet Impacted
Holes Creek	700	QHEI 61	Connected – ACOE and OEPA	WWH	0
Un-Named Tributary to Holes Creek	310	HHEI 33	Connected – ACOE and OEPA	Class I PHWH (Ephemeral)	310

1.1.2 Alternative B – Minimum Degradation/Preferred Design

Alternative B involves a total of 0.51± acres of wetland impacts (0.39 acre of Category 2 isolated forested wetland and 0.12 acre of Category 2 isolated scrub shrub wetland) additionally there will be no impacts to any of the streams at the site. The concept plan and cross-sections for this alternative are included in Appendix 3. This alternative would minimize wetland impacts and still allow the developer to build 27 single family housing lots. The developer would lose four developable lots but the mitigation requirements would be drastically reduced, along with the associated costs.

Wetland/Stream Impact Tables

Wetland	Size (acres)	ORAM Category	Regulatory Authority	Acreage To Be Impacted	Acreage Avoided
A-1	0.23	51- Category 2 - Forested	Isolated - OEPA	0.06	74%
B-1	0.16	46.5- Category 2 - Forested	Isolated - OEPA	0.16	0%
C-1	0.08	46.5- Category 2 - Forested	Isolated – OEPA	0.08	0%
D-1	0.15	44- Category 2 - Forested	Isolated – OEPA	0.04	73%
E-1	0.04	47.5- Category 2 – Scrub Shrub	Isolated – OEPA	0.04	0%
F-1	0.06	49.5- Category 2 – Scrub Shrub	Isolated – OEPA	0.06	0%
G-1	0.02	46.5- Category 2 – Scrub Shrub	Isolated – OEPA	0.02	0%
H-1	0.09	44- Category 2 - Forested	Isolated – OEPA	0	100%
I-1	0.05	34.5- Modified Category 2 - Forested	Isolated - OEPA	0.05	0%
Stream Channel Fringe Wetland	0.28	63- Category 3 - Forested	Connected – ACOE and OEPA	0	100%
Total	1.16			0.51	57%

Drainage Designation	Linear Feet Located on Site	QHEI/HHEI Score	Regulatory Authority	Classification	Linear Feet Impacted
Holes Creek	700	QHEI 61	Connected – ACOE and OEPA	WWH	0
Un-Named Tributary to Holes Creek	310	HHEI 33	Connected – ACOE and OEPA	Class I PHWH (Ephemeral)	0

1.1.3 Alternative C – Anti-Degradation Design

The non-degradation alternative will not impact surface water resources on the project site (see Appendix 4). This alternative would only allow for 14 developable lots which is not economically feasible for the site developer. The cost of the roadway, utility lines, and grading would cost more than the developer could attain from selling 14 lots. Additionally, the City would not allow this development since it would not connect Yankee Trace Drive and Paragon Road which is required in order to create a subdivision at this location. Therefore, this alternative is impractical and could not be developed based on the City's requirements and the developer's needs.

**ATTACHMENT 2
AVOIDANCE**

2.0 AVOIDANCE

2.1 WETLAND AND STREAM AVOIDANCE – PREFERRED/MINIMAL DEGRADATION DESIGN

Wetland/Stream Impact Tables

Wetland	Size (acres)	ORAM Category	Regulatory Authority	Acreage To Be Impacted	Acreage Avoided
A-1	0.23	51- Category 2 - Forested	Isolated - OEPA	0.06	74%
B-1	0.16	46.5- Category 2 - Forested	Isolated - OEPA	0.16	0%
C-1	0.08	46.5- Category 2 - Forested	Isolated – OEPA	0.08	0%
D-1	0.15	44- Category 2 - Forested	Isolated – OEPA	0.04	73%
E-1	0.04	47.5- Category 2 – Scrub Shrub	Isolated – OEPA	0.04	0%
F-1	0.06	49.5- Category 2 – Scrub Shrub	Isolated – OEPA	0.06	0%
G-1	0.02	46.5- Category 2 – Scrub Shrub	Isolated – OEPA	0.02	0%
H-1	0.09	44- Category 2 - Forested	Isolated – OEPA	0	100%
I-1	0.05	34.5- Modified Category 2 - Forested	Isolated - OEPA	0.05	0%
Stream Channel Fringe Wetland	0.28	63- Category 3 - Forested	Connected – ACOE and OEPA	0	100%
Total	1.16			0.51	57%

Drainage Designation	Linear Feet Located on Site	QHEI/HHEI Score	Regulatory Authority	Classification	Linear Feet Impacted
Holes Creek	700	QHEI 61	Connected – ACOE and OEPA	WWH	0
Un-Named Tributary to Holes Creek	310	HHEI 33	Connected – ACOE and OEPA	Class I PHWH (Ephemeral)	0

Wetland A-1: approximately 0.17 acre of wetland A-1 will be left in place. The wetland is currently bisected by a road and the new development mimics the current road bed but extending slightly in the northern part of the wetland and takes almost all of the southern section. The northern half of the wetland will be protected by 25 foot buffers to the east and west and to the north the wetland extends off of the property into the neighbor’s yard (which is maintained). The wetland will be part of the ecological features of the development and maintenance will be provided by the home owners association.

The southern part of wetland A-1 will be protected with 25 foot buffers to the east and will be expanded to create a 0.18 acre wetland area. It is planned that a house

will be located ~100 feet to the west of the wetland. The northern and southern boundaries are very narrow.

It is anticipated that the wetland A-1 will become two separate wetlands with the construction of the road and there will be a total of ~0.35 acre of wetland located in this area.

Wetland D-1: approximately 0.11 acre of wetland D-1 will be left in place. The wetland will be expanded to create an additional 0.16 acre wetland with a 25 foot buffer to the east and west and an 80 foot buffer to the north because of the gas easement. Total wetland in this area will be ~0.27 acre of wetland.

Wetland F-1: approximately 0.001 acre of wetland F-1 will be left in place. The wetland will be expanded to the east to create an additional 0.15 acre wetland with a 15 foot buffer to the north, east and west and an 80 foot buffer to the south since we are protecting the stream channel. Total wetland in this area will be ~0.15 acre of wetland.

Wetland H-1: approximately 0.09 acre of wetland H-1 will be left in place. The wetland will not be impacted and will keep its large buffers ~100 feet to the north, south, and east. The area will be cleared of the invasive honeysuckle and will be expanded toward the north and east to increase the wetland by ~0.18 acre for a total area of 0.27 acres.

It is anticipated that ~0.49 acre of wetland will be created at the site to offset the impacts that will occur to the wetland on site and be protected by a conservation easement so that they can naturally develop. As part of OEPA anti-degradation requirement the applicant plans on placing a conservation easement around Holes Creek ~550 l.f., its tributary ~190 l.f., wetland fringe ~0.20 acre and wetland H-1 ~0.09 acre (in the areas that Vectren does not already hold an easement) to protect the remaining natural resources. The buffers to Holes Creek and its tributary will be ~100 feet to south but will be reduced to the north due to the development of the detention basins ~15 to 20 feet to the north.

**ATTACHMENT 3
MITIGATION**

3.0 MITIGATION

3.1 DISCRIPTION OF REQUIRED MITIGATION

Mitigation Tables

Wetland	Size (acres)	Acreage To Be Impacted	Acreage Avoided	Acreage To Be Created	Total Mitigated and Avoided To Be Placed In Conservation Easement
A-1	0.23	0.06	0.17	0.18	0.35
B-1	0.16	0.16	0	0	0
C-1	0.08	0.08	0	0	0
D-1	0.15	0.04	0.11	0.16	0.27
E-1	0.04	0.04	0	0	0
F-1	0.06	0.06	0	0.18	0.18
G-1	0.02	0.02	0	0	0
H-1	0.09	0	0.09	0.18	0.27
I-1	0.05	0.05	0	0	0
Stream Channel Fringe Wetland	0.28	0	0.28	0	0.20
Total	1.16	0.51	0.65	0.70	1.27

Drainage Designation	Linear Feet Located On Site	Linear Feet To Be Impacted	Linear Feet To Be Avoided	Total Linear Feet To Be Placed In Conservation Easement
Holes Creek	700	0	0	550
Un-Named Tributary to Holes Creek	310	0	0	190

Wetland A-1: The wetland is currently bisected by a road and the new development mimics the current road bed but extending slightly in the northern part of the wetland and takes almost all of the southern section. The northern half of the wetland will be protected by 25 foot buffers to the east and west and to the north the wetland extends off of the property into the neighbor's yard (which is maintained). The wetland will be part of the ecological features of the development and maintenance will be provided by the home owners association.

The southern part of wetland A-1 will be protected with 25 foot buffers to the east. It is planned that a house will be located ~100 feet to the west of the wetland. The northern and southern boundaries are very narrow.

It is anticipated that the one wetland will become two separate wetlands with the construction of the road.

Wetland D-1: The wetland will have a 25 foot buffer to the east and west and an 80 foot buffer to the north because of the gas easement.

Wetland F-1: The wetland will have a 15 foot buffer to the north, east and west and an 80 foot buffer to the south since we are protecting the stream channel.

Wetland H-1: The wetland will not be impacted and will keep its large buffers ~100 feet to the north, south, and east.

As part of OEPA anti-degradation requirement the applicant plans on placing a conservation easement around Holes Creek ~550 l.f., its tributary ~190 l.f., and wetland fringe ~0.20 acre (in the areas that Vectren does not already hold an easement) to protect the remaining natural resources. The buffers to Holes Creek and its tributary will be ~100 feet to south but will be reduced to the north due to the development of the detention basins ~15 to 20 feet to the north.

Total enhancement around Holes Creek and wetland H-1 will be approximately 1.25 acres. This area will also be placed in a conservation easement.

3.2 MITIGATION AND MONITORING PLANS

As mitigation for impacts described below applicant shall implement the mitigation plan dated July 1, 2014, and in accordance with the conditions in this permit.

3.2.1 Timing of Mitigation Requirements

Mitigation construction shall be initiated concurrently with the wetland impacts and shall be completed within one year of the initial impacts.

3.2.2 Protection in Perpetuity

For the above described wetland mitigation area, wetland and stream avoidance area, and buffers the applicant will submit to Ohio EPA an acceptable, notarized, recorded, and filed Conservation Easement. The Conservation Easement shall include, as attachments, a metes and bounds (survey) description of the protected area, survey map, and an aerial photograph showing the boundaries of the protected area and all mitigation areas inside the protected area and shall protect, in perpetuity, the areas mentioned in section 3.1.

Signs shall be placed within visual distance along the mitigation area that indicate the area is a protected mitigation project and that mowing, dumping, or

any other activity that would result in a degradation of the wetland and/or stream without prior authorization from Ohio EPA is prohibited.

3.2.3 Agency Site Visits

The applicant shall arrange on-site mitigation meetings with Ohio EPA during the growing season that follows the submittal of the second, fifth, seventh, and tenth annual mitigation monitoring reports. The purpose of this inspection is to determine if the mitigation project has been constructed in accordance with the mitigation and monitoring plan approved by Ohio EPA and the terms and conditions of this permit, as well as to determine progress toward compliance with the performance goals for the site. The applicant is responsible for undertaking any modifications identified by Ohio EPA.

3.2.4 Reporting

1. Annual Update Reports

A mitigation construction and project update report shall be submitted to Ohio EPA by December 31 of each year following the date of this permit and until mitigation construction is complete and a mitigation monitoring report is ready for submittal. Each update report shall contain, at a minimum, the following information:

- a. The status of all of the mitigation required for the project as specified in the application and permit including the filing of the required Conservation Easement.
- b. The status of the filling activities at the development site including dates filling was started and completed, or are expected to be started and completed. If filling activities have not been completed, a drawing shall be provided, which shows the locations and acreage/feet of wetlands/streams that have not yet been filled. If filling activities have been completed, then as-built drawings shall be submitted, which show where fill was placed.
- c. Mitigation construction start date, completion date, or expected start and completion date;
- d. A discussion of the extent to which the mitigation has been completed according to the timelines specified in this permit;
- e. Current contact information for all responsible parties including phone number, e-mail, and mailing addresses. For the purposes of this condition, responsible parties include, but may not be limited to

the Permittee, consultant, Conservation Easement holder, and Conservation Easement owner.

- f. As-built drawings sized 11" by 17" (to scale) of each of the mitigation areas, once construction is complete.

2. Annual Mitigation Monitoring Reports

- a. The mitigation monitoring period shall commence immediately following completion of mitigation construction and shall continue through a five year monitoring period, except as provided for in the contingency plan.
- b. Annual mitigation monitoring reports shall be submitted to Ohio EPA by December 31 of the first full year following the end of the first full growing season and completion of mitigation construction. All subsequent reports shall be submitted by December 31st of each of the monitoring years.
- c. Annual mitigation monitoring reports shall be prepared in the format prescribed in the Ohio EPA Monitoring Report Guidelines document available at <http://epa.ohio.gov/portals/35/401/401MonitoringReportGuidelines.pdf> and include the Monitoring Report Checklist provided at <http://epa.ohio.gov/portals/35/401/401MonitoringReportChecklistTable.pdf>.
- d. Each annual report shall contain the **current contact information** for the Permittee, agent, conservation easement holder, and conservation easement owner including phone number, e-mail, and mailing addresses.
- e. Each annual report shall clearly identify the specific monitoring period the report is intended to represent, as well as the calendar year the monitoring occurred. The report shall also provide a summary of current mitigation status, which compares the previous years' monitoring information with the current report including graphs and tables showing trends, etc.
- f. Each annual report shall include a cover letter. The cover letter shall identify the status of the mitigation project and identify any items needing immediate attention or questions for the regulatory agencies.
- g. Each annual monitoring report shall contain a list of species planted in all mitigation areas.

- h. The first year report shall include plan views and cross sections of the as-built mitigation area including the location and types of planting.
- i. At a minimum, the first, third, and fifth year annual reports shall contain updated drawings sized 11" by 17" or larger (to scale) of each of the mitigation wetlands reflecting the current conditions, corrective or other actions that occurred, changes in dominant vegetation, and other pertinent information.
- j. Each annual report shall include photographs to be collected as follows:
 - i. An adequate number of fixed observation points shall be selected, with no fewer than three fixed observation points per distinct mitigation area, to provide representative overviews of each distinct mitigation area. The use of stakes with unique numbers to designate photo locations is recommended.
 - ii. Photographs shall be taken from these points at the same position and angle during the growing season of each monitoring year. The fixed observation points shall be marked on the base map.
 - iii. Additional photographs of areas of interest within each distinct mitigation area shall be marked on the base map and provided in each monitoring report.

B. Monitoring Requirements – Wetlands

- 1. Site Drawings
 - a. At a minimum, in the first, third and fifth year annual reports a plan view that provides information on the morphometry of all mitigation wetlands and the location of any water control devices shall be provided. Each constructed mitigation wetland shall include at least one cross-section through the short axis and another through the long axis.

2. Wetland Delineation

- a. A delineation of the wetland mitigation area(s) shall be performed during the growing season of the third, seventh and tenth year of monitoring after completion of construction of the mitigation wetlands. The wetland delineation shall be performed in accordance with the United States Army Corps of Engineers 1987 Wetland Delineation Manual and the applicable Regional Supplement to the Corps of Engineers Wetland Delineation Manual and shall include an assessment of soils, hydrology, and plants according to the manual.
- b. For wetlands mitigated adjacent to existing wetlands...

...the entire wetland (mitigated and pre-existing) shall be delineated at the end of fifth year of monitoring. The amount of mitigated wetland can then be determined by subtracting the pre-existing wetland acreage from the new total.

3. Hydrology Monitoring

- a. Water level data shall be collected monthly, at a minimum, between April 15th and October 15th, to generally represent the growing season. Ground water levels shall be measured in the absence of inundated conditions.

4. Soil Monitoring

- a. A minimum of one soil probe or test pit per acre of mitigated wetland shall be collected. Describe the soil profile and hydric soil indicators. Indicate the soil map unit name (soil series and phase) and the taxonomic subgroup.
- b. Soil chemistry samples will be collected at baseline conditions for the first year report and for the third year of monitoring to show any changes or progress towards wetland soil development.
- c. The samples shall be analyzed for Percent Nitrogen, Percent Carbon, Percent Total Organic Matter, as well as Bulk Density, and compared to the values in the table below to determine progress towards a wetland soil condition conducive to productive wetlands.

Wetland Soil Goals	
Soil parameter	greater than or equal to
% Nitrogen	0.50%
% Carbon	6%
% Total Organic Matter*	13.5%
Bulk Density**	Normal range = 0.5 to 1.5 g/cm ³

5. Vegetation Monitoring

- a. The mitigation wetlands shall be assessed to obtain a VIBI score according to methods and protocols approved by Ohio EPA (http://www.epa.ohio.gov/portals/35/wetlands/PART4_VIBI_OH_WT_LDs.pdf) during the growing season of the, third and fifth years after completion of construction of the mitigation wetlands.
- b. The location and name of each plant community type within the wetland mitigation area shall be marked on a scaled drawing or scaled aerial photograph (base map) and named. The dominant plant species shall be visually determined in each vegetation layer of each community type, and the scientific names of these species shall be included in the report.
- c. Standard forestry measurements (e.g., frequency, density, dominance, and importance value) for all woody species shall be calculated and included in each monitoring report for forested wetlands. These data shall be graphed against time to demonstrate that each of these areas is developing into a functional forested ecosystem.

Monitoring Requirements – Enhanced Wetlands

6. For wetlands to be enhanced as compensatory mitigation, the pre-enhancement condition of the wetland to be enhanced shall be established prior to the enhancement activities. This baseline data shall be reviewed and approved by Ohio EPA prior to the initiation of enhancement activities.
7. A baseline VIBI evaluation of the pre-enhancement wetland shall be conducted and a VIBI score calculated and reported in the first year's monitoring report.

8. The amount of invasive species cover shall be determined and reported in the first year's monitoring report to provide a baseline for any invasive species control that may be necessary or required.

C. Performance Goals – Restored/Created Wetlands

1. Within ten years after completion of construction of the mitigation, the applicant shall have developed a minimum of 0.64 acres of Category 2 and/or 3 forested wetlands.
2. By the end of the ten year monitoring period, the mitigation wetland shall attain a Vegetation IBI score of 45 or higher.
3. The mitigation wetland shall have less than five percent relative cover of all non-Typha invasive plant species listed in Appendix 7 of the Guidelines for Mitigation Banking in Ohio available at <http://www.lrb.usace.army.mil/Portals/45/docs/regulatory/MitandMon/guidelineswetlandmitigation-Ohio.pdf>. Due to the difficulty of distinguishing the three species of cattails (*Typha latifolia*, *Typha angustifolia*, and *Typha x glauca*), as well as the likelihood that at least one of these will be present in many types of Ohio wetlands, the total relative cover of all invasive species, including *Typha* spp., will be less than ten percent.
4. The mitigation wetland shall contain at least 75 percent relative cover of native perennial hydrophytes.
5. For forested habitats the Permittee must demonstrate forested mitigation areas are on a trajectory to being forested. This demonstration is made by graphing basic forestry measures including frequency, density, and dominance per species against time. A minimum of 400 native, live and healthy (disease and pest free) woody plants per acre (of which at least 200 are tree species) must be present at the end of the monitoring period.
6. Develop a minimum of 15-20 feet on average of native upland buffer as measured from the edge of the wetland with no more than five percent relative coverage of invasive species as listed in Appendix 7 of the Guidelines for Mitigation Banking in Ohio available at <http://www.lrb.usace.army.mil/Portals/45/docs/regulatory/MitandMon/guidelineswetlandmitigation-Ohio.pdf>.
7. A minimum of 400 native, live and healthy (disease and pest free) woody plants per acre (of which at least 200 are tree species) must be present at the end of the monitoring period in the upland buffer.

Performance Goals – Enhanced Wetlands

1. The VIBI score for the enhanced mitigation wetland area shall increase to a score of 45 or higher by the end of five years.
2. The enhanced mitigation wetland shall have less than five percent relative cover of all non-Typha invasive plant species listed in Appendix 7 of the Guidelines for Mitigation Banking in Ohio available at <http://www.lrb.usace.army.mil/Portals/45/docs/regulatory/MitandMon/guidelineswetlandmitigation-Ohio.pdf>. Due to the difficulty of distinguishing the three species of cattails (*Typha latifolia*, *Typha angustifolia*, and *Typha x glauca*), as well as the likelihood that at least one of these will be present in many types of Ohio wetlands, the total relative cover of all invasive species, including *Typha* spp., will be less than ten percent.

Performance Goals – Preserved Wetlands and Streams

Preserved wetlands and their buffers shall be subject to a Conservation Easement that specifies the activities that are allowed and/or prohibited within the boundaries of the wetland and associated buffers to be preserved. All provisions must protect the long-term health and existing functions of the wetlands and associated buffers.

APPENDIX 1
HOUSING CENCUS INFORMATION



DP04

SELECTED HOUSING CHARACTERISTICS

2008-2012 American Community Survey 5-Year Estimates

Note: This is a modified view of the original table.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Subject	Centerville city, Ohio			
	Estimate	Margin of Error	Percent	Percent Margin of Error
HOUSING OCCUPANCY				
Total housing units	11,393	+/-378	11,393	(X)
Occupied housing units	10,835	+/-352	95.1%	+/-1.9
Vacant housing units	558	+/-225	4.9%	+/-1.9
Homeowner vacancy rate	1.2	+/-1.3	(X)	(X)
Rental vacancy rate	9.1	+/-5.4	(X)	(X)
UNITS IN STRUCTURE				
Total housing units	11,393	+/-378	11,393	(X)
1-unit, detached	6,530	+/-364	57.3%	+/-2.5
1-unit, attached	1,386	+/-198	12.2%	+/-1.6
2 units	130	+/-105	1.1%	+/-0.9
3 or 4 units	691	+/-176	6.1%	+/-1.5
5 to 9 units	1,330	+/-272	11.7%	+/-2.4
10 to 19 units	825	+/-176	7.2%	+/-1.6
20 or more units	501	+/-138	4.4%	+/-1.2
Mobile home	0	+/-21	0.0%	+/-0.3
Boat, RV, van, etc.	0	+/-21	0.0%	+/-0.3
YEAR STRUCTURE BUILT				
Total housing units	11,393	+/-378	11,393	(X)
Built 2010 or later	0	+/-21	0.0%	+/-0.3
Built 2000 to 2009	742	+/-140	6.5%	+/-1.2
Built 1990 to 1999	2,136	+/-283	18.7%	+/-2.4
Built 1980 to 1989	1,602	+/-175	14.1%	+/-1.5
Built 1970 to 1979	3,203	+/-367	28.1%	+/-3.0
Built 1960 to 1969	2,542	+/-272	22.3%	+/-2.3
Built 1950 to 1959	810	+/-160	7.1%	+/-1.4
Built 1940 to 1949	126	+/-65	1.1%	+/-0.6
Built 1939 or earlier	232	+/-163	2.0%	+/-1.4
ROOMS				
Total housing units	11,393	+/-378	11,393	(X)
1 room	158	+/-121	1.4%	+/-1.1

Subject	Centerville city, Ohio			
	Estimate	Margin of Error	Percent	Percent Margin of Error
2 rooms	186	+/-126	1.6%	+/-1.1
3 rooms	791	+/-196	6.9%	+/-1.7
4 rooms	1,900	+/-268	16.7%	+/-2.5
5 rooms	1,557	+/-289	13.7%	+/-2.4
6 rooms	1,702	+/-312	14.9%	+/-2.6
7 rooms	1,617	+/-284	14.2%	+/-2.4
8 rooms	1,424	+/-249	12.5%	+/-2.2
9 rooms or more	2,058	+/-258	18.1%	+/-2.3
Median rooms	6.1	+/-0.3	(X)	(X)
BEDROOMS				
Total housing units	11,393	+/-378	11,393	(X)
No bedroom	158	+/-121	1.4%	+/-1.1
1 bedroom	1,070	+/-235	9.4%	+/-2.0
2 bedrooms	3,532	+/-346	31.0%	+/-3.0
3 bedrooms	3,998	+/-408	35.1%	+/-3.2
4 bedrooms	2,232	+/-262	19.6%	+/-2.3
5 or more bedrooms	403	+/-135	3.5%	+/-1.2
HOUSING TENURE				
Occupied housing units	10,835	+/-352	10,835	(X)
Owner-occupied	7,632	+/-382	70.4%	+/-2.5
Renter-occupied	3,203	+/-284	29.6%	+/-2.5
Average household size of owner-occupied unit	2.23	+/-0.07	(X)	(X)
Average household size of renter-occupied unit	1.94	+/-0.18	(X)	(X)
YEAR HOUSEHOLDER MOVED INTO UNIT				
Occupied housing units	10,835	+/-352	10,835	(X)
Moved in 2010 or later	1,017	+/-229	9.4%	+/-2.1
Moved in 2000 to 2009	5,341	+/-407	49.3%	+/-3.3
Moved in 1990 to 1999	2,596	+/-330	24.0%	+/-2.9
Moved in 1980 to 1989	887	+/-178	8.2%	+/-1.6
Moved in 1970 to 1979	610	+/-139	5.6%	+/-1.3
Moved in 1969 or earlier	384	+/-124	3.5%	+/-1.1
VEHICLES AVAILABLE				
Occupied housing units	10,835	+/-352	10,835	(X)
No vehicles available	460	+/-152	4.2%	+/-1.4
1 vehicle available	4,362	+/-390	40.3%	+/-3.1
2 vehicles available	4,534	+/-340	41.8%	+/-3.1
3 or more vehicles available	1,479	+/-194	13.7%	+/-1.8
HOUSE HEATING FUEL				
Occupied housing units	10,835	+/-352	10,835	(X)
Utility gas	6,662	+/-346	61.5%	+/-2.6
Bottled, tank, or LP gas	92	+/-59	0.8%	+/-0.5
Electricity	3,987	+/-335	36.8%	+/-2.7
Fuel oil, kerosene, etc.	19	+/-21	0.2%	+/-0.2
Coal or coke	0	+/-21	0.0%	+/-0.3
Wood	44	+/-40	0.4%	+/-0.4
Solar energy	0	+/-21	0.0%	+/-0.3
Other fuel	0	+/-21	0.0%	+/-0.3
No fuel used	31	+/-35	0.3%	+/-0.3
SELECTED CHARACTERISTICS				
Occupied housing units	10,835	+/-352	10,835	(X)
Lacking complete plumbing facilities	43	+/-51	0.4%	+/-0.5
Lacking complete kitchen facilities	43	+/-51	0.4%	+/-0.5

Subject	Centerville city, Ohio			
	Estimate	Margin of Error	Percent	Percent Margin of Error
No telephone service available	104	+/-65	1.0%	+/-0.6
OCCUPANTS PER ROOM				
Occupied housing units	10,835	+/-352	10,835	(X)
1.00 or less	10,679	+/-409	98.6%	+/-1.2
1.01 to 1.50	51	+/-79	0.5%	+/-0.7
1.51 or more	105	+/-100	1.0%	+/-0.9
VALUE				
Owner-occupied units	7,632	+/-382	7,632	(X)
Less than \$50,000	162	+/-72	2.1%	+/-0.9
\$50,000 to \$99,999	815	+/-184	10.7%	+/-2.4
\$100,000 to \$149,999	1,916	+/-233	25.1%	+/-2.8
\$150,000 to \$199,999	2,166	+/-295	28.4%	+/-3.5
\$200,000 to \$299,999	1,597	+/-231	20.9%	+/-2.8
\$300,000 to \$499,999	872	+/-172	11.4%	+/-2.2
\$500,000 to \$999,999	82	+/-51	1.1%	+/-0.7
\$1,000,000 or more	22	+/-37	0.3%	+/-0.5
Median (dollars)	170,700	+/-5,381	(X)	(X)
MORTGAGE STATUS				
Owner-occupied units	7,632	+/-382	7,632	(X)
Housing units with a mortgage	4,981	+/-314	65.3%	+/-3.3
Housing units without a mortgage	2,651	+/-311	34.7%	+/-3.3
SELECTED MONTHLY OWNER COSTS (SMOC)				
Housing units with a mortgage	4,981	+/-314	4,981	(X)
Less than \$300	7	+/-11	0.1%	+/-0.2
\$300 to \$499	77	+/-54	1.5%	+/-1.1
\$500 to \$699	191	+/-83	3.8%	+/-1.6
\$700 to \$999	495	+/-122	9.9%	+/-2.3
\$1,000 to \$1,499	1,463	+/-192	29.4%	+/-3.5
\$1,500 to \$1,999	1,516	+/-215	30.4%	+/-4.0
\$2,000 or more	1,232	+/-228	24.7%	+/-4.3
Median (dollars)	1,573	+/-58	(X)	(X)
Housing units without a mortgage	2,651	+/-311	2,651	(X)
Less than \$100	0	+/-21	0.0%	+/-1.1
\$100 to \$199	22	+/-26	0.8%	+/-1.0
\$200 to \$299	119	+/-53	4.5%	+/-2.0
\$300 to \$399	323	+/-109	12.2%	+/-3.9
\$400 or more	2,187	+/-285	82.5%	+/-4.4
Median (dollars)	574	+/-20	(X)	(X)
SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI)				
Housing units with a mortgage (excluding units where SMOCAPI cannot be computed)	4,966	+/-310	4,966	(X)
Less than 20.0 percent	1,619	+/-188	32.6%	+/-3.7
20.0 to 24.9 percent	1,111	+/-197	22.4%	+/-3.5
25.0 to 29.9 percent	675	+/-168	13.6%	+/-3.4
30.0 to 34.9 percent	423	+/-133	8.5%	+/-2.6
35.0 percent or more	1,138	+/-239	22.9%	+/-4.4
Not computed	15	+/-25	(X)	(X)
Housing unit without a mortgage (excluding units where SMOCAPI cannot be computed)	2,651	+/-311	2,651	(X)
Less than 10.0 percent	763	+/-172	28.8%	+/-5.8
10.0 to 14.9 percent	574	+/-150	21.7%	+/-5.3

Subject	Centerville city, Ohio			
	Estimate	Margin of Error	Percent	Percent Margin of Error
15.0 to 19.9 percent	414	+/-115	15.6%	+/-4.1
20.0 to 24.9 percent	201	+/-87	7.6%	+/-3.1
25.0 to 29.9 percent	216	+/-116	8.1%	+/-4.2
30.0 to 34.9 percent	128	+/-74	4.8%	+/-2.6
35.0 percent or more	355	+/-117	13.4%	+/-4.1
Not computed	0	+/-21	(X)	(X)
GROSS RENT				
Occupied units paying rent	3,083	+/-285	3,083	(X)
Less than \$200	44	+/-53	1.4%	+/-1.7
\$200 to \$299	0	+/-21	0.0%	+/-1.0
\$300 to \$499	222	+/-120	7.2%	+/-3.8
\$500 to \$749	854	+/-199	27.7%	+/-6.3
\$750 to \$999	1,293	+/-229	41.9%	+/-6.9
\$1,000 to \$1,499	467	+/-162	15.1%	+/-4.7
\$1,500 or more	203	+/-91	6.6%	+/-2.9
Median (dollars)	820	+/-34	(X)	(X)
No rent paid	120	+/-67	(X)	(X)
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI)				
Occupied units paying rent (excluding units where GRAPI cannot be computed)	3,006	+/-276	3,006	(X)
Less than 15.0 percent	503	+/-171	16.7%	+/-5.6
15.0 to 19.9 percent	321	+/-104	10.7%	+/-3.5
20.0 to 24.9 percent	427	+/-158	14.2%	+/-5.2
25.0 to 29.9 percent	475	+/-156	15.8%	+/-5.0
30.0 to 34.9 percent	101	+/-69	3.4%	+/-2.3
35.0 percent or more	1,179	+/-277	39.2%	+/-7.8
Not computed	197	+/-94	(X)	(X)

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

The median gross rent excludes no cash renters.

In prior years, the universe included all owner-occupied units with a mortgage. It is now restricted to include only those units where SMOCAPI is computed, that is, SMOC and household income are valid values.

In prior years, the universe included all owner-occupied units without a mortgage. It is now restricted to include only those units where SMOCAPI is computed, that is, SMOC and household income are valid values.

In prior years, the universe included all renter-occupied units. It is now restricted to include only those units where GRAPI is computed, that is, gross rent and household income are valid values.

The 2007, 2008, 2009, 2010, 2011, and 2012 plumbing data for Puerto Rico will not be shown. Research indicates that the questions on plumbing facilities that were introduced in 2008 in the stateside American Community Survey and the 2008 Puerto Rico Community Survey may not have been appropriate for Puerto Rico.

Median calculations for base table sourcing VAL, MHC, SMOC, and TAX should exclude zero values.

Telephone service data are not available for certain geographic areas due to problems with data collection. See Errata Note #93 for details.

While the 2008-2012 American Community Survey (ACS) data generally reflect the December 2009 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2000 data. Boundaries for urban areas have not been updated since Census 2000. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Explanation of Symbols:

1. An '***' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '****' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

APPENDIX 2
ORIGNIANL DEVELOPMENT ALTERNATIVE 1

LEGEND

- EXISTING WELL
- ⊕ EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING TELEPHONE UTILITY POLE
- EXISTING SANITARY MANHOLE
- EXISTING ELECTRIC UTILITY POLE
- EXISTING SIGN
- EXISTING STORM CATCH BASIN (CURB INLET)
- EXISTING LIGHT POLE
- EXISTING UNDERGROUND GAS MAIN
- EXISTING OVERHEAD UTILITY LINE
- EXISTING OVERHEAD TELEPHONE LINE
- EXISTING UNDERGROUND STORM
- EXISTING UNDERGROUND SANITARY MAIN
- EXISTING UNDERGROUND WATER MAIN
- R/W RIGHT OF WAY
- ROADWAY CENTERLINE
- UTILITY EASEMENT
- EXISTING TREE/BRUSH LINE
- INDEX CONTOUR
- CONTOUR
- EXISTING SPOT ELEVATION



WETLAND ANALYSIS

EXISTING AREA IN WETLANDS: 0.877 AC.
 AREA OF WETLANDS IMPACTED: 0.877 AC.
 TOTAL WETLANDS: 0.000 AC.

NOTE:
 STREAM IMPACTS FOR A TOTAL OF 310 L.F.
 OF EPHEMERAL CHANNEL.

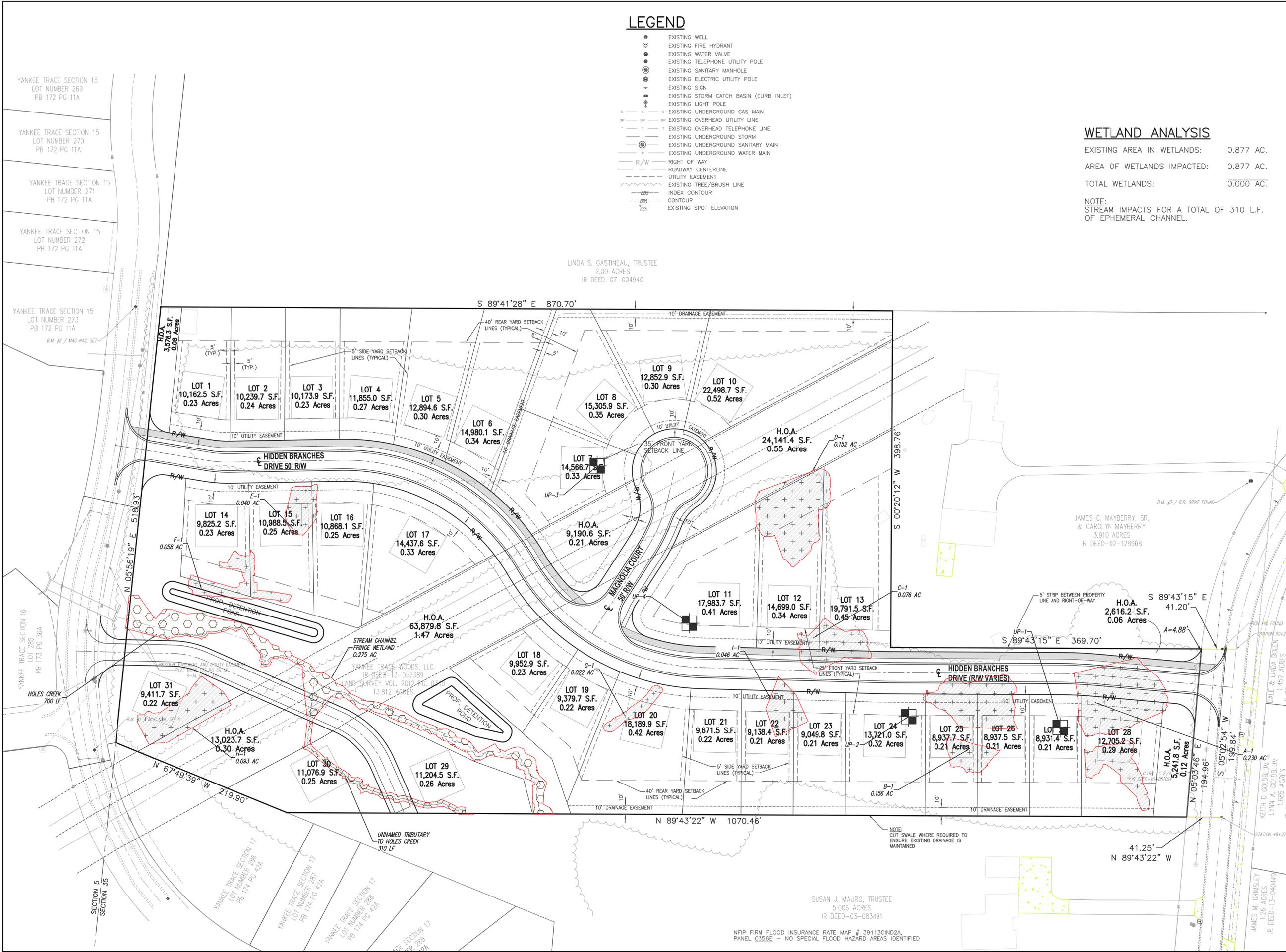
2 WORKING DAYS
 BEFORE YOU DIG
 CALL TOLL FREE 800-362-2764
 OHIO UTILITIES PROTECTION SERVICE

BRUMBAUGH & ENGINEERING & SURVEYING, LLC
 1105 SOUTH MIAMI STREET
 WEST MILTON, OHIO 45383
 PHONE: (937) 698-3000
 FAX: (937) 698-3928
 EMAIL: John@bes-engineer.com

PROJECT NO.:	202.12
DATE:	3/10/2014
DRAWN BY:	BAC
DESIGNED BY:	JUB
CHECKED BY:	PCB
REVISED	
1.	
2.	
3.	
4.	
5.	
6.	
7.	

ALTERNATE 1 FOR YANKEE TRACE WOODS
 A 13.811 AC. TRACT AS DESCRIBED IN DEED 13-057389
 LOCATED IN SEC. 35, TOWN. 3, RANGE 5 MRS, WASHINGTON TWP.
 COUNTY OF MONTGOMERY, STATE OF OHIO

ALTERNATE 1 LOT LAYOUT
 SHEET 1 OF 1



LINDA S. GASTINEAU, TRUSTEE
 2.00 ACRES
 IR DEED-07-004940

JAMES C. MAYBERRY, SR.
 & CAROLYN MAYBERRY
 3.910 ACRES
 IR DEED-02-128968

YANKEE TRACE WOODS, LLC.
 IR DEED-13-057389
 AND SURVEY VOL. 2012 PG. 0240
 13.811 ACRES

SUSAN J. MAURO, TRUSTEE
 5.006 ACRES
 IR DEED-03-083491

NFIP FIRM FLOOD INSURANCE RATE MAP # 39113CIND2A,
 PANEL 0356E - NO SPECIAL FLOOD HAZARD AREAS IDENTIFIED

NOTE:
 CUT SWALE WHERE REQUIRED TO
 ENSURE EXISTING DRAINAGE IS
 MAINTAINED

APPENDIX 3
MINIMAL DEGRADATION/ PREFERRED DESIGN

**APPENDIX 4
NON-DEGRADATION DESIGN**

- ### LEGEND
- EXISTING WELL
 - ⊕ EXISTING FIRE HYDRANT
 - ⊕ EXISTING WATER VALVE
 - ⊕ EXISTING TELEPHONE UTILITY POLE
 - ⊕ EXISTING SANITARY MANHOLE
 - ⊕ EXISTING ELECTRIC UTILITY POLE
 - ⊕ EXISTING SIGN
 - ⊕ EXISTING STORM CATCH BASIN (CURB INLET)
 - ⊕ EXISTING LIGHT POLE
 - EXISTING UNDERGROUND GAS MAIN
 - EXISTING OVERHEAD UTILITY LINE
 - EXISTING OVERHEAD TELEPHONE LINE
 - EXISTING UNDERGROUND STORM
 - EXISTING UNDERGROUND SANITARY MAIN
 - EXISTING UNDERGROUND WATER MAIN
 - R/W — RIGHT OF WAY
 - ROADWAY CENTERLINE
 - UTILITY EASEMENT
 - EXISTING TREE/BRUSH LINE
 - INDEX CONTOUR
 - CONTOUR
 - EXISTING SPOT ELEVATION

PLAN NORTH



2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE



WETLAND ANALYSIS

EXISTING AREA IN WETLANDS: 0.877 AC.
 AREA OF WETLANDS DESTROYED: 0.000 AC.
 TOTAL WETLANDS: 0.877 AC.

NOTE:
NO STREAM IMPACT ANTICIPATED

BRUMBAUGH ENGINEERING & SURVEYING, LLC
 1105 SOUTH MIAMI STREET
 WEST MILTON, OHIO 45383
 PHONE: (937) 698-3000
 FAX: (937) 698-3928
 EMAIL: John@bes-engineer.com

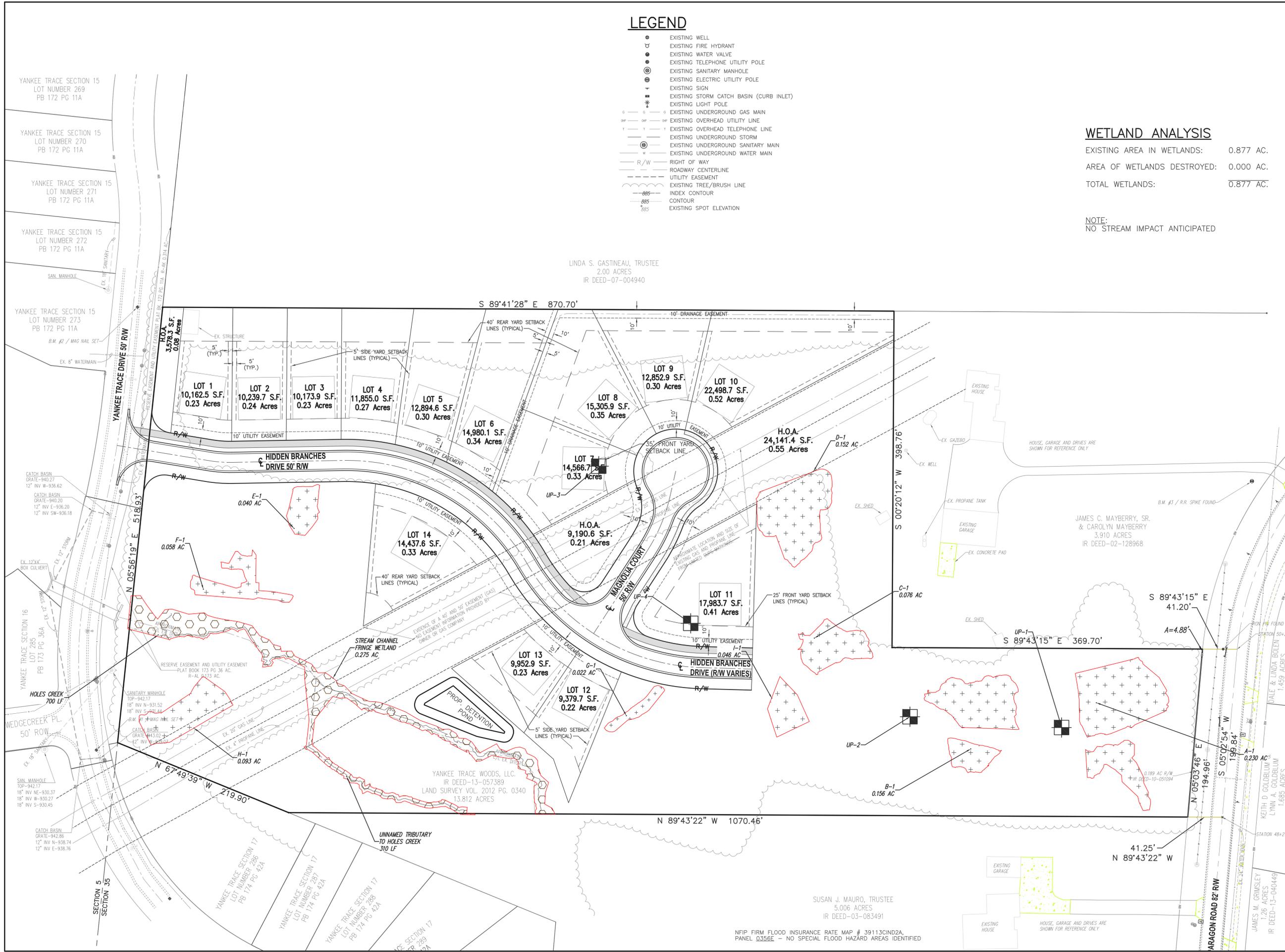
PROJECT NO.: 202.12
 DATE: 3/10/2014
 DRAWN BY: BAC
 DESIGNED BY: JJB
 CHECKED BY: PCB
 REVISED

1.
2.
3.
4.
5.
6.
7.

ALTERNATE 3
 NON-DEGRADATION DESIGN
 FOR
YANKEE TRACE WOODS
 A 13.811 AC. TRACT AS DESCRIBED IN DEED 13-057389
 LOCATED IN WASHINGTON TWP.
 SEC. 35, TOWN. 3, RANGE 5 MRS., WASHINGTON TWP.
 COUNTY OF MONTGOMERY, STATE OF OHIO

ALTERNATE 4
 LOT LAYOUT

SHEET 1 OF 1



NFIP FIRM FLOOD INSURANCE RATE MAP # 39113CIND2A,
 PANEL 0356E - NO SPECIAL FLOOD HAZARD AREAS IDENTIFIED

**APPENDIX 5
ODNR THREATENED AND ENDANGERED SPECIES
INFORMATION**



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Ohio Division of Wildlife
Scott Zody, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693

November 27, 2013

Nichole Lashley
Auxano Environmental LLC
516 Heritage Trace
Lebanon, OH 45036

Dear Ms. Lashley

After reviewing the Natural Heritage Database, I find the Division of Wildlife has no records of rare or endangered species in the Yankee Trace Woods project area, including a one mile buffer, in Washington Township, Montgomery County, Ohio. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges, parks or forests or other protected natural areas within a one mile radius of the project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although we inventory all types of plant communities, we only maintain records on the highest quality areas.

This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Please contact me at 614-265-6452 if I can be of further assistance.

Sincerely,

A handwritten signature in blue ink that reads "Greg Schneider".

Greg Schneider, Administrator
Ohio Natural Heritage Database Program

**APPENDIX 6
USFWS THREATENED AND ENDANGERED SPECIES
INFORMATION**

Nichole Lashley

From: susan_zimmermann@fws.gov on behalf of Ohio, FW3 <ohio@fws.gov>
Sent: Friday, January 10, 2014 7:58 AM
To: auxanoenvironmental@outlook.com
Subject: USFWS Response to Paragon Project

Follow Up Flag: Follow up
Flag Status: Flagged

TAILS# 03E15000-2014-TA-0409

Dear Ms. Lashley,

We have received your recent correspondence requesting information about the subject proposal. There are no Federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The Service recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

ENDANGERED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the Indiana bat (*Myotis sodalis*), a federally listed endangered species. Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and degradation of forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. During winter, Indiana bats hibernate in caves and abandoned mines. Summer habitat requirements for the species are not well defined but the following are considered important:

- (1) dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas;
- (2) live trees (such as shagbark hickory and oaks) which have exfoliating bark;

(3) stream corridors, riparian areas, and upland woodlots which provide forage sites.

Should habitat exhibiting the characteristics described above be present at the proposed project site, we recommend that they, as well as surrounding trees, be saved wherever possible. However, if these trees cannot be avoided, they should only be cut between October 1 and March 31. If implementation of the seasonal tree cutting restriction is not possible, summer surveys should be conducted to document the presence or likely absence of the Indiana bat within the project area during the summer. The survey must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office.

The proposed project lies within the range of the northern long-eared bat (*Myotis septentrionalis*), a species that is currently proposed for listing as federally endangered. Recently white-nose syndrome (WNS), a novel fungal pathogen, has caused serious declines in the northern long-eared bat population in the northeastern U.S. WNS has also been documented in Ohio, but the full extent of the impacts from WNS in Ohio are not yet known.

During winter, northern long-eared bats hibernate in caves and abandoned mines. Summer habitat requirements for the species are not well defined but the following are considered important:

- (1) Roosting habitat in dead or live trees and snags with cavities, peeling or exfoliating bark, split tree trunk and/or branches, which may be used as maternity roost areas;
- (2) Foraging habitat in upland and lowland woodlots and tree lined corridors;
- (3) Occasionally they may roost in structures like barns and sheds.

It appears that habitat exhibiting the characteristics described above may be present at the proposed project site. We recommend that trees exhibiting any of the characteristics listed above, as well as any wooded areas or tree lined corridors be saved wherever possible. However, if these areas cannot be avoided, they should only be cut from October 1 through March 31.

If there is a Federal nexus for the project (e.g., Federal funding provided, Federal permits required to construct), no tree clearing on any portion of the parcel should occur until consultation under section 7 of the ESA, between the Service and the Federal action agency, is completed. We recommend that the Federal action agency submit a determination of effects to this office, relative to the Indiana bat, for our review and concurrence.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or

their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act of 1973 (ESA), as amended, and are consistent with the intent of the National Environmental Policy Act of 1969 and the U. S. Fish and Wildlife Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Sincerely,



Mary Knapp, PhD
Field Supervisor

APPENDIX 7
STORMWATER POLLUTION PREVENTION PLAN

STORM WATER POLLUTION PREVENTION PLAN

DESCRIPTION OF CONSTRUCTION ACTIVITIES:

CLEARING OF 8.9 ACRES OF AN EXISTING 13.8 ACRE TRACT FOR A PROPOSED RESIDENTIAL DEVELOPMENT. THE CLEARING WILL BE INSIDE THE LIMITS SHOWN ON THIS PLAN. LOCATED WITHIN THE CLEARING LIMITS ARE WETLANDS, SAID WETLANDS ARE TO BE PROTECTED WITH THE CLEARING OF NON-NATIVE INVASIVE SPECIES ONLY. CLEARING IN AND AROUND WETLANDS TO BE UNDER THE DIRECT SUPERVISION OF MAK SOLVE, INC. THIS DEVELOPMENT HAS BEEN DESIGNED AROUND EXISTING FEATURES.

SCHEDULE:

THIS PROJECT IS FOR THE DEVELOPMENT OF A RESIDENTIAL SINGLE FAMILY SUBDIVISION IN THE CITY OF CENTERVILLE, OHIO. THIS WILL INCLUDE THE CONSTRUCTION OF A ROAD WITH 27 SINGLE FAMILY LOTS CONNECTING PARAGON ROAD WITH YANKEE TRACE DRIVE, INCLUDING THE CONSTRUCTION OF WATER, STORM, SEWER AND OTHER UTILITIES. THIS SWP3 PLAN IS FOR THE FIRST PHASE OF THIS PROJECT WHICH IS THE FOLLOWING:

- 1. SILT FENCE AND CONSTRUCTION ENTRANCE IN PLACE.
2. CLEARING OF TREES AND BRUSH IN THE PROPOSED ROADWAY AND FUTURE LOT AREAS AS PER THIS SWP3 PLAN. THIS AREA IS DENOTED BY THE CLEARING LIMITS IN THE ATTACHED PLAN.
3. CLEARING SHALL TAKE PLACE FROM MARCH 14, 2014 TO MARCH 31, 2014.
4. WHEN SITE IS STABILIZED, REMOVE TEMPORARY SWP3 IMPROVEMENTS.

THIS SWP3 PLAN HAS BEEN PREPARED FOR THE ABOVE NOTED CLEARING PHASE. DURING THE NEXT PHASE OF THE PROJECT AN ADDENDUM TO/ADDITIONAL SWP3 PLAN WILL BE PREPARED.

SUMMARY OF SITE AREA:

Table with 2 columns: Description and Acres. Includes rows for Total Site Area (13.8), Area Within Clearing Limits (8.9), Area in Clearing Limits in Non-Wooded Area (2.5), Area of Wetlands (0.5), Existing & Proposed Impervious Areas (0.0), Estimated Area of Clearing (5.9), and % of Site Disturbed (43%).

RUNOFF COEFFICIENT:

PRE-CONSTRUCTION: WOODS - GRASS COMBINATION (FAIR) - HYDROLOGIC SOIL GROUP B - CN=65 WOODS - GRASS COMBINATION (FAIR) - HYDROLOGIC SOIL GROUP C - CN=76 THE RUNOFF COEFFICIENT PRE-CONSTRUCTION IS CN=71

POST-CONSTRUCTION:

WOODS - GRASS COMBINATION (FAIR) - HYDROLOGIC SOIL GROUP B - CN=65 WOODS - GRASS COMBINATION (FAIR) - HYDROLOGIC SOIL GROUP C - CN=76 THE RUNOFF COEFFICIENT POST-CONSTRUCTION FOR THIS PHASE IS CN=71

NOTE:

THE POST CONSTRUCTION RUNOFF COEFFICIENT WILL REMAIN AT 71 AS SHOWN. THE ADDITIONAL RUNOFF CREATED BY THE REMOVAL OF EXISTING TREES AND INVASIVE SPECIES IS OFFSET BY THE FOLLOWING BMP TO MAINTAIN THAT THE RUNOFF COEFFICIENT IS TO BE CN=71.

- 1. THE MAJORITY OF THE CLEARING IS OF HONEYSUCKLE. THIS PHASE OF ACTIVITY IS TO BE PERFORMED BY SHREDDING THE INVASIVE SPECIES AND LEAVING ITS SHREDDED REFUSE ON SITE AT ITS LOCATION. THIS WILL HELP REDUCE ANY INCREASE IN STORMWATER RUNOFF.
2. ALL TREES CUT DOWN IN THE WETLANDS SHALL BE LEFT WHERE FELLED DURING THIS PHASE. THIS WILL HELP REDUCE ANY INCREASE IN RUNOFF.
3. THE REMOVAL OF INVASIVE SPECIES AT THIS TIME OF YEAR WILL ALLOW NATURAL GROUND COVER VEGETATION TO SPREAD WHERE THE INVASIVE SPECIES WAS AND WILL HELP REDUCE AND INCREASE IN RUNOFF.
4. ANY DISTURBED AREAS WILL BE SEEDED PER TEMPORARY STABILIZATION TABLE 2 (TEMPORARY STABILIZATION)

SOIL DESCRIPTION:

- TYPE B - DANA SILT LOAM
TYPE C - FINCASTLE SILT LOAM
TYPE BD - SLOAN SILT LOAM
TYPE B - XENIA SILT LOAM

NO SOILS ARE DESCRIBED AS UNSTABLE

PRIOR LAND USE:

EXISTING RURAL RESIDENTIAL SITE.

RECEIVING WATERS:

TRIBUTARY AREA OF HOLES CREEK

PERMIT APPLICATION:

- 1. THE CONTRACTOR SHALL OBTAIN A (NOI) NPDES PERMIT FROM THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY PER ODOT SUPPLEMENTAL SPECIFICATION 832.
2. AFTER FINAL STABILIZATION OF THE SITE, THE OWNER SHALL SUBMIT A "NOTICE OF TERMINATION" (NOT) TO OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA). A COPY OF THIS NOTICE SHALL BE FORWARDED TO THE PROJECT ENGINEER.

WETLANDS CLASSIFICATION:

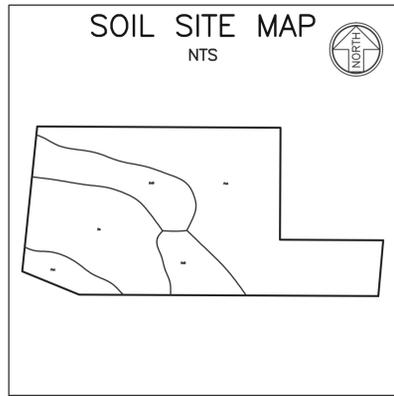
ALL WETLANDS SHOWN ARE CATEGORY TWO WETLANDS.

MAINTENANCE/INSPECTION PROCEDURES:

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING THE CONTROLS EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM WITH 0.5 INCH OR MORE IN DEPTH AND MAINTAIN WRITTEN RECORDS OF INSPECTION DATES, TIMES, DEFECTS, AND CORRECTIVE ACTIONS.
2. THE CONTRACTOR SHALL MAINTAIN WRITTEN RECORDS OF THE FOLLOWING:
A. MAJOR GRADING ACTIVITY DATES BY PARTICULAR AREA.
B. DATES WHEN CONSTRUCTION ACTIVITIES CEASED TEMPORARILY OR PERMANENTLY.
C. DATES WHEN AN AREA IS TEMPORARILY OR PERMANENTLY STABILIZED.
D. ANY REQUIRED PLAN UPDATES

CONTROLS:

- 1. STORMWATER MANAGEMENT SHALL BE PROVIDED BY SIDE DITCHES AND/OR SWALES AND AS SHOWN ON THE ATTACHED PLAN
2. WASTE DISPOSAL SHALL CONSIST OF ALL CONSTRUCTION SITE WASTE BEING PROPERLY AND PROMPTLY REMOVED FROM THE SITE IN ACCORDANCE WITH ODOT ITEM 202. CLIENT TO USE A CHIPPING MACHINE, REFUSE ON SITE FOR FUTURE USE TO BE STORED PER OEPA REQUIREMENTS.
3. TEMPORARY SANITARY FACILITIES SHALL BE PROVIDED BY THE CONTRACTOR FOR EMPLOYEES DURING CONSTRUCTION.
4. OFFSITE VEHICLE TRACKING SHALL BE REDUCED BY SWEEPING THE EXISTING HIGHWAYS ADJACENT TO THE SITE ENTRANCES AS NECESSARY TO REMOVE ANY EXCESS MUD, DIRT, OR ROCK TRACKED FROM THE SITE. ALL DUMP TRUCKS HAULING MATERIAL TO AND FROM THE SITE SHALL BE PROPERLY COVERED.
5. TO MINIMIZE THE AMOUNT OF SOIL EXPOSURE TO EROSION WHICH CAUSES SEDIMENTATION DOWN STREAM AND DISTURBANCE OF THE WETLANDS THE FOLLOWING BMP HAVE BEEN IMPLEMENTED.
5.1. THE CONSTRUCTION HAS BEEN PHASED. THIS PHASE CLEARING ONLY. DISTURB AS MINIMAL AMOUNT OF LAND AS POSSIBLE.
5.2. SITE ASSESSMENT TO DETERMINE THE AREAS TO BE LEFT UNDISTURBED AND SAVED AND WETLANDS PROTECTION TO BE UNDER THE DIRECT SUPERVISION OF MAK SOLVE, LLC.
5.3. TREES TO BE CUT TO EXISTING GROUND ELEVATION AND STUMPS TO BE LEFT IN ORDER TO MINIMIZE DISTURBANCE.
5.4. LIMBS, BRANCHES, ETC AND OTHER DEBRIS RESULTING FROM THE CLEARING AND THINNING OPERATION SHALL BE DISPOSED OF BY RUNNING THROUGH A CHIPPING MACHINE. THE CHIPS CAN THEN BE USED AS MULCH AS PART OF SITE STABILIZATION PER DIRECT SUPERVISION OF MAK SOLVE, LLC.
5.5. STREAM CORRIDOR AND VEGETATION STRIP AROUND STREAM TO BE LEFT IN ORIGINAL STATE TO PROTECT THE STREAM WATER RESOURCES AS SHOWN ON ATTACHED PLAN. VEGETATIVE AND CHIPPED MULCH FILTER STRIP CAN BE USED IN PLACE OF FILTER FENCE. IF IT IS DETERMINED THAT VEGETATIVE FILTER STRIPS ALONE ARE INEFFECTIVE IN STOPPING SEDIMENT MOVEMENT THEN FILTER FENCE SHALL BE PLACED AS SHOWN ON THE ATTACHED PLAN.
5.6. NO GRADING OR SEDIMENT PONDS ARE ANTICIPATED FOR THIS PROJECT.
5.7. CONTRACTOR TO LEAVE AS MANY EDGE TREES AS POSSIBLE AROUND EXISTING WETLANDS AND CLEARED AREAS TO PREVENT FUTURE DAMAGE.
5.8. WETLANDS, CLEARING LIMITS AND LOCATION OF SILT FENCE ARE TO BE CLEARLY MARKED AND DELINEATED UNDER DIRECT SUPERVISION OF MAK SOLVE, LLC. BEFORE CONSTRUCTION OR MOBILIZATION.
5.9. SEE STABILIZATION REQUIREMENTS (TABLE ONE AND TABLE TWO)
6. NO VEHICLE FUELING TO BE ALLOWED ON-SITE DURING THIS PHASE OF ACTIVITY



DeB - DANA SILT LOAM, 2 TO 6 PERCENT SLOPES
FoA - FINCASTLE SILT LOAM, 0 TO 4 PERCENT SLOPES
So - SLOAD SILT LOAM
XeB - XENIA SILT LOAM, 2 TO 6 PERCENT SLOPES

SITE CONTACT/OWNER:
YANKEE TRACE WOODS, LLC
BRIAN BARNARD
404-886-0948

MAK SOLVE, LLC
MICHAEL A. KERR
937-681-4397

STORMWATER POLLUTION PREVENTION PLAN GENERAL NOTES & REQUIREMENTS

ADMINISTRATIVE REQUIREMENTS

- 1. IF PROJECT IS WITHIN AN URBANIZED AREA (UA) OR AREA WHERE THERE IS LOCAL APPROVAL OF SEDIMENT AND EROSION CONTROL PLANS, A COPY OF THE NOI MUST BE SUBMITTED TO THE LOCAL APPROVING AGENCY.
2. SWP3 MUST BE DEVELOPED PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES.
3. A COPY OF THE SWP3 MUST BE MADE AVAILABLE TO OHIO EPA, MS4 OPERATOR OR LOCAL AGENCY RESPONSIBLE FOR REVIEWING AND APPROVING SUCH PLANS WITHIN 10 DAYS OF WRITTEN REQUEST.
4. AMEND THE SWP3 WHENEVER THERE IS A CHANGE IN SITE DESIGN, CONSTRUCTION, OPERATION OR MAINTENANCE THAT REQUIRES THE INSTALLATION OF BEST MANAGEMENT PRACTICES (BMPs) OR MODIFICATIONS TO EXISTING BMPs.
5. WHILE THE SWP3 IS NOT TYPICALLY SUBMITTED TO OHIO EPA AT THE TIME THE NOI IS FILED, OHIO EPA MAY REVIEW THE SWP3 AT ANY TIME. IF OHIO EPA REQUESTS CHANGES TO THE SWP3 IN WRITING, THEY MUST BE MADE WITHIN 7 DAYS OF THE REQUEST.
6. MAINTAIN A WRITTEN DOCUMENT ACKNOWLEDGING UNDERSTANDING OF THE SWP3 AND RESPONSIBILITIES UNDER THE PLAN SIGNED BY ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED IN THE IMPLEMENTATION OF THE SWP3.

REQUIREMENTS REGARDING EROSION CONTROLS

- 1. BMPs, WHICH PRESERVE THE EXISTING NATURAL SITE CONDITION AS MUCH AS FEASIBLE ARE REQUIRED TO BE UTILIZED IN THE SWP3, SUCH AS PHASED CONSTRUCTION TO MINIMIZE LAND DISTURBED AT ANY ONE TIME, PRESERVING RIPARIAN AREAS AND LEAVING EXISTING VEGETATION IN PLACE FOR AS LONG AS POSSIBLE.
2. STABILIZATION OF DISTURBED AREAS MUST BE INITIATED WITHIN 7 DAYS OF REACHING FINAL GRADE.
3. AREAS WITHIN 50 FEET OF A STREAM (INCLUDING INTERMITTENT STREAMS) MUST BE STABILIZED WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCES.
4. TEMPORARY STABILIZATION OF DISTURBED AREAS THAT WILL BE REWORKED, BUT NOT FOR 21 DAYS OR MORE FROM THE DATE THEY WERE LAST DISTURBED, MUST BE INITIATED WITHIN 7 DAYS OF LAST DISTURBANCE.
5. DISTURBED AREAS INTENDED TO BE LEFT IDLE OVER WINTER MUST BE STABILIZED PRIOR TO THE ONSET OF WINTER WEATHER, I.E., SUSTAINED SNOW COVER OR FROZEN GROUND CONDITIONS.
6. SPECIAL MEASURES MUST BE TAKEN AS NECESSARY TO STABILIZE DRAINAGE CHANNELS AND STORMWATER OUTFALLS.
7. RUNOFF MUST BE DIVERTED AWAY FROM DISTURBED AREAS AND STEEP SLOPES WHEREVER PRACTICABLE.
8. PROPERTIES ADJACENT TO THE SITE OF LAND DISTURBANCE WILL BE PROTECTED FROM SEDIMENT DEPOSITION. THIS WILL BE ACCOMPLISHED BY PRESERVING A WELL VEGETATED BUFFER STRIP AROUND THE LOWER PERIMETER OF LAND DISTURBANCE BY INSTALLING PERIMETER CONTROLS SUCH AS SEDIMENT TRAPS, FILTERS OR DIKES, OR SEDIMENT BASINS, OR BY A COMBINATION OF SUCH MEASURES. VEGETATED FILTER STRIPS MAY BE USED ALONE ONLY WHERE THE RUNOFF IN SHEET FLOW IS EXPECTED. FILTER STRIPS SHOULD BE AT LEAST 15 FEET IN WIDTH. IF AT ANY TIME IT IS FOUND THAT A VEGETATED FILTER STRIP ALONE IS INEFFECTIVE IN STOPPING SEDIMENT MOVEMENT INTO ADJACENT PROPERTY, ADDITIONAL PERIMETER CONTROLS MUST BE PROVIDED.
9. CUT AND FILL SLOPES WILL BE DESIGNED AND CONSTRUCTED IN A MANNER WHICH WILL MINIMIZE EROSION. SLOPES WHICH ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF CONSTRUCTION WILL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.
10. CONSTRUCTION VEHICLES WILL BE KEPT OUT OF WATERCOURSES WHENEVER POSSIBLE. WHERE IN-CHANNEL WORK IS NECESSARY, PRECAUTIONS WILL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION. THE CHANNEL (INCLUDING BED AND BANKS) WILL ALWAYS BE REESTABLISHED IMMEDIATELY AFTER IN-CHANNEL WORK IS COMPLETED. WHERE A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING CONSTRUCTION A TEMPORARY STREAM CROSSING WILL BE PROVIDED.

REQUIREMENTS REGARDING SEDIMENT CONTROLS

- 1. PLAN SEDIMENT CONTROLS FOR ANY AREA THAT WILL REMAIN DISTURBED FOR 14 DAYS OR LONGER.
2. SEDIMENT CONTROLS MUST POND RUNOFF IN ORDER TO BE CONSIDERED FUNCTIONAL.
3. SEDIMENT PONDS (INCLUDING TEMPORARILY MODIFIED PERMANENT PONDS) AND PERIMETER SEDIMENT BARRIERS MUST BE INSTALLED AS THE FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF GRUBBING AND REMAIN FUNCTIONAL UNTIL ALL UPSLOPE DEVELOPMENT AREAS ARE STABILIZED.
4. SEDIMENT PONDS MUST BE UTILIZED TO CONTROL CONCENTRATED FLOWS OF RUNOFF. SEDIMENT PONDS MUST BE IMPLEMENTED FOR ALL COMMON DRAINAGE AREAS WITH 10 OR MORE ACRES DISTURBED AT ONE TIME AND WHENEVER THE CAPACITY OF SEDIMENT BARRIERS IS EXCEEDED.
5. SEDIMENT PONDS MUST PROVIDE A MINIMUM STORAGE VOLUME OF 67 CUBIC YARDS PER ACRE OF TOTAL CONTRIBUTING DRAINAGE AREA.
6. THE LENGTH-TO-WIDTH RATIO BETWEEN THE INLET(S) AND OUTLET(S) OF SEDIMENT PONDS MUST BE 2:1 OR LONGER. BARRIERS MUST BE IMPLEMENTED TO PROVIDE THIS RATIO IF THE POND CANNOT BE CONFIGURED TO DO SO.
7. SEDIMENT PONDS CANNOT BE DEEPER THAN 5 FEET.
8. NO STRUCTURAL SEDIMENT CONTROLS MAY BE LOCATED IN A STREAM. AS SUCH, PERMANENT STORM WATER BASINS LOCATED "IN-LINE" WITH A STREAM MAY NOT BE UTILIZED AS A SEDIMENT POND. SEDIMENT BARRIERS MAY NOT BE PLACED ACROSS STREAM CHANNELS.
9. SEDIMENT BARRIERS, SUCH AS SILT FENCE OR DIVERSIONS, MUST BE IMPLEMENTED TO PREVENT SILT FROM ENTERING WATER RESOURCES THAT RUN THROUGH THE PROPERTY.
10. SILT FENCE IS ONLY ALLOWED TO BE USED TO CONTROL SHEET FLOW RUNOFF FROM LIMITED DRAINAGE AREAS. THE PERMISSIBLE DRAINAGE AREA PER 100 LINEAR FEET OF SILT FENCE IS DEPENDENT ON THE SLOPE BUT IS NO MORE THAN 0.5 ACRE. SILT FENCE CAN NOT BE USED TO CONTROL DRAINAGE AREAS WITH A SLOPE OF GREATER THAN 5%.
11. NO MORE THAN 10 ACRES MAY DRAIN TO A DIVERSION.
12. INLET PROTECTION MUST BE IMPLEMENTED TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM, UNLESS THE SYSTEM DISCHARGES TO A SEDIMENT POND.
13. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES WILL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.

I.E. STORM INLET PROTECTION AS NEEDED SEDIMENT SHALL BE REMOVED FROM STORM INLET FILTERS AND SHALL BE RESTORED TO ITS ORIGINAL WORKING CONDITION. AT NO TIME SHALL THE SEDIMENT BUILDUP IN FILTERS LIMIT ITS FUNCTION. CHECK AFTER EACH MAJOR RAIN. FOLLOW ADD'S MAINTENANCE RECOMMENDATIONS.

I.E. FILTER STRIPS A HEALTHY GROWTH OF VEGETATION CAN BEST BE MAINTAINED BY FERTILIZING, REMOVING SEDIMENT WHEN FILTER BECOMES CLOGGED, AND BY PREVENTING CONSTRUCTION TRAFFIC FROM DRIVING ACROSS FILTER STRIPS.

I.E. SILT FENCES AND FILTER BARRIERS SILT FENCED AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. DO NOT ALLOW STORM WATER TO FLOW UNDER OR AROUND SILT BARRIERS.

I.E. STRAW BALE BARRIERS STRAW BALE BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. DO NOT ALLOW STORM WATER TO FLOW UNDER OR AROUND SILT BARRIERS.

REQUIREMENTS REGARDING SEDIMENT CONTROLS CONTINUED

- 1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. TO PREVENT WATER PONDING BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
4. WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FT. (OR AS MUCH AS POSSIBLE) UPSLOPE OF THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE RE-ESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 IN. ABOVE THE ORIGINAL GROUND SURFACE.
7. THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6 IN. DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE SO THAT 8 IN. OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6-IN.-DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
10. MAINTENANCE- SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE:

- A. THE LAYOUT OF SILT FENCE SHALL BE CHANGED,
B. ACCUMULATED SEDIMENT SHALL BE REMOVED, OR
C. OTHER PRACTICES SHALL BE INSTALLED.

CRITERIA FOR SILT FENCE MATERIALS:

- 1. FENCE POSTS- THE LENGTH SHALL BE MINIMUM OF 32 IN. LONG. WOOD POSTS WILL BE 2-BY-2- IN. HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.

SILT FENCE FABRIC (SEE CHART BELOW):

Table with 3 columns: Fabric Properties, Values, and Test Method. Rows include Grab Tensile Strength, Wallen Burst Strength, Slurry Flow Rate, Equivalent Opening Size, and Ultraviolet Radiation Stability.

VEGETATIVE PRACTICES

FILTER STRIP (FS)

A STRIP OR AREA OF VEGETATION (BEING A MIN. OF 15 FEET AND A MAX. OF 100 FEET IN WIDTH) TO REMOVE SEDIMENT AND OTHER POLLUTANTS FROM RUNOFF. THIS PRACTICE APPLIES TO LAND UNDERGOING DEVELOPMENT WHERE FILTER STRIPS ARE NEEDED TO REDUCE SEDIMENT DAMAGE TO ADJACENT PROPERTY. EXISTING GRASS OR GRASS/LEGUME MIXTURES IF WELL ESTABLISHED, SHOULD BE USED AS FILTER STRIPS.

GRASS SELECTION AND ESTABLISHMENT

ALL SEEDING AND MULCHING SHALL CONFORM TO ODOT ITEM 659.09 CLASS 2.

REQUIREMENTS FOR CONTROLS OF OTHER WASTES

- 1. NO SOLID OR LIQUID WASTE, INCLUDING BUILDING MATERIALS OR THEIR PACKAGING, SHALL BE DISCHARGED IN STORMWATER RUNOFF.
2. CONCRETE TRUCKS ARE NOT PERMITTED TO WASH OUT DIRECTLY INTO STORM SEWERS, STREAMS OR DRAINAGE CHANNELS.
3. OFF-SITE TRACKING OF SEDIMENTS BY CONSTRUCTION VEHICLES MUST BE MINIMIZED. WHENEVER CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PUBLIC ROADS, PROVISIONS WILL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT (MUD) BY RUNOFF OR VEHICLE TRACKING ONTO THE PAVED SURFACE. TEMPORARY CONSTRUCTION ROADS WILL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE. SLOPES SHOULD NOT EXCEED 10 PERCENT. ROADBEDS SHALL BE AT LEAST 14 FEET WIDE FOR ONE-WAY TRAFFIC AND 20 FEET WIDE FOR TWO-WAY TRAFFIC. TEMPORARY PARKING AREAS WILL BE LOCATED ON NATURALLY FLAT AREAS WHENEVER POSSIBLE TO MINIMIZE GRADING. GRADES FOR SAID PARKING AREAS SHOULD BE SUFFICIENT TO PROVIDE DRAINAGE BUT NOT TO EXCEED 4 PERCENT SLOPE. BOTH TEMPORARY AND PERMANENT ROADS AND PARKING AREAS WILL BE CHECKED PERIODICALLY TO ENSURE THAT A VICEROUS STAND OF VEGETATION IS MAINTAINED.
4. WASTE DISPOSAL VIA OPEN BURNING IS PROHIBITED WHERE NOT PERMITTED UNDER THE STATE OF OHIO OPENING BURNING LAWS.
5. CONTAMINATED SOILS OR SOILS WHERE CONSTRUCTION SITE CHEMICALS HAVE BEEN SPILLED MUST BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
6. STORMWATER THAT COMES IN CONTACT WITH CONTAMINATED SOILS, OR SOLID & INDUSTRIAL WASTE MUST BE COLLECTED AND DISPOSED OF AS WASTEWATER.
7. FUEL TANKS AND DRUMS OR OTHER CONTAINERS HOLDING CONSTRUCTION SITE CHEMICALS MUST BE STORED WITHIN A DIKED AREA.
8. SEDIMENT-LADEN TRENCH OR GROUND WATER MUST PASS THROUGH A SEDIMENT-SETTLING POND, OR BE DEWATERED IN PLACE USING SUMP PIT, FILTER BAG OR OTHER COMPARABLE METHOD, PRIOR TO BEING DISCHARGED FROM THE SITE.
9. TRENCH AND GROUND WATER FREE FROM SEDIMENT OR OTHER POLLUTANTS MAY BE DISCHARGED WITHOUT TREATMENT, PROVIDED THIS WATER DOES NOT BECOME POLLUTANT-LADEN BY TRAVERSING OVER DISTURBED SOILS OR OTHER POLLUTANT SOURCES.
10. IN THE EVENT OF A SMALL RELEASE (LESS THAN 25 GALLONS) OF PETROLEUM, WASTE SHALL BE REPORTED TO OEPA AND DISPOSED OF PER STATE AND LOCAL CODES. IN THE EVENT OF A LARGER (MORE THAN 25 GALLONS), CONTRACTOR TO CALL OHIO EPA (1-800-282-8378), THE LOCAL FIRE DEPARTMENT AND LOCAL EMERGENCY PLANNING COMMITTEE (LEPC) WITHIN 30 MINUTES OF A SPILL.

REQUIREMENTS FOR POST-CONSTRUCTION STORMWATER MANAGEMENT

- 1. THE SWP3 MUST CONTAIN DETAIL DRAWINGS FOR ALL STRUCTURAL POST-CONSTRUCTION BMPs
2. AN OPERATING AND MAINTENANCE PLAN FOR ALL STRUCTURAL BMPs MUST BE DEVELOPED BY THE PERMITTEE AND PRESENTED TO THE POST-CONSTRUCTION SITE OPERATOR PRIOR TO TERMINATION OF NPDES PERMIT COVERAGE. MAINTENANCE PLANS MUST INCLUDE MEASURES FOR DISPOSING OF THE POLLUTANTS THAT COLLECT WITHIN THE BMPs.
3. STRUCTURAL POST CONSTRUCTION BMPs ARE REQUIRED FOR ALL PROJECTS THAT DISTURB 5 OR MORE ACRES IN THE LARGER COMMON PLAN OF DEVELOPMENT OR SALE. STRUCTURAL POST-CONSTRUCTION BMPs MUST BE DESIGNED TO CAPTURE AND TREAT THE WATER QUALITY VOLUME (WVQ) PLUS AN ADDITIONAL 20% OF WVQ.

MAINTENANCE REQUIREMENTS

- 1. ALL BMPs MUST BE MAINTAINED IN A FUNCTIONAL CONDITION UNTIL ALL UPSLOPE AREAS THEY CONTROL ARE PERMANENTLY RESTABILIZED.
2. QUALIFIED PERSONNEL PROVIDED BY THE DEVELOPER MUST INSPECT ALL BMPs AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL WITHIN ANY 24-HOUR PERIOD AND DETERMINE IF THE SWP3 HAS BEEN PROPERLY IMPLEMENTED.
3. WRITTEN REPORTS SUMMARIZING INSPECTION RESULTS MUST BE MADE AVAILABLE UPON REQUEST. REPORTS MUST INCLUDE DATE OF INSPECTION, NAME AND QUALIFICATIONS OF THE INSPECTOR, WEATHER CONDITIONS, LOCATIONS WHERE IN-STREAM OR OFF-SITE SEDIMENTATION WAS OBSERVED, LOCATIONS OF BMPs NEEDING MAINTENANCE, LOCATION OF BMPs NOT OPERATING CORRECTLY OR PROVIDE ADEQUATE PROTECTION, OR LOCATION OF AREAS IN NEED OF ADDITIONAL BMPs NOT IN PLACE AT THE TIME OF INSPECTION.
4. THE REPORTS MUST IDENTIFY INCIDENCES OF NONCOMPLIANCE WITH THE NPDES PERMIT. WHERE A REPORT DOES NOT IDENTIFY INCIDENCES OF NONCOMPLIANCE, THE REPORT MUST CONTAIN A CERTIFICATION THAT THE SITE IS IN COMPLIANCE AT THE TIME OF INSPECTION.
5. MAINTENANCE OR REPAIR OF BMPs MUST BE COMPLETED WITHIN 3 DAYS OF THE DATE OF THE INSPECTION THAT REVEALED THE DEFICIENCY. REPAIR OF SEDIMENT PONDS, REPAIR OR MAINTENANCE IS REQUIRED WITHIN 10 DAYS OF THE DATE OF THE INSPECTION.
6. WHEN INSPECTIONS REVEAL THAT A BMP IS NOT EFFECTIVE AND THAT ANOTHER, MORE APPROPRIATE BMP IS REQUIRED, THE SWP3 MUST BE AMENDED AND THE MORE APPROPRIATE BMP MUST BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION THAT REVEALED THE DEFICIENCY.
7. THE REPORT MUST BE MAINTAINED FOR THREE (3) YEARS FOLLOWING THE SUBMITTAL OF A NOTICE OF TERMINATION.

PERMIT CLOSURE REQUIREMENTS

- 1. ONCE A SITE REACHES FINAL STABILIZATION AND CONSTRUCTION ACTIVITIES HAVE CEASED, NPDES PERMIT COVERAGE IS TERMINATED BY FILING A NOTICE OF TERMINATION (NOT), THE NOT MUST BE FILED WITHIN 45 DAYS OF REACHING FINAL STABILIZATION.
2. FINAL STABILIZATION IS DEFINED AS ESTABLISHING A VEGETATIVE GROUND COVER OF AT LEAST 70% GROWTH DENSITY, OR OTHER MEANS OF PERMANENT STABILIZATION, OVER THE ENTIRE AREA DISTURBED BY CONSTRUCTION ACTIVITIES.
3. FINAL STABILIZATION ALSO REQUIRES THAT ALL TEMPORARY SEDIMENT AND EROSION CONTROLS BE REMOVED FROM THE PROPERTY AND ALL SEDIMENT THAT WAS TRAPPED BY THOSE CONTROLS TO BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION.

PLAN NORTH



2 WORKING DAYS BEFORE YOU DIG CALL TOLL FREE 800-362-2764 OHIO UTILITIES PROTECTION SERVICE



BRUMBAUGH ENGINEERING & SURVEYING, LLC

1105 SOUTH MIAMI STREET WEST MILTON, OHIO 45383 PHONE: (937) 698-3000 FAX: (937) 698-3928 EMAIL: John@bes-engineer.com



REGISTERED ENGINEER OF OHIO NO. 29308 PHILIP C. BRUMBAUGH

PROJECT NO.: 202.12

DATE: 3/13/2014

DRAWN BY: BAC

DESIGNED BY: JJB

CHECKED BY: PCB

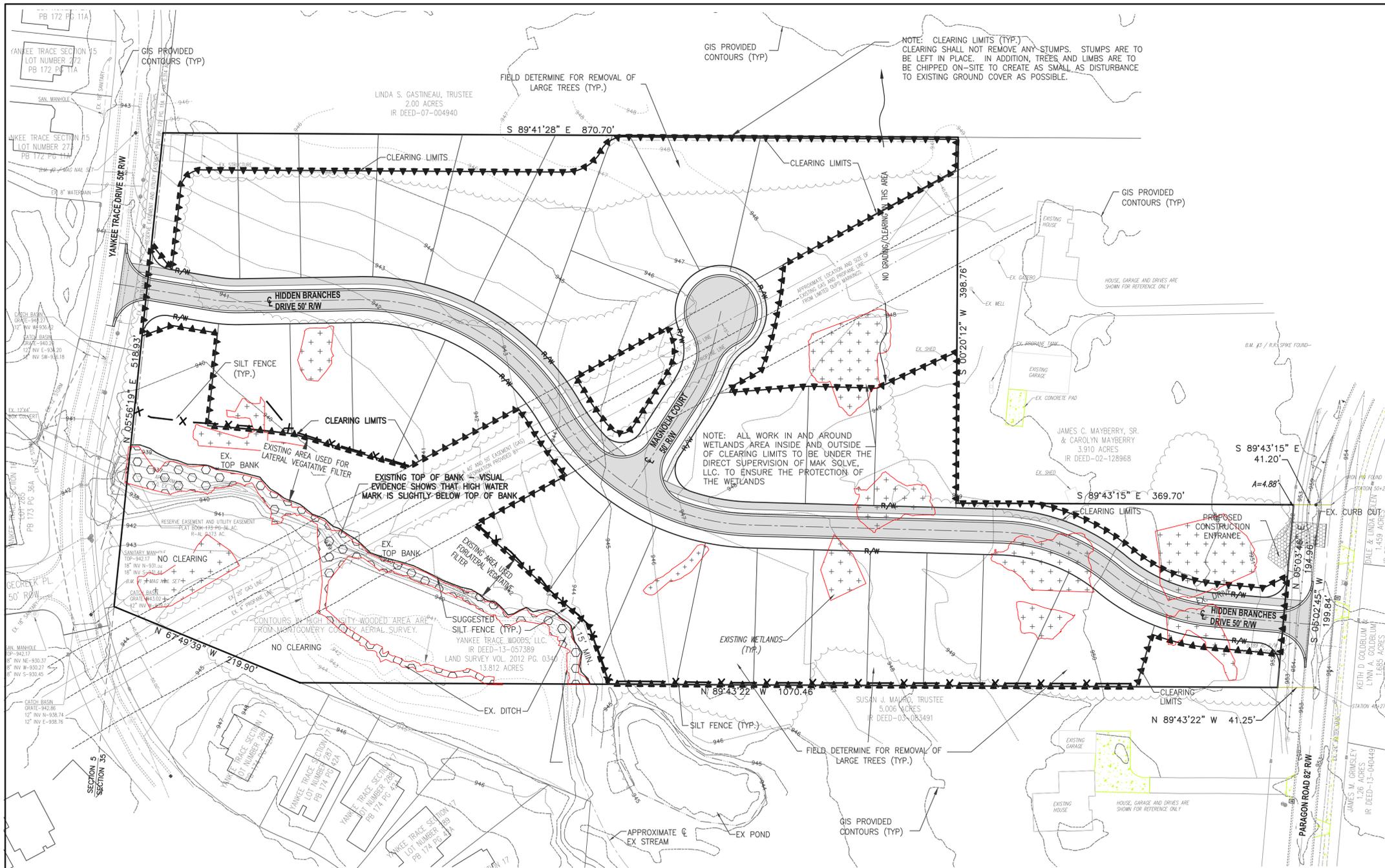
REVISED

- 1. REVISED 3/24/2014
2. REVISED 3/28/2014
3.
4.
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STORMWATER POLLUTION PREVENTION PLAN FOR CLEARING LIMITS OF YANKEE TRACE WOODS A 13.81 AC. TRACT AS DESCRIBED IN DEED 13-057389 LOCATED IN SEC. 35, TOWN 3, RANGE 5 MRS., WASHINGTON TWP. COUNTY OF MONTGOMERY, STATE OF OHIO

SWPP PLAN

SHEET 1 OF 2



LEGEND:

- X — PROPOSED SILT FABRIC FENCING (SEE DETAIL)
- 905 — EXISTING INDEX CONTOURS
- 902 — EXISTING CONTOURS

Silt Fence Max. Drainage Area Based on Slope	
Maximum drainage area (in acres) to 100 linear feet of silt fence	Range of slope for a particular drainage area (in percent)
0.5	< 2%
0.25	> 2% but < 20%
0.125	< 20% but < 50%

Table 1: Permanent Stabilization	
Area requiring permanent stabilization	Time frame to apply erosion controls
Any areas that will lie dormant for one year or more	Within seven days of the most recent disturbance
Any areas within 50 ft of a surface water of the state at final grade	Within two days of reaching final grade
Any other areas at final grade	Within seven days of reaching final grade within that area

Table 2: Temporary Stabilization	
Any disturbed areas within 50 ft of a surface water of the state and not at final grade	Within two days of the most recent disturbance if the area will remain idle for more than 14 days
For all construction activities, any disturbed areas that will be dormant for more than 14 days but less than one year, and not within 50 feet of a surface water of the state	Within seven days of the most recent disturbance within the area
Disturbed areas that will be idle over winter	For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s). Prior to the onset of winter weather over winter

Permanent Seeding			
Seed Mix	Seeding Rates lbs./ac.	lbs./1,000 ft ²	Notes:
General Use			
Creeping Red Fescue	20-40	1-1	
Domestic Ryegrass	10-20	1-1	
Kentucky Bluegrass	10-20	1-1	
Tall Fescue	40	1	
Dwarf Fescue	40	1	
Steep Banks or Cut Slopes			
Tall Fescue	40	1	
Crown Vetch	10	1	Do not seed later than August.
Tall Fescue	20	1	
Flat Pea	20	1	Do not seed later than August.
Tall Fescue	20	1	
Road Ditches and Swales			
Tall Fescue	40	1	
Dwarf Fescue	90	2 1/2	
Kentucky Bluegrass	5		
Lawns			
Kentucky Bluegrass	60	1 1/2	
Perennial Ryegrass	60	1 1/2	
Kentucky Bluegrass	60	1 1/2	For shaded areas.
Creeping Red Fescue	60	1 1/2	

Temporary Seeding Species Selection			
Seeding Dates	Species	Per 1,000 ft ²	Per Acre
March 1 to August 15	Oats	3 lb.	4 bu
	Tall Fescue	1 lb.	40 lb.
	Annual Ryegrass	1 lb.	40 lb.
August 16 to November 1	Perennial Ryegrass	1 lb.	40 lb.
	Tall Fescue	1 lb.	40 lb.
	Annual Ryegrass	1 lb.	40 lb.
November 1 to spring seeding	Wheat	3 lb.	2 bu
	Tall Fescue	1 lb.	40 lb.
	Annual Ryegrass	1 lb.	40 lb.
November 1 to spring seeding	Perennial Ryegrass	1 lb.	40 lb.
	Tall Fescue	1 lb.	40 lb.
	Annual Ryegrass	1 lb.	40 lb.

Note: Other approved seed species may be substituted.

STORMWATER POLLUTION PREVENTION PLAN

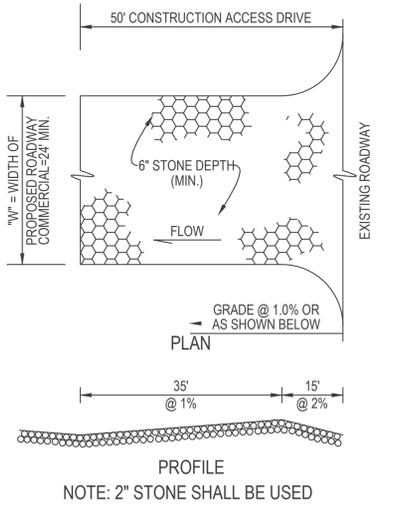
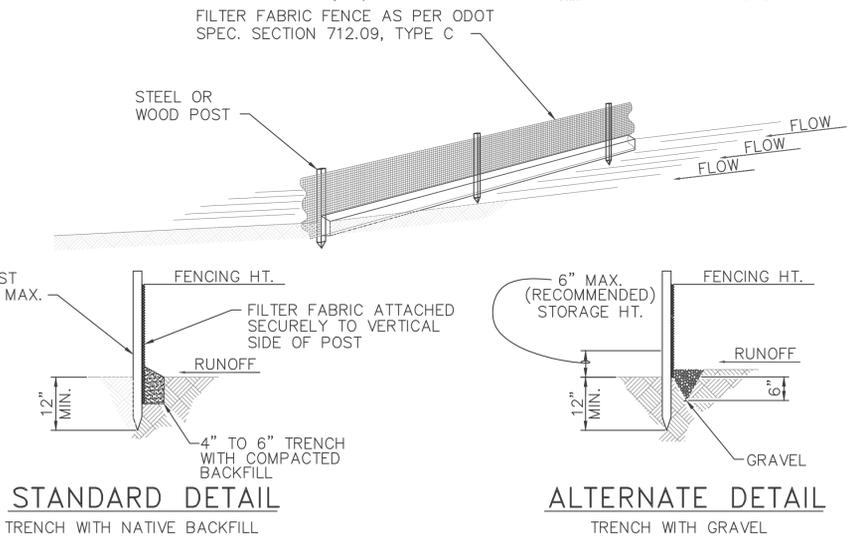
FOR

CLEARING LIMITS OF YANKEE TRACE WOODS

A 13.81 AC. TRACT AS DESCRIBED IN DEED 13-057389 LOCATED IN SEC. 35, TOWN 3, RANGE 5 MRS, WASHINGTON TWP. COUNTY OF MONTGOMERY, STATE OF OHIO

Site Contact/Owner:
YANKEE TRACE WOODS, LLC
BRIAN BARNARD
404-886-0948

MAK SOLVE, LLC
MICHAEL A. KERR
937-681-4397

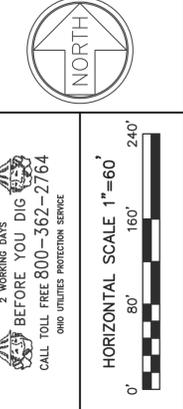


STANDARD DETAIL
TRENCH WITH NATIVE BACKFILL

ALTERNATE DETAIL
TRENCH WITH GRAVEL

TEMPORARY CONSTRUCTION ENTRANCE DETAIL

PLAN NORTH



BRUMBAUGH & ENGINEERING & SURVEYING, LLC

1105 SOUTH MIAMI STREET
WEST MILTON, OHIO 45383
PHONE: (937) 698-3000
FAX: (937) 698-3928
EMAIL: John@bes-engineer.com



REGISTERED ENGINEER OF OHIO
NO. 29308
PHILIP C. BRUMBAUGH

PROJECT NO.: 202.12
DATE: 3/13/2014
DRAWN BY: BAC
DESIGNED BY: JUB
CHECKED BY: PCB

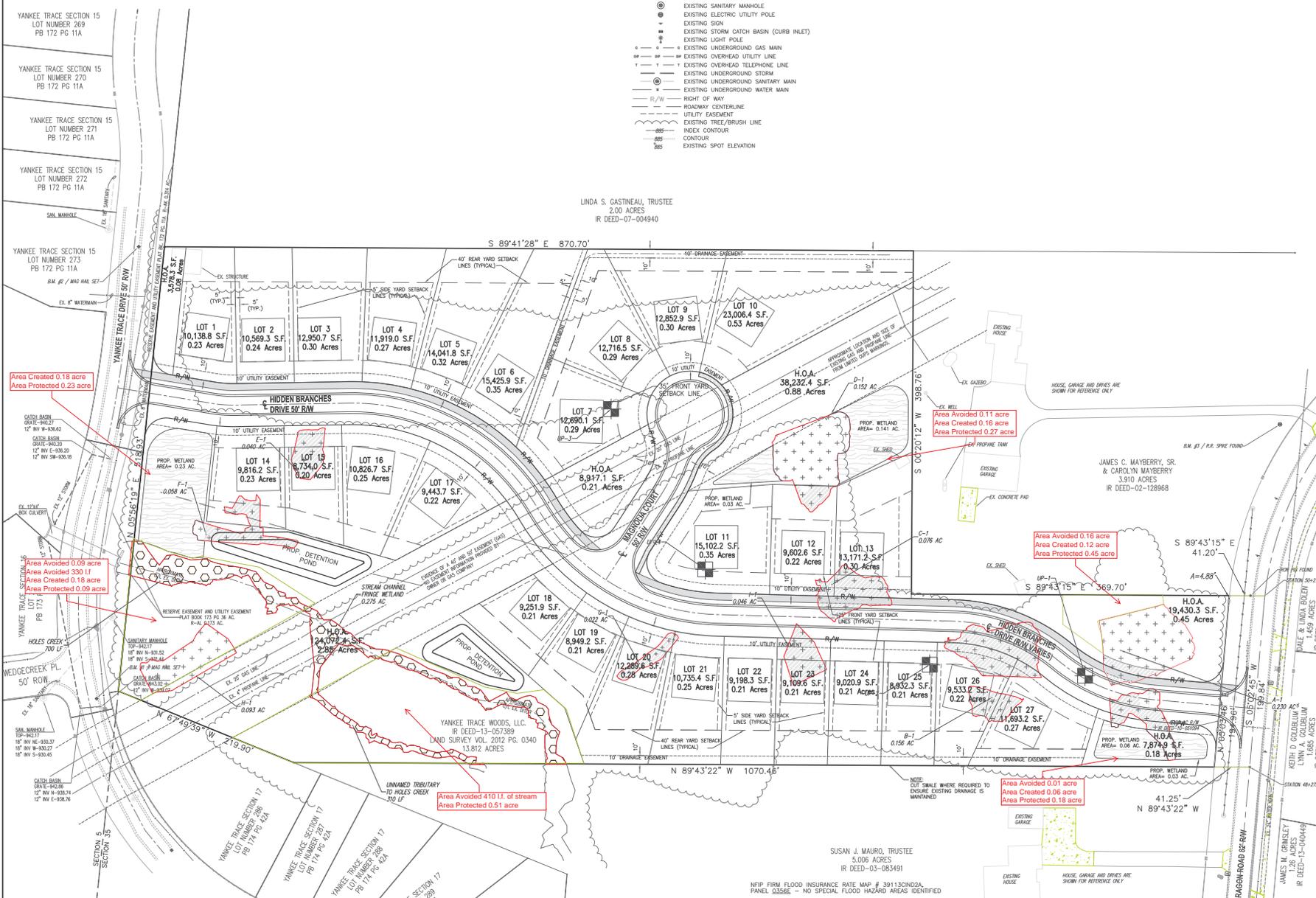
REVISED

- REVISD 3/24/2014
- REVISD 3/28/2014
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**APPENDIX 8
MITIGATION PLAN**

LEGEND

- EXISTING WELL
- ⊕ EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING TELEPHONE POLE
- EXISTING SANITARY MANHOLE
- EXISTING ELECTRIC UTILITY POLE
- EXISTING SIGN
- EXISTING STORM CATCH BASIN (CURB INLET)
- EXISTING LIGHT POLE
- EXISTING UNDERGROUND GAS MAIN
- EXISTING OVERHEAD UTILITY LINE
- EXISTING OVERHEAD TELEPHONE LINE
- EXISTING UNDERGROUND STORM
- EXISTING UNDERGROUND SANITARY MAIN
- EXISTING UNDERGROUND WATER MAIN
- R/W — RIGHT OF WAY
- ROADWAY CENTERLINE
- UTILITY EASEMENT
- EXISTING TREE/BRUSH LINE
- INDEX CONTOUR
- CONTOUR
- EXISTING SPOT ELEVATION



PLAN NORTH



A MEMBER FIRM
BEFORE YOU DIG
 CALL TOLL FREE 800-362-2764
 OR VISIT OUR WEBSITE
 WWW.BRUMBAUGHANDSONS.COM
 HORIZONTAL SCALE 1" = 50'
 100'
 50'
 0'

BRUMBAUGH & SONS ENGINEERING & SURVEYING, LLC
 1105 SOUTH MIAMI STREET
 WEST MILTON, OHIO 45383
 PHONE: (937) 698-3000
 FAX: (937) 698-3928
 EMAIL: john@brs-engineer.com

PROJECT NO.: 202.12
 DATE: 3/10/2014
 DRAWN BY: BAC
 DESIGNED BY: JMB
 CHECKED BY: PCB
 REVISED:

1.
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5.
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7.

ALTERNATE 2
 FOR
YANKEE TRACE WOODS
 A 13.81 AC. TRACT AS DESCRIBED IN DEED 13-057389
 LOCATED IN
 SEC. 35, TOWN. 3, RANGE 5 MRS. WASHINGTON TWP.
 COUNTY OF MONTGOMERY, STATE OF OHIO

ALTERNATE 2
LOT LAYOUT
 SHEET
 OF 1

SUSAN J. MAURO, TRUSTEE
 5,006 ACRES
 IR DEED-03-083491
 NFIP FIRM FLOOD INSURANCE RATE MAP # 39113C020A
 PANEL 0356E - NO SPECIAL FLOOD HAZARD AREAS IDENTIFIED

APPENDIX 9
LETTERS OF SUPPORT CITY OF CENTERVILLE AND CITY OF
CENTERVILLE POLICE DEPARTMENT



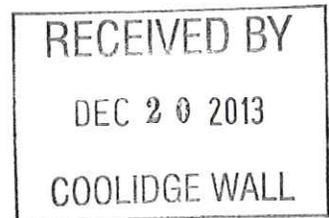
C. Mark Kingseed, Mayor
Gregory B. Horn, City Manager

December 18, 2013

Ms. Rachel Taulbee
401 Permitting Unit Supervisor
Ohio Environmental Protection Agency
Central Office, Division of Surface Water
Lazarus Government Center
50 West Town Street, Suite 700
Columbus, Ohio 43215

RE: The Woods at Yankee Trace

Dear Ms. Taulbee:



The City of Centerville has been presented with a proposed development called *The Woods at Yankee Trace*. The development has already been granted rezoning and development plan approval by the City. City Council was recently made aware that wetlands exist on the property and that a permit from your office is required for the proposed development to proceed as planned. The proposed development is located in an area immediately east of the Yankee Trace golf course and the associated large and growing residential subdivision. While growth in this area of the community has been beneficial for the City, it has also placed an increased demand on public safety services.

The Woods at Yankee Trace subdivision project is strategically located between the existing north-south collector street called Yankee Trace Boulevard to the west, and the north-south arterial known as Paragon Road to the east. Recent improvements were made to Paragon Road from the Estates of Paragon south to the City of Centerville's corporation line, including the frontage of the proposed Woods at Yankee Trace development. These enhancements softened two sharp curves to significantly improve safety and traffic flow in this area.

Public safety response times are always a significant concern. City Council supports the interconnectivity of developments throughout the community to promote public safety and good planning principles. Hidden Branches Drive will provide a direct connection between Paragon Road and Yankee Trace Boulevard, causing a significant reduction in response time for Centerville public safety units servicing the needs of this area. This roadway connection will not only enhance response times, but provide alternative response routes to the northern portion of the Yankee Trace community. There is no other parcel in the immediate area that connects to both Paragon Road and Yankee Trace Boulevard. Therefore, this reduction in response times can only be realized by construction of the proposed Hidden Branches Drive.

On behalf of the City Council of Centerville, we appreciate the need to protect wetlands. Because the construction of Hidden Branches Drive would fulfill such an essential public need, we urge your approval of this proposed project. I sincerely appreciate your consideration toward this request.

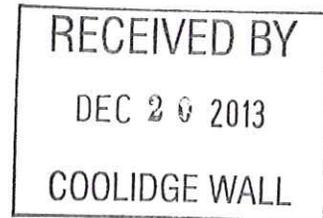
Respectfully Submitted

Brooks A. Compton
Deputy Mayor



December 19, 2013

C. Mark Kingseed, Mayor
Gregory B. Horn, City Manager
Bruce P. Robertson, Chief of Police



Ms. Rachel Taulbee
401 Permitting Unit Supervisor
Ohio Environmental Protection Agency
Central Office, Division of Surface Water
Lazarus Government Center
50 West Town Street, Suite 700
Columbus, Ohio 43215

RE: The Woods at Yankee Trace

Dear Ms. Taulbee:

The City of Centerville has been presented with a proposed development called *The Woods at Yankee Trace*. We are aware that wetlands exist on the property and that a permit from your office is required for the proposed development to proceed as planned.

The proposed Woods at Yankee Trace subdivision is located in an area immediately east of the Yankee Trace golf course and the associated large and growing residential subdivision. Over the past several years, the area has experienced residential growth. While this has been beneficial for the City and its surrounding areas, it has also placed an increased demand on public safety services.

The Woods at Yankee Trace subdivision project is strategically located between the existing north-south collector street called Yankee Trace Boulevard to the west, and the north-south arterial known as Paragon Road to the east. Recent improvements were made to Paragon Road from the Estates of Paragon south to the City of Centerville's corporation line, including the frontage of the proposed Woods at Yankee Trace development. These enhancements softened two sharp curves to significantly improve safety and traffic flow in this area.

Public safety response times are always a significant concern. Hidden Branches Drive will provide a direct connection between the Paragon Road arterial and the Yankee Trace Boulevard collector, causing a significant reduction in response time for Centerville public safety units servicing the needs of this area. This roadway connection will not only enhance response times, but provide alternative response routes to the northern portion of the Yankee Trace community. There is no other parcel in the immediate area that connects to both Paragon Road and Yankee Trace Boulevard. Therefore, this reduction in response times can only be realized by construction of the proposed Hidden Branches Drive. A preliminary analysis by the City indicates that public safety response times could be reduced by as much as 35% in this area of the City.

On behalf of the City of Centerville, we appreciate the need to protect wetlands. Because the construction of Hidden Branches Drive would fulfill such an essential public need, we urge your approval of this proposed project. I sincerely appreciate your consideration toward this request.

Respectfully Submitted

Bruce P. Robertson
Chief of Police