



September 19, 2014

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Ohio EPA, Division of Surface Water  
50 West Town Street, Suite 700  
Columbus, Ohio 43216-1049  
ATTN: Isolated Wetlands Permitting

**RE: Southlake Subdivision, Brunswick, Medina County  
Isolated Wetland Permit Application**

To Whom It May Concern:

Please find enclosed the forms for the Level 1 and Level 2 Wetland Permit applications. Also enclosed are the supporting documents as required for a complete application. This includes the maps showing the project footprint with wetlands (Attachment 1), the 10-page Ohio Rapid Assessment Method (ORAM) forms (Attachment 4), the Ohio Department of Natural Resources, Division of Natural Areas & Preserves Database Review (Attachment 5), the U.S. Army Corps of Engineers jurisdictional determination letter (Attachment 6), the wetland delineation report, photographs of each isolated wetland (within the delineation report), the mitigation proposal (discussed below), and a check for the review fee for \$1,180.

The Southlake Subdivision is part of a larger development, the Brunswick Town Center. The impacts for this project were previously authorized under USACE permit No. 2002-00114(0) and Ohio EPA certification No. 021019. Construction of the entire Brunswick Town Center was not completed during the permit authorization timeframe. This application is requesting authorization to complete this portion of the Brunswick Town Center.

Because this portion of the project was not developed under the previous permits, the mitigation required for those permits was not used. Included in Attachment 7 are the previous permits and the map from the previous permits showing the area that encompasses the Southlake Subdivision. As this map shows, three wetlands were located in that area that were previously authorized to be filled, Wetlands F, G, and V. Although mitigation for those three wetlands was provided, the fill for those wetlands was never completed. Calculation of that previous mitigation is shown in Table 1 on the following page.

**Table 1. Brunswick Town Center Wetland Mitigation within Southlake Project Area**

Original Wetlands	Area (ac)	ORAM	Category	Land Cover	Mitigation Ratio	Mitigation (ac)
F	0.33	22	1	non-for	1.5	0.495
V	0.33	22	1	non-for	1.5	0.495
G	0.21	22	1	non-for	1.5	0.315
<b>Total</b>	<b>0.87</b>					<b>1.305</b>

A calculation of mitigation was done for the Southlake development, as listed in Table 2 below. As is shown, a total of 5.067 acres are needed to address the mitigation requirements for this project. To address those requirements, a combination of the previous 1.305 acres of mitigation; 1.4 acres of mitigation from the Wellington Reservoir Mitigation Bank; 1.2 acres of forested mitigation from the Edison Woods Mitigation Bank; and 0.6 acre of mitigation from White Star EA Mitigation Bank are proposed. This proposal provides for in watershed mitigation for the Category 2, non-forested portion of Wetland B at Wellington Reservoir; adjacent watershed mitigation for the forested portion of Wetland B at Edison Woods; and the remainder of the mitigation within the Buffalo Corps District (split between Wellington, Edison, and White Star EA).

**Table 2. Southlake Wetland Mitigation Calculations**

Wetland	Total	ORAM Score	Category	Impact (acres)	Mitigation Ratio	Mitigation (acres)	Less Previous Mitigation Credits	In Watershed Wellington (non-for)	Adjacent Watershed Edison Woods (forested)	In Corps District White Star EA
A	0.037	23	1	0.037	2	0.074		0	0	0.074
B non-for	0.696	39.5	mod 2	0.696	2	1.392		1.392	0	0
B forest	0.933	39.5	mod 2	0.69	2.5	1.725		0	1.725	0
C	0.935	26.5	1	0.935	2	1.870	1.305	0.008	0.075	0.482
D	0.003	21.5	1	0.003	2	0.006		0	0	0.006
<b>Total</b>	<b>2.604</b>			<b>2.361</b>		<b>5.067</b>	<b>1.305</b>	<b>1.4</b>	<b>1.8</b>	<b>0.562</b>

The majority of this mitigation has been reserved through the Northcoast Regional Council of Park Districts. A copy of the ratified contract reserving 3.4 acres is included in Attachment 8. The confirmation of the remaining mitigation will be forwarded immediately upon receipt.

If you have any questions or comments or if you need additional information, please contact me at 330-673-5685, ext. 8067 or via e-mail at [judith.mitchell@davey.com](mailto:judith.mitchell@davey.com).

Sincerely,



Judith Mitchell, Project Manger  
Natural Resource Consulting



# General Isolated Wetland Permit Application (Level One)

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

Division of Surface Water 401 Water Quality Certification and Isolated Wetland Permitting Unit

Applicant and Agent Information		
	Applicant:	Agent:
Company/ Agency Name:	Drees Homes	Davey Resource Group, a Division of The Davey Tree Expert Company
Name of Contact:	David Wager	Judith Mitchell
Title:	Land Manager	Project Manager
Technical Point of Contact:	David Wager	Judith Mitchell
Address:	6650 West Snowville Road, Suite J	1500 North Mantua Street
City, State, Zip:	Brecksville, Ohio 44141	Kent, Ohio 44240
Phone Number(s):	(440) 717-9670	(330) 673-5685 x8067
Email Address:	DWager@dreeshomes.com	judith.mitchell@davey.com

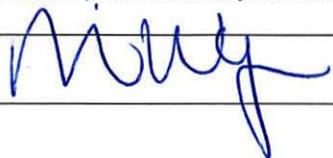
Project Information		
Project Name: Southlake Subdivision		
Has Pre-App. Coordination occurred? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Indicate the 401 reviewer: Wilk DATE: 8/14/2014		
Brief Project Description/Purpose: The Southlake residential development is part of a larger development, the Brunswick Town Center. This development was originally permitted under Department of the Army Application No. USACE permit No. 2002-00114(0) and Ohio EPA certification No. 021019 but was not completed. It is proposed to complete the construction of this residential development on the remaining 12.8-acre project area.		
Construction Timeframe (Provide ~start and end dates): October 2014 October 2015		
Is any portion of the activity complete now? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Is this an "After-The-Fact" permit application? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
Coordinates (degree, minutes, seconds): 41°13' 39" N - 81° 51' 73" W		
Project Address: Street: Sandlwood Drive		City or Town: Brunswick
Zip Code: 44212	Township:	County: Medina
12 Digit HUC No.: 04110001	Watershed Name: Black-Rocky	Corps District: Buffalo
Other water related permits issued or required include:		
<input type="checkbox"/> Individual 404 Permit – Public Notice # <input type="checkbox"/> Individual 401 WQC - Choose an item. Click here to enter a date. <input type="checkbox"/> Nationwide Permit # 29- Residential Developments Date Submitted: 2/25/2014 <input type="checkbox"/> Section 9 Permit - <input type="checkbox"/> Section 10 Permit - Choose an item. Click here to enter a date. <input checked="" type="checkbox"/> NPDES Permit – General Will be Submitted Click here to enter a date. <input type="checkbox"/> Permit to Install – Choose an item. : Click here to enter a date. <input type="checkbox"/> ODNR Choose an item. Permit - Choose an item. Click here to enter a date. <input type="checkbox"/> ODNR Coastal Permit - Choose an item. Click here to enter a date. <input type="checkbox"/> Regional Permit - Choose an item. Click here to enter a date.		
Are there other aquatic resources on the project site (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		
I have included the following in this submittal:		
<input checked="" type="checkbox"/> Maps showing the project footprint & wetlands <input checked="" type="checkbox"/> Wetland delineation <input checked="" type="checkbox"/> Wetland categorization (including 10-page ORAM sheets) <input checked="" type="checkbox"/> Check for applicable fees <input checked="" type="checkbox"/> Site photographs <input checked="" type="checkbox"/> Corps approved jurisdictional determination <input checked="" type="checkbox"/> Mitigation proposal (including mitigation bank credits or in-lieu fee documentation if appropriate)		

Application for General Isolated Wetland Permit (Level One)

Proposed Impacts										
Wetland ID	ORAM Score	Category	Cat. Verified by Ohio EPA?	Ohio EPA Reviewer who Verified	Size (Acres)			Proposed Impacts (Acres)		
					Total	Forest	Non	Forest	Non	Total
A	23.00	1	<input checked="" type="checkbox"/>	Wilk	0.037		0.037		0.037	0.037
B	39.50	2	<input checked="" type="checkbox"/>	Wilk	1.629	0.933	0.696	0.690	0.696	1.386
C	26.50	1	<input checked="" type="checkbox"/>	Wilk	0.935		0.935		0.935	0.935
D	21.50	1	<input checked="" type="checkbox"/>	Wilk	0.003		0.003		0.003	0.003
		1	<input type="checkbox"/>	Choose an item.						
<b>Wetland Acreage Totals</b>					2.604	0.933	1.671	0.690	1.671	2.361
<b>Totals – Category 1 Wetlands</b>					0.975		0.975		0.975	0.975
<b>Totals – Category 2 Wetlands</b>					1.629	0.933	0.696	0.690	0.696	1.386
<b>Totals – Category 3 Wetlands</b>										

Proposed Wetland Mitigation (Check All That Apply)			
<input checked="" type="checkbox"/>	Wetland Mitigation Bank	Number of Forested Wetland Credits: 1.2	Number of Non-Forested Wetland Credits: 2.1
	Wetland Mitigation Bank: Wellington Reservoir 2.1 credits	Proof of Reservation? <input checked="" type="checkbox"/>	Edison Woods 1.2 credits
<input type="checkbox"/>	In-Lieu Fee Program	ILF Sponsor: Choose an item.	Number of Wetland Credits:
<input type="checkbox"/>	On-Site Permittee-Responsible Mitigation	<input type="checkbox"/> Restoration/Creation Choose an item. Acres	<input type="checkbox"/> Enhancement Choose an item. Acres
		<input type="checkbox"/> Preservation Choose an item. Acres	<input type="checkbox"/> Other
<input type="checkbox"/>	Off-Site Permittee-Responsible Mitigation	<input type="checkbox"/> Restoration/Creation Choose an item. Acres	<input type="checkbox"/> Enhancement Choose an item. Acres
		<input type="checkbox"/> Preservation Choose an item. Acres	<input type="checkbox"/> Other

Fees	
Are you exempt from fees?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If YES, leave fee section blank)
Application Fee =	\$ 200.00
Review Fee	
Wetland Acres Impacted 2.36	x \$500 = \$ 1180
<b>Total Fees (\$200 Application Fee + Total Review Fees) due at the time of application submittal = \$ 1380</b>	
Standard Applicant - Is the fee cap (\$5,000) exceeded?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If YES, maximum fees are \$5,200)
Is this an After the Fact (ATF) application?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If YES, double the fees. Maximum fees of \$10,000)
<b>PLEASE MAKE FEE CHECK PAYABLE TO: "TREASURER, STATE OF OHIO"</b>	

Applicant and Agent Signature	
Application is hereby made for an Isolated Wetland Permit. I certify that the information provided on this form and all attachments related to this project are true and accurate to the best of my knowledge:	
Applicant Name	David Wager
Applicant Signature	



State of Ohio Environmental Protection Agency

## **INDIVIDUAL ISOLATED WETLAND PERMIT APPLICATION (Level Two Review)**

For impacts greater than ½ acre for Category 1 isolated wetlands and greater than ½ acre but not exceeding 3 acres for Category 2 isolated wetlands

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### **Please Print or Type (attach additional sheets if necessary)**

Project Name: Southlake Subdivision, Brunswick, Medina County, Ohio

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

#### **Introduction:**

The Southlake Subdivision is part of a larger development, the Brunswick Town Center. The impacts for this project were previously authorized under USACE permit No. 2002-00114(0) and Ohio EPA certification No. 021019 (Attachment 7). Construction of the entire Brunswick Town Center was not completed during the permit authorization timeframe. We are requesting authorization to complete this portion of the Brunswick Town Center with this Isolated Wetland Permit application.

The Brunswick Town Center was designed and developed as a neo-traditional neighborhood, a modern urban design philosophy that promotes walkable, multipurpose neighborhoods, including homes, businesses, and green space that works to maximize land use and minimize urban sprawl. Integrating multiple uses is one of the most important qualities defining a town center. The integration of multiple uses with sidewalks, paths, and parks create a desirable environment. A special design team worked in collaboration with the City of Brunswick to implement the neo-traditional neighborhood envisioned for the Brunswick Town Center. The purpose and goal of the Brunswick Town Center was to create a central place for the community, a place where commerce, social interaction, and leisure time activities mix easily in a pedestrian-friendly setting. The City of Brunswick played a key role in the planning and design of this development and is a major proponent to have the entire development completed. The Southlake Subdivision is the final phase of the residential component within the Brunswick Town Center.

#### **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:**

As discussed above, the Brunswick Town Center was designed and developed with the specific purpose to implement a neo-traditional neighborhood that would enhance the social, economic, and environmental health of the City of Brunswick community.

The undeveloped section of the Southlake development presents a major disruption to the design and purpose of the overall development. One of the central objectives of this design was to create connectivity between the residential component, and the associated commercial and recreational areas. With the Southlake portion still undeveloped, residents to the south and west are unable to access Brunswick Parkway which provides easy access to Brunswick Lake, the recreational component, and Brunswick Town Center, the commercial component. This lack of connectivity also poses an issue in regards to safety. Without through access to Brunswick Parkway, emergency vehicles are forced to reroute to the west in order to access the homes to the south and west. Without the completion of the Brunswick Town Center as it was originally designed and previously permitted, the project purpose cannot be attained.

Preferred Site Plan:

The Preferred proposed site plan includes the construction of 61 single family lots, streets, and installation of site infrastructure. The site plan for this alternative is included in Attachment 1. Given the site shape, density, grade, existing infrastructure (tie-ins), and specific zoning code requirements, this alternative would result in the loss of approximately 2.361 acres of isolated wetlands and would avoid 0.243 acre. The financial cost benefit analysis for this layout is listed below in Table 1.

**Table 1. Soutlake Preferred Site Plan Projected Costs, Taxes and Jobs.**

Preferred Alternative acreage	12.7580 acres
Annual Real Estate Tax	\$ 297,700
Annual Real Estate Tax to Schools	\$ 210, 500
Construction Jobs Created	48
Construction Jobs Payroll	\$ 2,432,500
Permanent Jobs Created	N/A
Permanent Job Payroll	N/A
Home Sales	\$ 17,535,000
Land Costs	\$ 635,000
Development Costs	\$ 1,787,000
Home Construction Costs	\$ 11,412,000
Net Proceeds	\$ 3,700,900

The layout of the Preferred Alternative is based on the original design of the Brunswick Town Center. Although this plan would result in 2.361 acres of wetlands, the wetlands being impacted are primarily “limited quality waters” as defined in OAC Rule 3745-1-05(A). The 0.243 acre of wetland being avoided is the some of the most ecologically valuable of the wetlands on this site.

This alternative will result in an 11% return on the investment, which is well below the 20% minimum gross profit which is the typical projected return for residential development. Because of the variability in markets, financial lenders require a minimum 20% gross projected profit to provide financing. The City of Brunswick has been trying to have the Town Center development completed, but because of this low projected return, finding a developer who would accept this risk has been difficult.

A central goal of the design of the Brunswick Town Center was to create connectivity between the existing housing development and the shopping and recreational areas. In order to achieve this goal, there needs to be through access between Sandlwood and Scarborough Drives, as proposed by this layout.

The Preferred Alternative plan meets the City of Brunswick’s zoning code requirements (Sec 1228.02 (d) Cul-de-sacs and Dead-End Streets). These requirements pose structural constraints on the design of this development, requiring through access for Sandlwood Drive.

The Brunswick Town Center was previously permitted by both USACE and Ohio EPA, including a full review of the entire design. The Southlake Preferred Alternative is the same layout that was previously permitted.

This previously permitted layout achieves the City of Brunswick’s long term project purpose, is financially feasible, provides for safety access, and meets zoning requirements.

Minimum Degradation Plan:

The Minimal Degradation Plan includes the construction of 32 single family lots and supportive site infrastructure and streets. The site plan for this alternative is included in Attachment 2. The Minimal Degradation Alternative would result in the loss of approximately 0.287 acre of isolated wetlands, while avoiding 2.204 acres of isolated wetlands. The financial cost benefit analysis for this layout is listed below in Table 2.

**Table 2. Southlake Minimum Degradation Site Plan Projected Costs, Taxes and Jobs.**

Minimal Degradation Alternative acreage	12.7580 acres
Annual Real Estate Tax	\$ 156,200
Annual Real Estate Tax to Schools	\$ 113,300
Construction Jobs Created	25
Construction Jobs Payroll	\$ 1,266,900
Permanent Jobs Created	N/A
Permanent Job Payroll	N/A
Home Sales	\$ 8,674,100
Land Costs	\$ 635,000
Development Costs	\$ 1,105,000
Home Construction Costs	\$ 6,511,200
Net Proceeds	\$ 422,900

Although this alternative avoids a larger area of isolated wetland, this alternative results in a significant loss in the investment. The Minimal Degradation Alternative will result in a 5% return on investment, which is well below the 20% minimum gross profit which is typical projected return for residential development. Because of the variability in markets, financial lenders require a minimum 25% gross profit to provide financing.

Another major limitation of this alternative plan is the City of Brunswick’s zoning code requirements (Sec 1228.02 (d) Cul-de-sacs and Dead-End Streets). This code limits the length of cul-de-sacs in subdivisions to under 600 lineal feet. With no tie-in to either Sandewood Drive and/or Scarborough Drives, this layout does not meet this minimum life/fire safety zoning code requirements.

This alternative also does not meet the main goals of the project which is to create connectivity between the existing housing development and the Brunswick Town Center shopping and recreational areas. In order to achieve this goal, Sandewood and Scarborough Drive would need to have through access which will require impacting a large portion of the wetlands found on site.

The Minimal Degradation Alternative does not attain the City of Brunswick’s long term project purpose, does not provide safety access, does not meet zoning requirements, is not a financially feasible option, and because of the low projected return, would not be constructed by any developer.

**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 water resources on this site (illustrated on the delineation map in Attachment 3) have been assessed using the Ohio EPA's Rapid Assessment Method (ORAM) v.5.0. The ORAM forms are included in Attachment 4.

Wetlands A, C, and D were assigned Category 1 because of their small size, past disturbances, and ongoing habitat disturbances from mowing. Wetlands assessing within the range of Category 1 are defined as "limited quality waters" in OAC Rule 3745-1-05(A). These resources have been degraded, have limited potential for restoration, and have low functionality.

Wetland B has received a score of 39.5, which is in the range of Modified Category 2. Category 2 wetlands are wetlands of moderate quality, functions, or values. The lower end of Category 2, that is, modified Category 2, refers to those wetlands that have been degraded but have a reasonable potential for restoration. The Ohio Administrative Code Rule 3745-1-54(C) (2) defines Category 2 wetlands as wetlands which "support moderate wildlife habitat, or hydrological, or recreational functions," and are "dominated by native species but generally without the presence of, or habitat for, rare threatened or endangered species." Category 2 wetlands are considered "general high quality waters". The northern half of this wetland has ongoing disturbances including mowing and has the same quality and functions as the remainder of the wetlands on this site which are all Category 1 wetlands. Wetland B assessed as a higher quality wetland because of the forested portion of the wetland. Of the higher quality portion, the forested portion of this Category 2 wetland, 0.243 acre will be avoided.

**3. Please provide maps and narratives describing buffers provided for any isolated wetland(s) that will be avoided at the site:**

A total of 0.243 acre of wetland will be avoided with the Preferred Site Plan. The avoidance consists of a portion of the forested area of Wetland B on the southern end of the site. The portion of wetland area being preserved is the highest quality wetland located on site. In addition to the avoidance, there will be a 25 foot buffer associated with the wetland. This buffer will be included on the plat, in the Homeowners Association Declaration, and in the by-laws that will specifically outline how the buffer areas are to be protected to restrict disturbance to these designated areas.

**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:**

The wetlands on this site are not locally or regionally scarce. Wetlands A, C, D are Category 1 and by definition, “limited quality waters”. Category 1 wetlands support minimal habitat, hydrological, or recreational/ educational functions. Wetlands within this category have low species diversity and a predominance of non-native vegetation. Limited quality waters are not locally or regionally scarce.

Wetland B has scored within the range of Modified Category 2. Although modified, Category 2 wetlands are considered “general high quality waters”. Category 2 wetlands “support moderate wildlife habitat, or hydrological, or recreational functions,” and are “dominated by native species but generally without the presence of, or habitat for, rare threatened or endangered species.” A portion of this wetland will be impacted in the development of the individual lots, structures, and associated infrastructure. However, the portion being impacted consists of low quality vegetation comprised primarily of red maple saplings and buckthorn shrubs. The primary reason Wetland B scored as a Category 2 was because of the forested area to the south of the wetland, which is the area chosen for preservation.

To determine if this parcel may contain threatened or endangered species or critical habitat, the Ohio Department of Natural Resources (ODNR) was contacted to review the Ohio Biodiversity Database. The Division of Wildlife has no records of rare or endangered species within the project area or within a mile of the project area. They 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 the project area or within a one mile radius of the project area. The response from the ODNR is located in Attachment 5.

To further investigate if this parcel may contain a federally listed, threatened, or endangered species and/or critical habitat within the vicinity of the proposed site, information provided by U.S. Fish and Wildlife was reviewed. The project site lies within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the northern long-eared bat (*Myotis septentrionalis*), a species that is currently proposed for listing as federally endangered.

- All counties in Ohio are within the range of the Indiana bat and the northern long-eared bat. Summer habitat requirements for these species are not well defined, but the following are considered important: 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; live trees (such as shagbark hickory and oaks) which have exfoliating bark; and stream corridors, riparian areas, and upland woodlots which provide forage sites. Occasionally the northern long-eared bat may roost in structures like barns and sheds. The project area was evaluated for potential habitat for these bats. There are no sheds or barns within the project area. The majority of the site is covered with fields that are irregularly mowed. Approximately 2.7 acres of the site is wooded, along the south and east borders. Following development, 0.9 acres of these wooded areas will be avoided. To ensure no impacts to the Indiana bat will occur with the development of this site, it is proposed to cut these wooded areas between October 1 and March 31.

None of the wetlands to be filled are locally or regionally scarce and they contain no rare, threatened, or endangered species.

**5. Please demonstrate that the project impacts would not result in significant degradation to the aquatic ecosystem:**

During construction, erosion and sediment runoff can be greatly accelerated from pre-construction conditions which can cause significant degradation to receiving waters. To address these concerns of increased erosion, changing hydrologic conditions and potential degradation of water quality; the Storm Water Management Plan will utilize Best Management Practices (BMPs). These methods will be designed to control storm water runoff and minimize sediment loads. These BMPs will include but are not limited to: stabilized construction entrances and access roads, silt fencing, geotextile mats on steep grades, inlet protection, temporary sediment traps, inlet protection, temporary diversions, minimization of the amount of soil exposed during construction activity, temporary stabilization of soils within 14 days of soil exposure, and establishing vegetation in drainage swales. Following development, soil stabilization and temporary seeding of the final grade will be done on the individual lots. Temporary seeding shall be in accordance with the guidelines for the same in the 'Abbreviated SWP3 for Individual Lot Residential Construction'. These efforts will control sedimentation, allow for soil percolation, reduce storm water runoff, and avoid degradation to the aquatic ecosystem during site development.

Following development, there will be an increase in impervious surfaces as compared to pre-development conditions. This can cause an increase in the amount of rainfall reaching the receiving water in the form of direct runoff. As a result, runoff volume and flow peaks to the receiving waters can be significantly increased which can result in degradation to the aquatic ecosystem.

For long term management of the increased storm water volume, the water on this site will drain to the existing water quality pond located in the northwest corner of the site as shown on the layouts in Attachments 1 and 2. This pond outlets to Lake Brunswick to the north. This stormwater pond will be re-designed such that the extended detention volume is drawn down over a 24-hour period and the outlet will empty less than 50% of this volume in the first 8 hours.

Thus, no offsite impacts are anticipated with the development of this site because these measures will ensure that there will be no significant degradation to the receiving waters and the associated aquatic ecosystem.

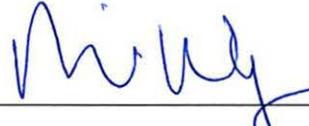
**6. Please provide a comprehensive post-development storm water plan that includes water quality improvement measures:**

Post-construction, the predominant physical water quality parameters of concern are temperature, conductivity, and suspended solids. Temperature increases are attributed to the increase in the amount of warm impervious surfaces. Conductivity is related to the total dissolved solids that are found in storm water runoff. Suspended solids are usually the pollutant of concern.

Trees and grass will be planted in association with the homes. In addition to landscaping and streetscaping requirements within the Brunswick Town Center development, on-lot landscaping will be installed around the home lots. All home landscaping shall be installed within six months of final grade; weather permitting. The tree/shrub line that exists along the south and west property lines shall be maintained. The planted trees and the maintained trees and shrubs will slow rainfall by decreasing through flow and will provide shade, thus moderating water runoff temperature.

Following construction, the water on this site will drain to the existing water quality pond on the northeast corner of the site, as indicated on the map in Attachment A. This pond was originally designed to provide a water quality feature for both the existing development to the east as well as the undeveloped Southlake Subdivision. Because the water quality pond was constructed ten years ago, and had a simple rock channel outlet spillway, the outlet structure is being retrofitted to meet current EPA BMPs for water quality treatment. The retrofit consists of constructing a concrete outlet structure complete with a properly sized water quality orifice. This retrofit is designed such that the extended detention volume is drawn down over a 24-hour period and the outlet will empty less than 50% of this volume in the first 8 hours. As such, this water quality pond will control water runoff volume and moderate post construction flow peaks to Lake Brunswick through soil percolation and controlled water storage. This will insure that peak post-development runoff rates do not exceed the peak pre-development rates of runoff and thus moderate peak flows to the receiving waters off-site (Lake Brunswick). Further, this water quality pond is designed to remove pollutants by settling, chemical interaction, and biological uptake by plants, algae and bacteria.

*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: David Wager Applicant Signature:  Date: 9/18/14

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

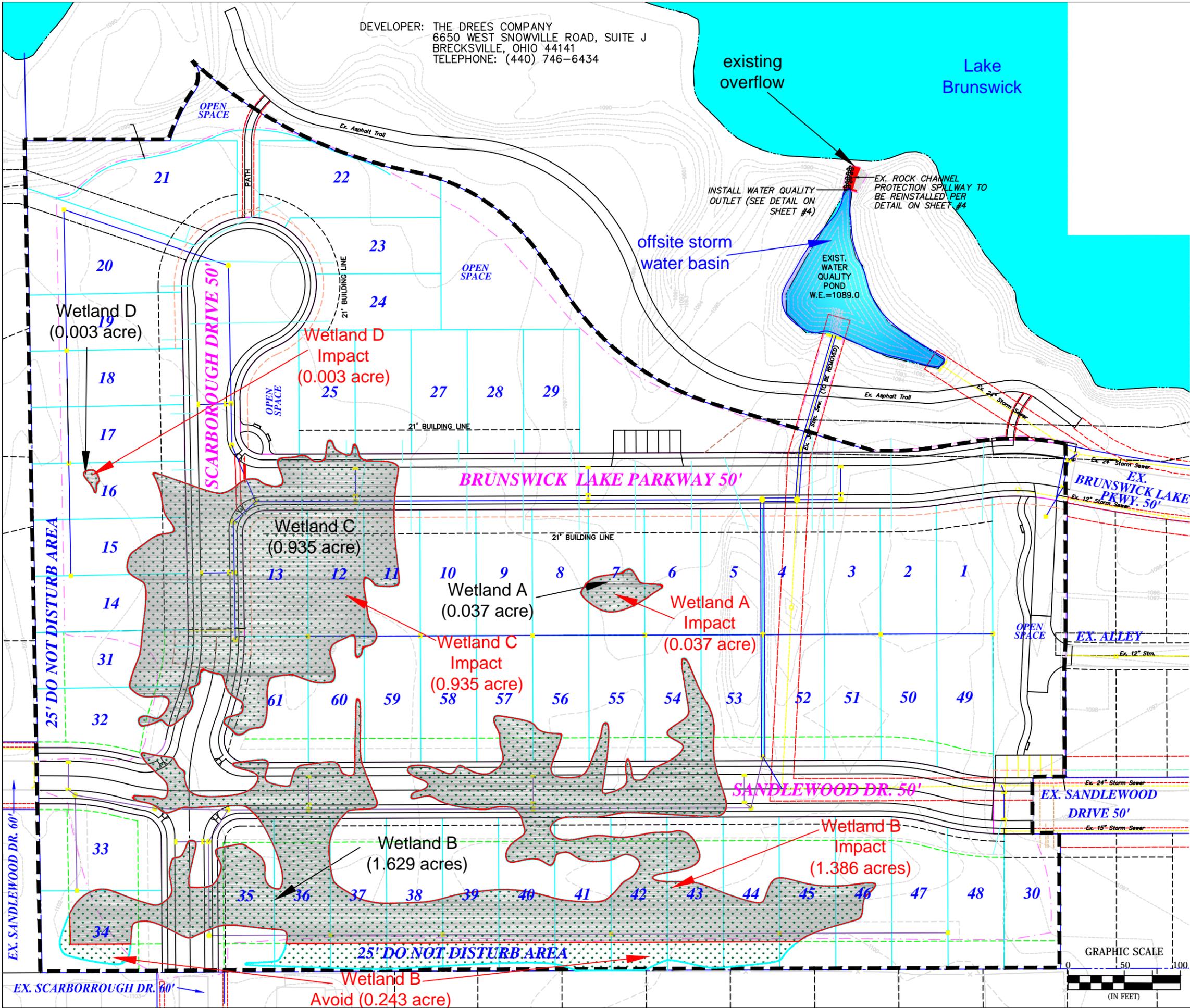
**Attachment 1**

**Preferred Development Site Plan**

DEVELOPER: THE DREES COMPANY  
 6650 WEST SNOWVILLE ROAD, SUITE J  
 BRECKSVILLE, OHIO 44141  
 TELEPHONE: (440) 746-6434

existing  
 overflow

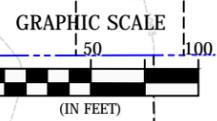
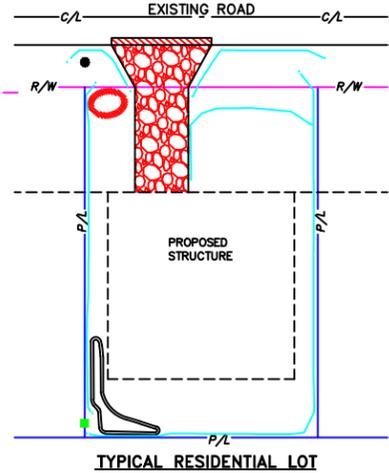
Lake  
 Brunswick



Project area

Wetlands delineated within study area (2.604 acres)

Areas of wetland impacts within study area (2.358 acres)



REVISIONS	DATE	DESCRIPTION	BY

**SOUTHLAKE SUBDIVISION**  
 LOCATED IN COUNTY OF MEDINA  
**CUNNINGHAM & ASSOCIATES, INC.**  
 CIVIL ENGINEERING and SURVEYING  
 203 W. LIBERTY ST. MEDINA, OHIO 44256 330-725-5980

**PREFERRED PLAN**

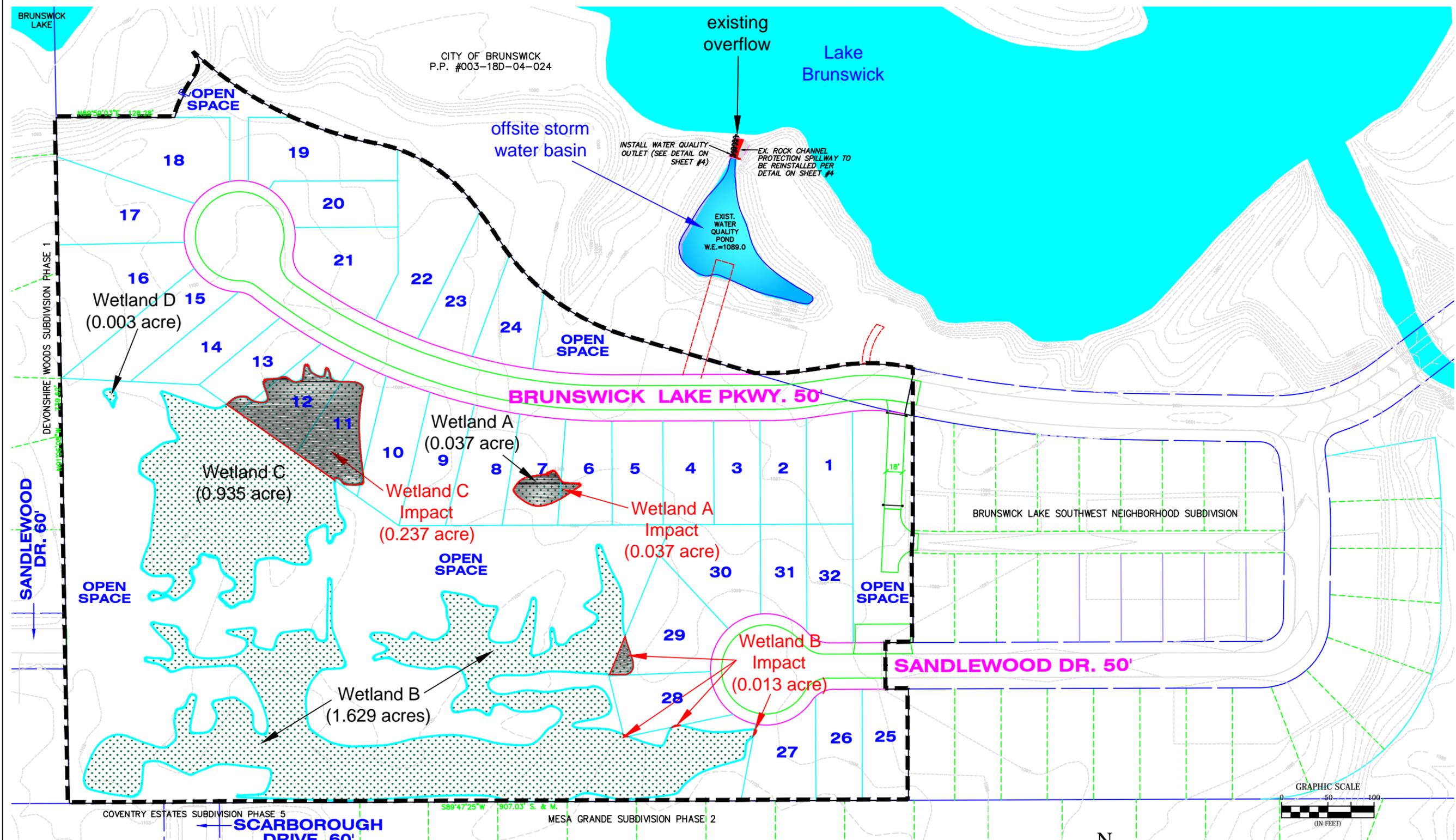
DRAWN BY: NEJ  
 DATE: 8/19/14  
 CHECKED BY:  
 DATE:  
 PROJECT No. 11-183  
 ACAD FILE No. M:\11-183\1183-SW-min.dwg

SCALE: PLAN- 1"=50'  
 PROFILE-Horz. Vert.

SHEET NO. 1/1



**Attachment 2**  
**Minimal Degradation Site Plan**



- = Project area
- = Wetlands delineated within study area (2.604 acres)
- = Areas of wetland impacts within study area (0.287 acres)



DEVELOPER: THE DREES COMPANY  
6650 WEST SNOWVILLE ROAD, SUITE J  
BRECKSVILLE, OHIO 44141  
TELEPHONE: (440) 746-6434

REVISIONS	DATE	DESCRIPTION	BY

**SOUTHLAKE SUBDIVISION**  
CITY OF BRUNSWICK  
COUNTY OF MEDINA

**CUNNINGHAM & ASSOCIATES, INC.**  
CIVIL ENGINEERING and SURVEYING  
203 W. LIBERTY ST. MEDINA, OHIO 44256 330-725-5980

**MINIMUM DEGRADATION PLAN**

DRAWN BY: NEJ  
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PROJECT No. 11-183  
ACAD FILE No. M:\11-183\1183-SW-min.dwg

SCALE: PLAN: 1"=50'  
PROFILE-Horz.:    
Vert.:  

SHEET NO. **1** / **1**

## **Attachment 3**

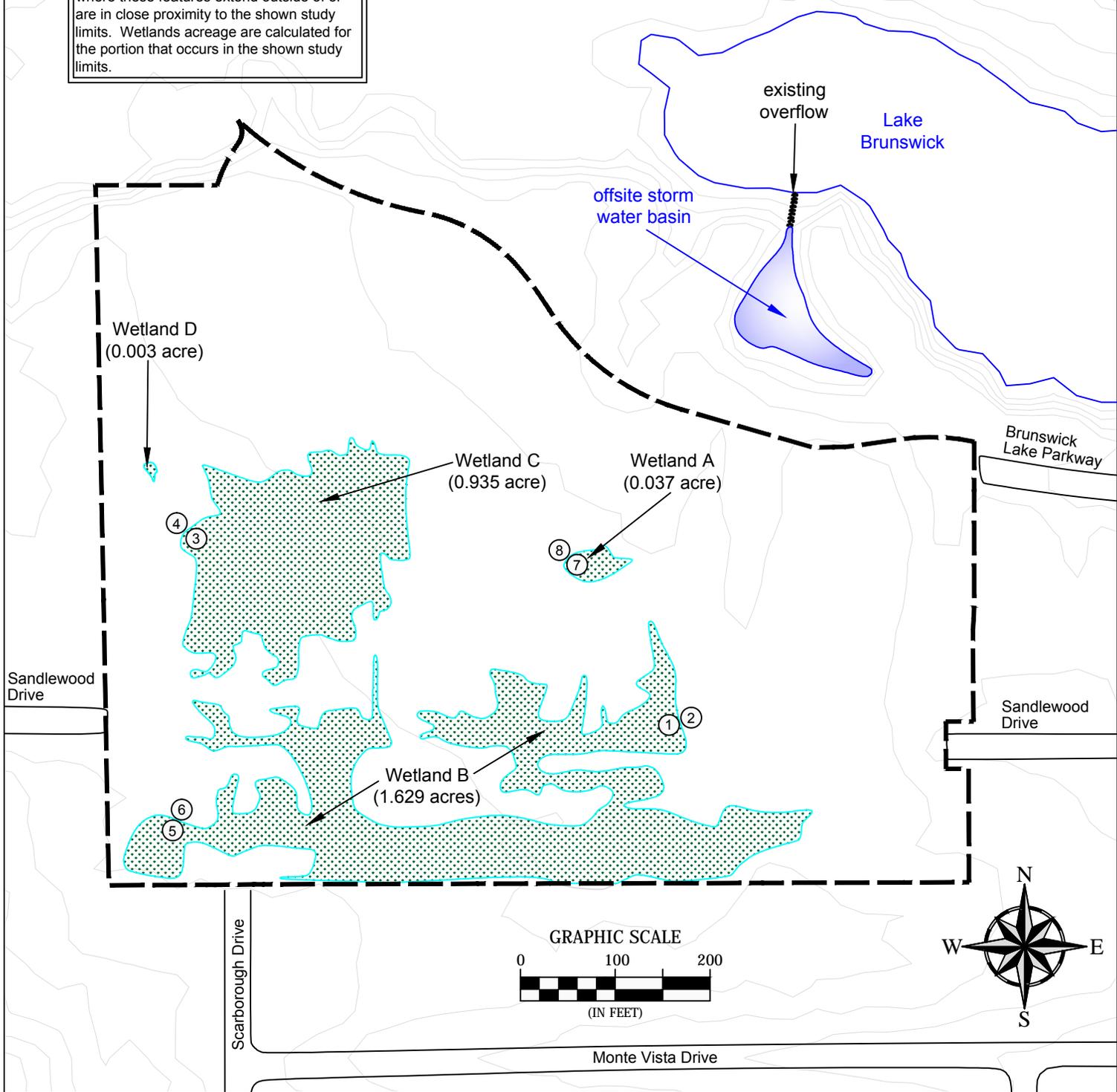
**Resource Maps (Wetland Delineation Map & USGS Topographic Map)**

# Water Resources Map

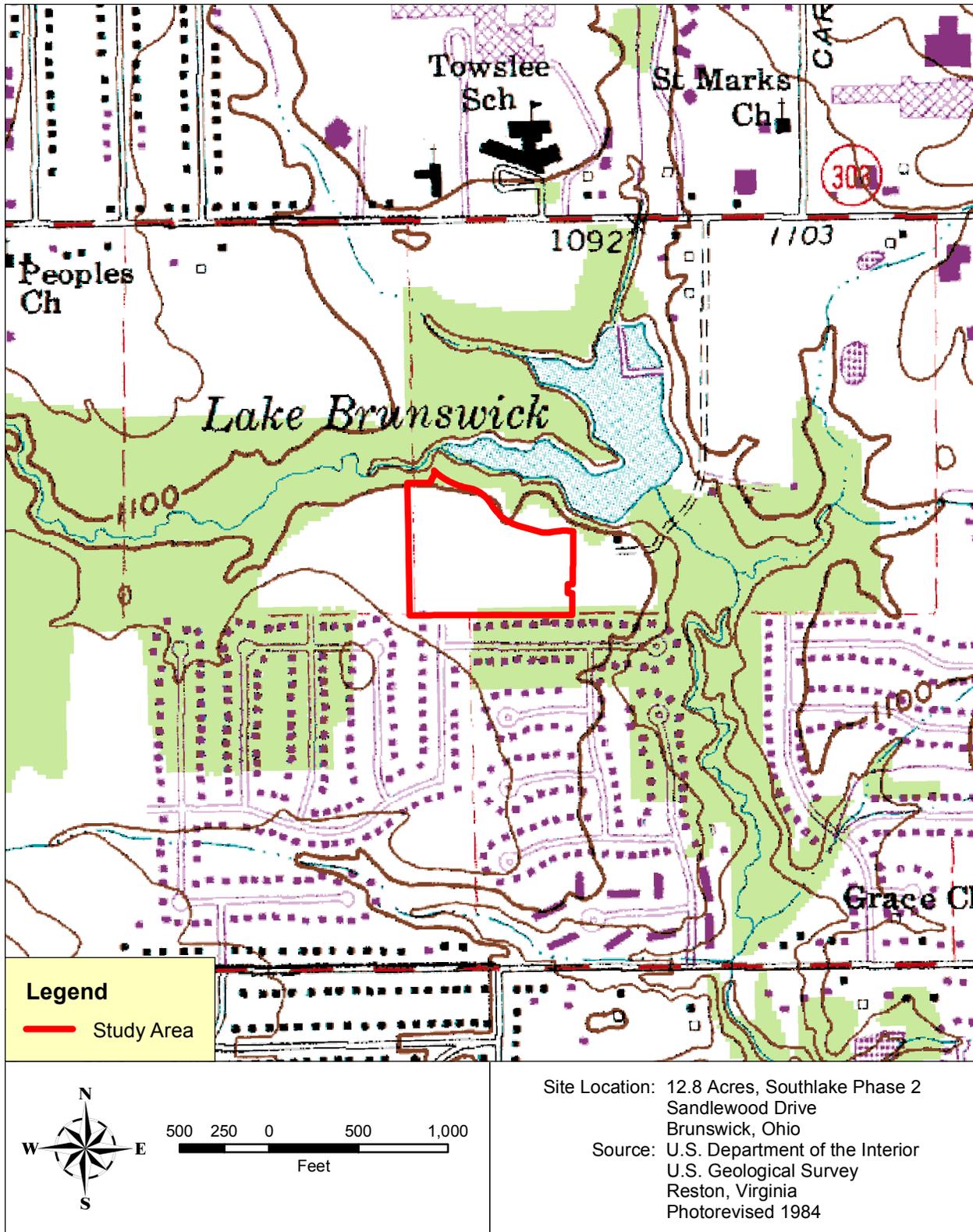
Prepared for	<b>Drees Homes</b>
	12.8 Acres, Southlake Phase 2 Sandlewood Drive Brunswick, Ohio
Prepared by	<b>DAVEY RESOURCE GROUP</b> <small>A Division of The Davey Tree Expert Company</small>
	Data used to produce this map were collected on August 21, 2013

- = Study area
- [Dotted pattern] = Areas of wetland delineated within study area (2.604 acres)
- ① = Sample point location

**NOTE:** Wetlands sizes could change upon overlay of a boundary survey, especially where these features extend outside of or are in close proximity to the shown study limits. Wetlands acreage are calculated for the portion that occurs in the shown study limits.



**Location of Study Area on  
USGS 7.5-Minute Topographic Map  
(Medina Quadrangle)**



**Attachment 4**

**Wetland Categorization Forms  
(Ohio Rapid Assessment Method-ORAM Scoring Sheets)**

## **ORAM Forms—12.8 Acres, Southlake Phase 2, Brunswick, Medina County, Ohio**

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Ohio Environmental Protection Agency's (EPA) Ohio Rapid Assessment Method for wetlands (ORAM v.5) forms were completed for the eight wetlands in the study area. Wetlands are given a numeric Category of 1, 2, or 3, with Category 3 being the highest quality wetlands. The table below provides a summary of the ORAM scores and categories for the Drees Homes Southlake Phase 2 site in Brunswick.

### **Summary of ORAM Scores and Categories**

<b>Wetland</b>	<b>Vegetation</b>	<b>Size (Acres)</b>	<b>Isolated/Non-Isolated</b>	<b>ORAM Score</b>	<b>ORAM Category</b>
A	Emergent	0.037	Isolated	23	1
B	Emergent, scrub/shrub, forested	1.629	Isolated	39.5	Mod 2
C	Emergent, scrub/shrub	0.935	Isolated	26.5	1
D	Emergent	0.003	Isolated	21.5	1
<b>Total</b>	<b>-</b>	<b>2.604</b>	<b>-</b>	<b>-</b>	<b>-</b>

NOTE: Please review the map located in Appendix A of the *Water Resource Delineation Report* to identify the wetlands locations.

## Background Information

Name:	Judith Mitchell
Date:	August 23, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, OH 44240
Phone Number:	330-673-5685 X5685
E-Mail Address:	Judith.mitchell@davey.com
<b>Name of Wetland: Wetland A</b>	
Vegetation Communit(ies): emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc.  See Delineation Report	
Lat/Long or UTM Coordinate:	41.2332, -81.8149
USGS Quad Name:	Medina
County:	Medina
Township:	
Section and Subsection:	
Hydrologic Unit Code:	04110001 (Black-Rocky)
Site Visit:	August 21, 2013
National Wetland Inventory Map:	NA
Ohio Wetland Inventory Map:	
Soil Survey:	See Delineation Report
Delineation Report/Map:	See Attached

Name of Wetland:	Wetland A
Wetland Size (acres, hectacres)	0.037 acre
<p>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</p> <p>See Delineation Report</p>	
<p>Comments, Narrative Discussion, Justification of Category Changes:</p>	
<p><b>Final Score:</b> 23 <span style="float: right;"><b>Category:</b> 1</span></p>	

## Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below; however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	Done?	Not Applicable
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Yes	
<b>Step 2</b>	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		NA
<b>Step 3</b>	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, <i>i.e.</i> , areas that have a high degree of hydrologic interaction are included within the scoring boundary.		NA
<b>Step 4</b>	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		NA
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		NA
<b>Step 6</b>	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.		NA

End of Scoring Boundary Determination.  
Begin Narrative Rating On Next Page.

## Narrative Rating

INSTRUCTIONS: Answer each of the following questions. Questions 1, 2, 3, and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Check One	
1	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 2	<input checked="" type="checkbox"/> NO  Go to Question 2
2	<b>Threatened or Endangered Species.</b> Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 3	<input checked="" type="checkbox"/> NO  Go to Question 3
3	<b>Documented High-Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high-quality wetland?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 4	<input checked="" type="checkbox"/> NO  Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 5	<input checked="" type="checkbox"/> NO  Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> ; or 2) an acidic pond created or excavated on mined lands that have little or no vegetation?	<input type="checkbox"/> YES  Wetland is a Category 1 wetland.  Go to Question 6	<input checked="" type="checkbox"/> NO  Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 7	<input checked="" type="checkbox"/> NO  Go to Question 7
7	<b>Ferns.</b> Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 8a	<input checked="" type="checkbox"/> NO  Go to Question 8a

8a	<b>“Old Growth Forest.”</b> Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 8b	<input checked="" type="checkbox"/> NO  Go to Question 8b
8b	<b>Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 9a	<input checked="" type="checkbox"/> NO  Go to Question 9a
9a	<b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	<input type="checkbox"/> YES  Go to Question 9b	<input checked="" type="checkbox"/> NO  Go to Question 10
9b	Does the wetland’s hydrology result from measures designed to prevent erosion and the loss of aquatic plants, <i>i.e.</i> , the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 9c
9c	Are Lake Erie water levels the wetland’s primary hydrological influence, <i>i.e.</i> , the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an “estuarine” wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	<input type="checkbox"/> YES  Go to Question 9d	<input type="checkbox"/> NO  Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 10
10	<b>Lake Plain Sand Prairies (Oak Openings).</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 11	<input checked="" type="checkbox"/> NO  Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio ( <i>e.g.</i> , Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties ( <i>e.g.</i> , Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status  Complete Quantitative Rating	<input checked="" type="checkbox"/> NO  Complete Quantitative Rating

**Table 1. Characteristic Plant Species**

<b>Invasive/Exotic Spp.</b>	<b>Fen Species</b>	<b>Bog Species</b>	<b>Oak Opening Species</b>	<b>Wet Prairie Species</b>
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis candensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccus</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

End of Narrative Rating. Begin Quantitative Rating On Next Page.

<b>Site:</b> Southlake Phase 2, Brunswick			<b>Date:</b> August 21, 2013		
<b>Wetlands:</b> Wetland A			<b>Rater:</b> Judith Mitchell		
<b>Wetland Acreage:</b>	0.037	<b>ORAM Score:</b>	<b>23</b>	<b>ORAM Category:</b>	<b>Category 1</b>

0	0
Subtotal	Points

**Metric 1. Wetland Area (size). (max 6 pts)**

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3	3
Subtotal	Points

**Metric 2. Upland buffers and surrounding land use. (max 14 pts)**

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14	11
Subtotal	Points

**Metric 3. Hydrology. (max 30 pts)**

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other- list

20	6
Subtotal	Points

**Metric 4. Habitat Alteration and Development. (max 20 pts.)**

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

<b>Site:</b> Southlake Phase 2, Brunswick		<b>Date:</b> August 21, 2013	
<b>Wetland:</b>	Wetland A	<b>Rater:</b>	Judith Mitchell

subtotal first page

<input type="text" value="20"/>	<input type="text" value="0"/>
Subtotal	Points

**Metric 5. Special Wetlands. (max 10 pts.)**

*Check all that apply and score as indicated*

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

<input type="text" value="23"/>	<input type="text" value="3"/>
Subtotal	Points

**Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)**

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other (list) \_\_\_\_\_

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- Vegetated hummocks/tussocks
- Coarse woody debris >15 cm (6")
- Standing dead > 25 cm (10") dbh
- Amphibian breeding pools

**Vegetation Community Cover Scale**

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

**Narrative Description of Vegetation Quality**

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

**Mudflat and Open Water Class Quality**

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

**Microtopography Cover Scale**

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

<input type="text" value="23"/>	<b>GRAND TOTAL (max 100 pts)</b>
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**End of Quantitative Rating. Complete Categorization Worksheets.**

## ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 1.
	Question 6. Bogs	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 7. Fens	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands-Unrestricted with native plants	<input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	<input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3
Question 11. Relict Wet Prairies	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	3	
	TOTAL SCORE	23	Category based on score breakpoints

Complete Wetland Categorization Worksheet

## Wetland Categorization Worksheet

Choices	Check One		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	<input type="checkbox"/> YES  Wetland is categorized as a Category 3 wetland	<input checked="" type="checkbox"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, re-evaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM.
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 1, 8b, 9b, 9e, 11	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status	<input checked="" type="checkbox"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to  Narrative Rating No. 5	<input type="checkbox"/> YES  Wetland is categorized as a Category 1 wetland	<input checked="" type="checkbox"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold ( <i>including</i> any gray zone)? If yes, re-evaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM.
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input type="checkbox"/> YES  Wetland is assigned to the appropriate category based on the scoring range	<input type="checkbox"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances, however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	<input type="checkbox"/> YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input type="checkbox"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g., functional assessment, biological assessment, etc., and a consideration of the narrative criteria in OAC rule 3745-1-54(C)
Does the wetland otherwise exhibit <i>moderate</i> OR <i>superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	<input type="checkbox"/> YES  Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="checkbox"/> NO  Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g., a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

### Final Category

Choose One     Category 1     Category 2     Category 3

End of Ohio Rapid Assessment Method for Wetlands.

## Background Information

Name:	Judith Mitchell
Date:	August 23, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, OH 44240
Phone Number:	330-673-5685 X5685
E-Mail Address:	Judith.mitchell@davey.com
<b>Name of Wetland: Wetland B</b>	
Vegetation Communit(ies): emergent, scrub/shrub, forested	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc.  See Delineation Report	
Lat/Long or UTM Coordinate:	41.2332, -81.8149
USGS Quad Name:	Medina
County:	Medina
Township:	
Section and Subsection:	
Hydrologic Unit Code:	04110001 (Black-Rocky)
Site Visit:	August 21, 2013
National Wetland Inventory Map:	NA
Ohio Wetland Inventory Map:	
Soil Survey:	See Delineation Report
Delineation Report/Map:	See Attached

Name of Wetland:	Wetland B
Wetland Size (acres, hectacres)	1.629 acres
<p>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</p> <p>See Delineation Report</p>	
<p>Comments, Narrative Discussion, Justification of Category Changes:</p>	
<p><b>Final Score:</b> 39.5 <span style="float: right;"><b>Category:</b> Modified 2</span></p>	

## Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below; however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	Done?	Not Applicable
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Yes	
<b>Step 2</b>	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		NA
<b>Step 3</b>	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, <i>i.e.</i> , areas that have a high degree of hydrologic interaction are included within the scoring boundary.		NA
<b>Step 4</b>	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		NA
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		NA
<b>Step 6</b>	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.		NA

End of Scoring Boundary Determination.  
Begin Narrative Rating On Next Page.

## Narrative Rating

INSTRUCTIONS: Answer each of the following questions. Questions 1, 2, 3, and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Check One	
1	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 2	<input checked="" type="checkbox"/> NO  Go to Question 2
2	<b>Threatened or Endangered Species.</b> Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 3	<input checked="" type="checkbox"/> NO  Go to Question 3
3	<b>Documented High-Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high-quality wetland?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 4	<input checked="" type="checkbox"/> NO  Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 5	<input checked="" type="checkbox"/> NO  Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> ; or 2) an acidic pond created or excavated on mined lands that have little or no vegetation?	<input type="checkbox"/> YES  Wetland is a Category 1 wetland.  Go to Question 6	<input checked="" type="checkbox"/> NO  Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 7	<input checked="" type="checkbox"/> NO  Go to Question 7
7	<b>Ferns.</b> Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 8a	<input checked="" type="checkbox"/> NO  Go to Question 8a

8a	<b>“Old Growth Forest.”</b> Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 8b	<input checked="" type="checkbox"/> NO  Go to Question 8b
8b	<b>Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 9a	<input checked="" type="checkbox"/> NO  Go to Question 9a
9a	<b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	<input type="checkbox"/> YES  Go to Question 9b	<input checked="" type="checkbox"/> NO  Go to Question 10
9b	Does the wetland’s hydrology result from measures designed to prevent erosion and the loss of aquatic plants, <i>i.e.</i> , the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 9c
9c	Are Lake Erie water levels the wetland’s primary hydrological influence, <i>i.e.</i> , the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an “estuarine” wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	<input type="checkbox"/> YES  Go to Question 9d	<input type="checkbox"/> NO  Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 10
10	<b>Lake Plain Sand Prairies (Oak Openings).</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 11	<input checked="" type="checkbox"/> NO  Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio ( <i>e.g.</i> , Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties ( <i>e.g.</i> , Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status  Complete Quantitative Rating	<input checked="" type="checkbox"/> NO  Complete Quantitative Rating

**Table 1. Characteristic Plant Species**

<b>Invasive/Exotic Spp.</b>	<b>Fen Species</b>	<b>Bog Species</b>	<b>Oak Opening Species</b>	<b>Wet Prairie Species</b>
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis candensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

End of Narrative Rating. Begin Quantitative Rating On Next Page.

<b>Site:</b> Southlake Phase 2, Brunswick			<b>Date:</b> August 21, 2013		
<b>Wetlands:</b> Wetland B			<b>Rater:</b> Judith Mitchell		
<b>Wetland Acreage:</b>	1.629	<b>ORAM Score:</b>	<b>39.5</b>	<b>ORAM Category:</b>	<b>modified 2</b>

2	2
Subtotal	Points

**Metric 1. Wetland Area (size). (max 6 pts)**

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

6	4
Subtotal	Points

**Metric 2. Upland buffers and surrounding land use. (max 14 pts)**

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

20	14
Subtotal	Points

**Metric 3. Hydrology. (max 30 pts)**

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other- list

31.5	11.5
Subtotal	Points

**Metric 4. Habitat Alteration and Development. (max 20 pts.)**

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

<b>Site:</b> Southlake Phase 2, Brunswick		<b>Date:</b> August 21, 2013	
<b>Wetland:</b>	Wetland B	<b>Rater:</b>	Judith Mitchell

31.5 subtotal first page

31.5	0
Subtotal	Points

**Metric 5. Special Wetlands. (max 10 pts.)**

*Check all that apply and score as indicated*

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

39.5	8
Subtotal	Points

**Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)**

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- Aquatic bed
- 2 Emergent
- 1 Shrub
- 2 Forest
- Mudflats
- Open water
- Other (list) \_\_\_\_\_

**Vegetation Community Cover Scale**

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

**Narrative Description of Vegetation Quality**

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long

form for list. Add or deduct points for coverage

*Alnus frangula*  
*Typha angustifolia*

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

**Mudflat and Open Water Class Quality**

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

6d. Microtopography

Score all present using 0 to 3 scale

- 1 Vegetated hummocks/tussocks
- 1 Coarse woody debris >15 cm (6")
- 0 Standing dead > 25 cm (10") dbh
- 0 Amphibian breeding pools

**Microtopography Cover Scale**

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

39.5	<b>GRAND TOTAL (max 100 pts)</b>
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**End of Quantitative Rating. Complete Categorization Worksheets.**

## ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 1.
	Question 6. Bogs	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 7. Fens	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands-Unrestricted with native plants	<input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	<input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3
Question 11. Relict Wet Prairies	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	11.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	8	
	TOTAL SCORE	39.5	Category based on score breakpoints

Complete Wetland Categorization Worksheet

## Wetland Categorization Worksheet

Choices	Check One		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	<input type="checkbox"/> YES  Wetland is categorized as a Category 3 wetland	<input checked="" type="checkbox"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, re-evaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM.
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 1, 8b, 9b, 9e, 11	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status	<input checked="" type="checkbox"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to  Narrative Rating No. 5	<input type="checkbox"/> YES  Wetland is categorized as a Category 1 wetland	<input checked="" type="checkbox"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold ( <i>including</i> any gray zone)? If yes, re-evaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM.
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input type="checkbox"/> YES  Wetland is assigned to the appropriate category based on the scoring range	<input type="checkbox"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances, however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	<input type="checkbox"/> YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input type="checkbox"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g., functional assessment, biological assessment, etc., and a consideration of the narrative criteria in OAC rule 3745-1-54(C)
Does the wetland otherwise exhibit <i>moderate</i> OR <i>superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	<input type="checkbox"/> YES  Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="checkbox"/> NO  Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g., a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose One     Category 1     Category 2     Category 3

End of Ohio Rapid Assessment Method for Wetlands.

## Background Information

Name:	Judith Mitchell
Date:	August 23, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, OH 44240
Phone Number:	330-673-5685 X5685
E-Mail Address:	Judith.mitchell@davey.com
<b>Name of Wetland: Wetland C</b>	
Vegetation Communit(ies): emergent, scrub/shrub	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc.  See Delineation Report	
Lat/Long or UTM Coordinate:	41.2332, -81.8149
USGS Quad Name:	Medina
County:	Medina
Township:	
Section and Subsection:	
Hydrologic Unit Code:	04110001 (Black-Rocky)
Site Visit:	August 21, 2013
National Wetland Inventory Map:	NA
Ohio Wetland Inventory Map:	
Soil Survey:	See Delineation Report
Delineation Report/Map:	See Attached

Name of Wetland:	Wetland C
Wetland Size (acres, hectacres)	0.935 acre
<p>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</p> <p>See Delineation Report</p>	
<p>Comments, Narrative Discussion, Justification of Category Changes:</p>	
<p><b>Final Score:</b> 26.5 <span style="float: right;"><b>Category:</b> 1</span></p>	

## Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below; however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	Done?	Not Applicable
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Yes	
<b>Step 2</b>	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		NA
<b>Step 3</b>	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, <i>i.e.</i> , areas that have a high degree of hydrologic interaction are included within the scoring boundary.		NA
<b>Step 4</b>	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		NA
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		NA
<b>Step 6</b>	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.		NA

End of Scoring Boundary Determination.  
Begin Narrative Rating On Next Page.

## Narrative Rating

INSTRUCTIONS: Answer each of the following questions. Questions 1, 2, 3, and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Check One	
1	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 2	<input checked="" type="checkbox"/> NO  Go to Question 2
2	<b>Threatened or Endangered Species.</b> Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 3	<input checked="" type="checkbox"/> NO  Go to Question 3
3	<b>Documented High-Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high-quality wetland?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 4	<input checked="" type="checkbox"/> NO  Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 5	<input checked="" type="checkbox"/> NO  Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> ; or 2) an acidic pond created or excavated on mined lands that have little or no vegetation?	<input type="checkbox"/> YES  Wetland is a Category 1 wetland.  Go to Question 6	<input checked="" type="checkbox"/> NO  Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 7	<input checked="" type="checkbox"/> NO  Go to Question 7
7	<b>Ferns.</b> Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 8a	<input checked="" type="checkbox"/> NO  Go to Question 8a

8a	<b>“Old Growth Forest.”</b> Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 8b	<input checked="" type="checkbox"/> NO  Go to Question 8b
8b	<b>Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 9a	<input checked="" type="checkbox"/> NO  Go to Question 9a
9a	<b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	<input type="checkbox"/> YES  Go to Question 9b	<input checked="" type="checkbox"/> NO  Go to Question 10
9b	Does the wetland’s hydrology result from measures designed to prevent erosion and the loss of aquatic plants, <i>i.e.</i> , the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 9c
9c	Are Lake Erie water levels the wetland’s primary hydrological influence, <i>i.e.</i> , the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an “estuarine” wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	<input type="checkbox"/> YES  Go to Question 9d	<input type="checkbox"/> NO  Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 10
10	<b>Lake Plain Sand Prairies (Oak Openings).</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 11	<input checked="" type="checkbox"/> NO  Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio ( <i>e.g.</i> , Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties ( <i>e.g.</i> , Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status  Complete Quantitative Rating	<input checked="" type="checkbox"/> NO  Complete Quantitative Rating

**Table 1. Characteristic Plant Species**

<b>Invasive/Exotic Spp.</b>	<b>Fen Species</b>	<b>Bog Species</b>	<b>Oak Opening Species</b>	<b>Wet Prairie Species</b>
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis candensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

End of Narrative Rating. Begin Quantitative Rating On Next Page.

<b>Site:</b> Southlake Phase 2, Brunswick			<b>Date:</b> August 21, 2013	
<b>Wetlands:</b> Wetland C			<b>Rater:</b> Judith Mitchell	
<b>Wetland Acreage:</b>	0.935	<b>ORAM Score:</b>	<b>26.5</b>	<b>ORAM Category:</b> <b>Category 1</b>

1	1
Subtotal	Points

**Metric 1. Wetland Area (size). (max 6 pts)**

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

4	3
Subtotal	Points

**Metric 2. Upland buffers and surrounding land use. (max 14 pts)**

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14.5	10.5
Subtotal	Points

**Metric 3. Hydrology. (max 30 pts)**

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other- list

23.5	9
Subtotal	Points

**Metric 4. Habitat Alteration and Development. (max 20 pts.)**

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

<b>Site:</b> Southlake Phase 2, Brunswick		<b>Date:</b> August 21, 2013	
<b>Wetland:</b>	Wetland C	<b>Rater:</b>	Judith Mitchell

23.5 subtotal first page

23.5	0
Subtotal	Points

**Metric 5. Special Wetlands. (max 10 pts.)**

*Check all that apply and score as indicated*

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

26.5	3
Subtotal	Points

**Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)**

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- Aquatic bed
- 2 Emergent
- 1 Shrub
- Forest
- Mudflats
- Open water
- Other (list) \_\_\_\_\_

**Vegetation Community Cover Scale**

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

**Narrative Description of Vegetation Quality**

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Alnus frangula*
- Extensive >75 % cover (-5)
  - Moderate 25-75% cover (-3)
  - Sparse 5-25% cover (-1)
  - Nearly Absent <5% cover (0)
  - Absent (1)

**Mudflat and Open Water Class Quality**

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

6d. Microtopography

Score all present using 0 to 3 scale

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15 cm (6")
- 0 Standing dead > 25 cm (10") dbh
- 0 Amphibian breeding pools

**Microtopography Cover Scale**

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

26.5	GRAND TOTAL (max 100 pts)
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End of Quantitative Rating. Complete Categorization Worksheets.

## ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 1.
	Question 6. Bogs	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 7. Fens	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands-Unrestricted with native plants	<input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	<input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3
Question 11. Relict Wet Prairies	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	10.5	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	26.5	Category based on score breakpoints

Complete Wetland Categorization Worksheet

## Wetland Categorization Worksheet

Choices	Check One		Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<input type="checkbox"/> YES  Wetland is categorized as a Category 3 wetland	<input checked="" type="checkbox"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, re-evaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM.
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status	<input checked="" type="checkbox"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<input type="checkbox"/> YES  Wetland is categorized as a Category 1 wetland	<input checked="" type="checkbox"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold ( <i>including</i> any gray zone)? If yes, re-evaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM.
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<input type="checkbox"/> YES  Wetland is assigned to the appropriate category based on the scoring range	<input type="checkbox"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances, however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
<p>Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<input type="checkbox"/> YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input type="checkbox"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g., functional assessment, biological assessment, etc., and a consideration of the narrative criteria in OAC rule 3745-1-54(C)
<p>Does the wetland otherwise exhibit <i>moderate</i> OR <i>superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<input type="checkbox"/> YES  Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="checkbox"/> NO  Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g., a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

### Final Category

Choose One     
  Category 1     
  Category 2     
  Category 3

End of Ohio Rapid Assessment Method for Wetlands.

## Background Information

Name:	Judith Mitchell
Date:	August 23, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, OH 44240
Phone Number:	330-673-5685 X5685
E-Mail Address:	Judith.mitchell@davey.com
<b>Name of Wetland: Wetland D</b>	
Vegetation Communit(ies): emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc.  See Delineation Report	
Lat/Long or UTM Coordinate:	41.2332, -81.8149
USGS Quad Name:	Medina
County:	Medina
Township:	
Section and Subsection:	
Hydrologic Unit Code:	04110001 (Black-Rocky)
Site Visit:	August 21, 2013
National Wetland Inventory Map:	NA
Ohio Wetland Inventory Map:	
Soil Survey:	See Delineation Report
Delineation Report/Map:	See Attached

Name of Wetland:	Wetland D
Wetland Size (acres, hectacres)	0.003 acre
<p>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</p> <p>See Delineation Report</p>	
<p>Comments, Narrative Discussion, Justification of Category Changes:</p>	
<p><b>Final Score:</b> 21.5 <span style="float: right;"><b>Category:</b> 1</span></p>	

## Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below; however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	Done?	Not Applicable
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Yes	
<b>Step 2</b>	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		NA
<b>Step 3</b>	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, <i>i.e.</i> , areas that have a high degree of hydrologic interaction are included within the scoring boundary.		NA
<b>Step 4</b>	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		NA
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		NA
<b>Step 6</b>	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.		NA

End of Scoring Boundary Determination.  
Begin Narrative Rating On Next Page.

## Narrative Rating

INSTRUCTIONS: Answer each of the following questions. Questions 1, 2, 3, and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Check One	
1	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 2	<input checked="" type="checkbox"/> NO  Go to Question 2
2	<b>Threatened or Endangered Species.</b> Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 3	<input checked="" type="checkbox"/> NO  Go to Question 3
3	<b>Documented High-Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high-quality wetland?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 4	<input checked="" type="checkbox"/> NO  Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 5	<input checked="" type="checkbox"/> NO  Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> ; or 2) an acidic pond created or excavated on mined lands that have little or no vegetation?	<input type="checkbox"/> YES  Wetland is a Category 1 wetland.  Go to Question 6	<input checked="" type="checkbox"/> NO  Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 7	<input checked="" type="checkbox"/> NO  Go to Question 7
7	<b>Ferns.</b> Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 8a	<input checked="" type="checkbox"/> NO  Go to Question 8a

8a	<b>“Old Growth Forest.”</b> Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 8b	<input checked="" type="checkbox"/> NO  Go to Question 8b
8b	<b>Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 9a	<input checked="" type="checkbox"/> NO  Go to Question 9a
9a	<b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	<input type="checkbox"/> YES  Go to Question 9b	<input checked="" type="checkbox"/> NO  Go to Question 10
9b	Does the wetland’s hydrology result from measures designed to prevent erosion and the loss of aquatic plants, <i>i.e.</i> , the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 9c
9c	Are Lake Erie water levels the wetland’s primary hydrological influence, <i>i.e.</i> , the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an “estuarine” wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	<input type="checkbox"/> YES  Go to Question 9d	<input type="checkbox"/> NO  Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 10	<input type="checkbox"/> NO  Go to Question 10
10	<b>Lake Plain Sand Prairies (Oak Openings).</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 11	<input checked="" type="checkbox"/> NO  Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio ( <i>e.g.</i> , Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties ( <i>e.g.</i> , Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status  Complete Quantitative Rating	<input checked="" type="checkbox"/> NO  Complete Quantitative Rating

**Table 1. Characteristic Plant Species**

<b>Invasive/Exotic Spp.</b>	<b>Fen Species</b>	<b>Bog Species</b>	<b>Oak Opening Species</b>	<b>Wet Prairie Species</b>
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis candensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccus</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

End of Narrative Rating. Begin Quantitative Rating On Next Page.

<b>Site:</b> Southlake Phase 2 Brunswick			<b>Date:</b> August 21, 2013		
<b>Wetlands:</b> Wetland D			<b>Rater:</b> Judith Mitchell		
<b>Wetland Acreage:</b>	0.003	<b>ORAM Score:</b>	<b>21.5</b>	<b>ORAM Category:</b>	<b>Category 1</b>

0	0
Subtotal	Points

**Metric 1. Wetland Area (size). (max 6 pts)**

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3	3
Subtotal	Points

**Metric 2. Upland buffers and surrounding land use. (max 14 pts)**

2a. Calculate average buffer width (select one, do not double check)

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13.5	10.5
Subtotal	Points

**Metric 3. Hydrology. (max 30 pts)**

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3d. Duration inundation/saturation.

(select one or double check & average)

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3c. Maximum water depth. Select only 1.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other- list

19.5	6
Subtotal	Points

**Metric 4. Habitat Alteration and Development. (max 20 pts.)**

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

4b. Habitat development. Select one.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

<b>Site:</b> Southlake Phase 2 Brunswick		<b>Date:</b> August 21, 2013	
<b>Wetland:</b>	Wetland D	<b>Rater:</b>	Judith Mitchell

19.5 subtotal first page

19.5	0
Subtotal	Points

**Metric 5. Special Wetlands. (max 10 pts.)**

*Check all that apply and score as indicated*

- Bog (10 pts)
- Fen (10 pts)
- Old Growth Forest (10 pts)
- Mature forested wetland (5 pts)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- Lake Plain Sand Prairies (Oak Openings) (10 pts)
- Relict Wet Prairies (10 pts)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/waterfowl habitat or usage (10 pts)
- Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

21.5	2
Subtotal	Points

**Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)**

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- Aquatic bed
- 1 Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other (list) \_\_\_\_\_

**Vegetation Community Cover Scale**

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

6b. Horizontal (plan view) interspersions

Select only one

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

**Narrative Description of Vegetation Quality**

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75 % cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly Absent <5% cover (0)
- Absent (1)

**Mudflat and Open Water Class Quality**

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

6d. Microtopography

Score all present using 0 to 3 scale

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15 cm (6")
- 0 Standing dead > 25 cm (10") dbh
- 0 Amphibian breeding pools

**Microtopography Cover Scale**

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

21.5 GRAND TOTAL (max 100 pts)

End of Quantitative Rating. Complete Categorization Worksheets.

## ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 1.
	Question 6. Bogs	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 7. Fens	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands-Unrestricted with native plants	<input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	<input type="checkbox"/> YES <input type="checkbox"/> NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3
Question 11. Relict Wet Prairies	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	10.5	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	21.5	Category based on score breakpoints

Complete Wetland Categorization Worksheet

## Wetland Categorization Worksheet

Choices	Check One		Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<input type="checkbox"/> YES  Wetland is categorized as a Category 3 wetland	<input checked="" type="checkbox"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, re-evaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM.
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status	<input checked="" type="checkbox"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<input type="checkbox"/> YES  Wetland is categorized as a Category 1 wetland	<input checked="" type="checkbox"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold ( <i>including</i> any gray zone)? If yes, re-evaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM.
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<input type="checkbox"/> YES  Wetland is assigned to the appropriate category based on the scoring range	<input type="checkbox"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances, however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
<p>Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<input type="checkbox"/> YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input type="checkbox"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g., functional assessment, biological assessment, etc., and a consideration of the narrative criteria in OAC rule 3745-1-54(C)
<p>Does the wetland otherwise exhibit <i>moderate</i> OR <i>superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<input type="checkbox"/> YES  Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="checkbox"/> NO  Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g., a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

### Final Category

Choose One     
  Category 1     
  Category 2     
  Category 3

End of Ohio Rapid Assessment Method for Wetlands.

**Attachment 5**

**Ohio Department of Natural Resources (ODNR)  
Division of Natural Areas & Preserves  
Ohio Biodiversity Database Review**



# 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  
Phone: (614) 265-6300

January 30, 2014

Benjamin Schuplin  
Davey Resource Group  
295 South Water Street, Suite 300  
Kent, OH 44240

Dear Mr. Schuplin

After reviewing the Natural Heritage Database, I find the Division of Wildlife has no records of rare or endangered species in the Southlake Phase 2 project area, including a one mile radius, in Brunswick Township, Medina 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 Program

**Attachment 6**

**U.S. Army Corps of Engineers Isolated Waters Determination**



**DEPARTMENT OF THE ARMY**  
BUFFALO DISTRICT, CORPS OF ENGINEERS  
1776 NIAGARA STREET  
BUFFALO, NEW YORK 14207-3199

REPLY TO  
ATTENTION OF:

30 July 2014

Regulatory Branch

SUBJECT: Department of the Army Application No. 1992-50424

The Drees Company  
6650 West Snowville Road, Suite J  
Brecksville, Ohio 44141

Dear Mr. David Wager:

I am writing to you in regard to your recent application for a Department of the Army permit to construct Phase 2 of the Southlake residential subdivision on a 14.6 acre parcel located north of Montevista Drive and south of the western end of Lake Brunswick, City of Brunswick, Medina County, Ohio.

Section 404 of the Clean Water Act establishes Corps of Engineers jurisdiction over the discharge of dredged or fill material into waters of the United States, including wetlands, as defined in 33 CFR Part 328.3.

Based upon our evaluation of the subject project site, we have determined that there is no clear surface water connection or ecological continuum between the wetlands on the parcel and a surface tributary system to a navigable water of the United States. Therefore, these waters are considered isolated, non-navigable, intrastate waters and not regulated under Section 404 of the Clean Water Act. Accordingly, you do not need Department of the Army authorization to commence work in these areas.

This determination will remain valid for a period of 5 years from the date of this correspondence unless new information warrants revision of the delineation before the expiration. At the end of this period, a new delineation may be required. In addition, this delineation/determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are United States Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resource Conservation Service prior to starting work.

Regulatory Branch

SUBJECT: Department of the Army Application No. 1992-50424

I encourage you to contact the appropriate state and local governmental officials to insure that the proposed work complies with their requirements.

Finally, this letter contains an approved jurisdictional determination (JD) for the subject parcel. If you object to this JD, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal the above JD, you must submit a completed RFA form within 60 days of the date on this letter to the Great Lakes/Ohio River Division Office at the following address:

Attn: Appeal Review Officer  
Great Lakes and Ohio River Division  
CELRD-PD-REG  
550 Main Street, Room 10524  
Cincinnati, OH 45202-3222  
Phone: 513-684-6212; FA 513-684-2460

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **30 September 2014**.

It is not necessary to submit an RFA to the Division office if you do not object to the determination in this letter.

Questions pertaining to this matter should be directed to me by calling 716-879-4474, by writing to the following address: U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York 14207, or by e-mail at: [Susan.L.Baker@usace.army.mil](mailto:Susan.L.Baker@usace.army.mil)

Sincerely,

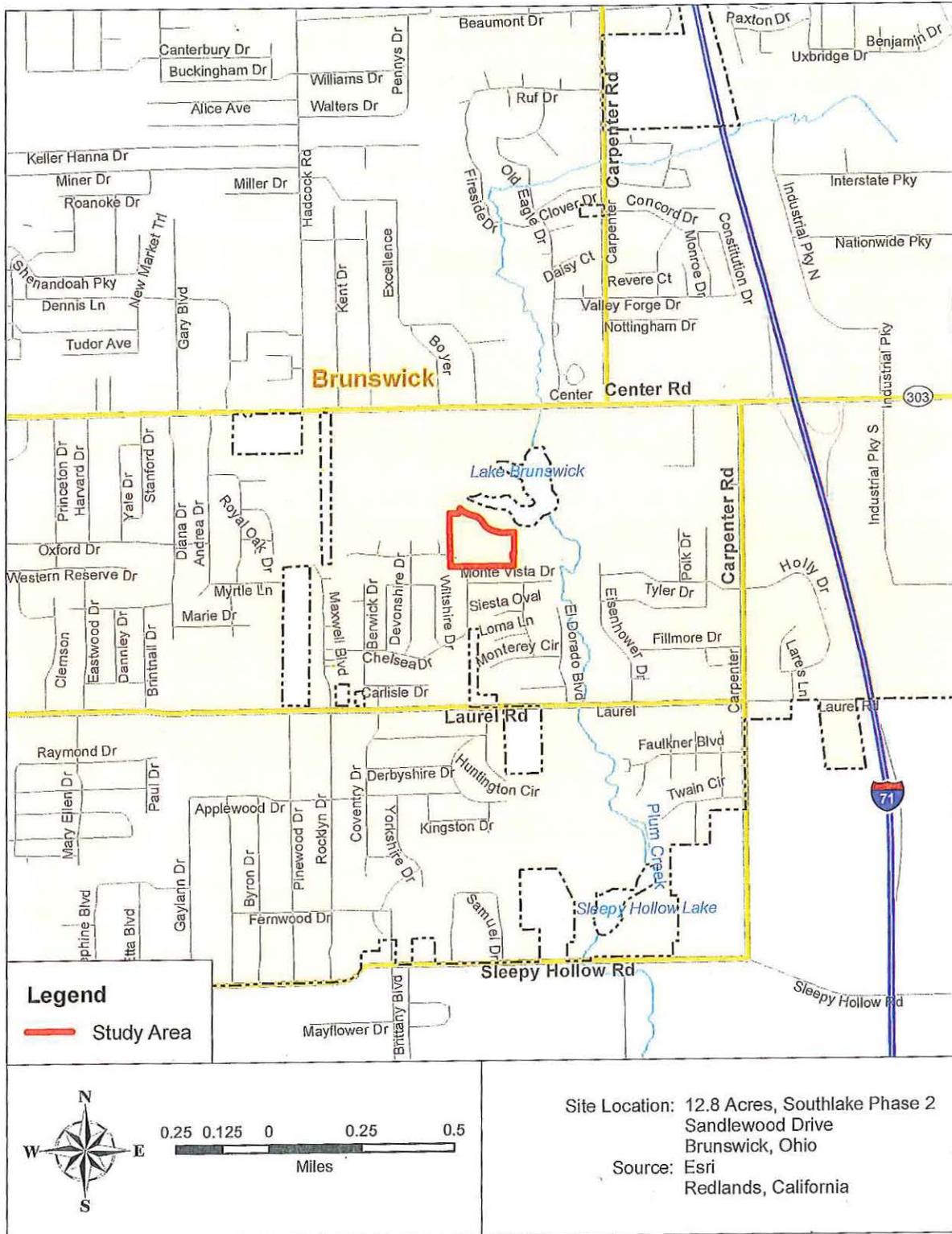
— SIGNED —

Susan L. Baker  
Biologist

Enclosures



**Appendix D**  
**Location of Study Area on Highway Map**

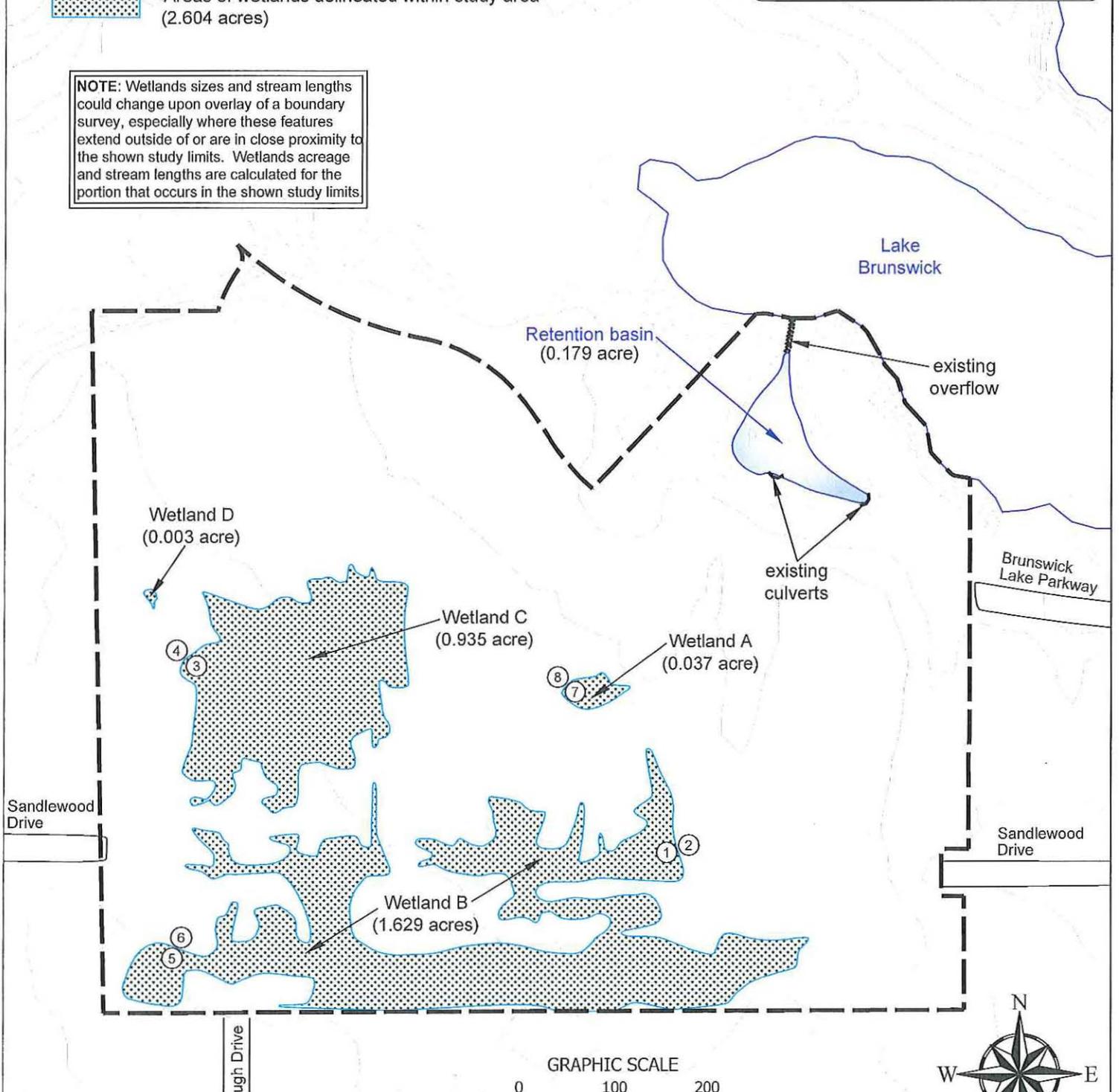


# Appendix A Water Resources Map

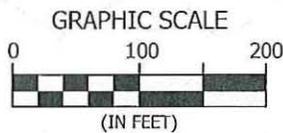
Prepared for	<b>Drees Homes</b>
14.6 Acres, Southlake Sandlewood Drive Brunswick, Ohio	
Prepared by	<b>DAVEY RESOURCE GROUP</b> <small>A Division of The Davey Tree Expert Company</small>
Data used to produce this map were collected on August 21, 2013	

- = Study area
- ① = Sample point location
-  = Areas of wetlands delineated within study area (2.604 acres)

**NOTE:** Wetlands sizes and stream lengths could change upon overlay of a boundary survey, especially where these features extend outside of or are in close proximity to the shown study limits. Wetlands acreage and stream lengths are calculated for the portion that occurs in the shown study limits.



Drees Homes- Sandelewood Drive  
D/A Processing No. 1992-50424  
Medina County, Ohio  
Quad: OH- Medina  
Sheet 2 of 2



**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):** July 30, 2014

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:** LRB 1992-50424 Drees Homes- Sandlewood Drive, Form 1 of 1

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Ohio County/parish/borough: Medina City: Brunswick

Center coordinates of site (lat/long in degree decimal format): Lat. 41.23339 °, Long. -81.81421°

Universal Transverse Mercator: 17

Name of nearest waterbody: Lake Brunswick (off-site)

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Lake Brunswick (off-site)

Name of watershed or Hydrologic Unit Code (HUC): 04110001

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date: July 3, 2014

Field Determination. Date(s): June 11, 2014

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: [Click here to enter text.](#)

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There are no "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: # linear feet: # width (ft) and/or # acres.

Wetlands: # acres.

**c. Limits (boundaries) of jurisdiction based on: [Choose an item.](#)**

Elevation of established OHWM (if known): [Click here to enter text.](#)

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: Wetland A (~0.037 acre), Wetland B (~1.629 acres), Wetland C (~0.935 acre), and Wetland D (~0.003 acre) were determined to have no surface or shallow subsurface water connection with the downstream TNW. They were also determined to have no ecological connection with the downstream TNW as there was no evidence of the presence of amphibians or other aquatic habitats that would share a connection between the wetlands and the downstream TNW.

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

## SECTION III: CWA ANALYSIS

### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

#### 1. TNW

Identify TNW: [Click here to enter text.](#)

Summarize rationale supporting determination: [Click here to enter text.](#)

#### 2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": [Click here to enter text.](#)

### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

#### I. Characteristics of non-TNWs that flow directly or indirectly into TNW

##### (i) General Area Conditions:

Watershed size: # [Choose an item.](#)

Drainage area: # [Choose an item.](#)

Average annual rainfall: # inches

Average annual snowfall: # inches

##### (ii) Physical Characteristics:

###### (a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through [Choose an item.](#) tributaries before entering TNW.

Project waters are [Choose an item.](#) river miles from TNW.

Project waters are [Choose an item.](#) river miles from RPW.

Project waters are [Choose an item.](#) aerial (straight) miles from TNW.

Project waters are [Choose an item.](#) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: [Click here to enter text.](#)

Identify flow route to TNW<sup>5</sup>: [Click here to enter text.](#)

Tributary stream order, if known: [Click here to enter text.](#)

###### (b) General Tributary Characteristics (check all that apply):

Tributary is:  Natural

Artificial (man-made). Explain: [Click here to enter text.](#)

Manipulated (man-altered). Explain: [Click here to enter text.](#)

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

**Tributary properties with respect to top of bank (estimate):**

Average width: # feet  
Average depth: # feet  
Average side slopes: *Choose an item.*

**Primary tributary substrate composition (check all that apply):**

- |   |   |                                   |
|---|---|-----------------------------------|
| <input type="checkbox"/> Silts  | <input type="checkbox"/> Sands  | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles  | <input type="checkbox"/> Gravel   | <input type="checkbox"/> Muck     |
| <input type="checkbox"/> Bedrock  | <input type="checkbox"/> Vegetation. Type/% cover: <i>Click here to enter text.</i> |                                   |
| <input type="checkbox"/> Other. Explain: <i>Click here to enter text.</i> |   |                                   |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: *Click here to enter text.*

Presence of run/riffle/pool complexes. Explain: *Click here to enter text.*

Tributary geometry: *Choose an item.*

Tributary gradient (approximate average slope): #%

**(c) Flow:**

Tributary provides for: *Choose an item.*

Estimate average number of flow events in review area/year: *Choose an item.*

Describe flow regime: *Click here to enter text.*

Other information on duration and volume: *Click here to enter text.*

Surface flow is: *Choose an item.* Characteristics: *Click here to enter text.*

Subsurface flow: *Choose an item.* Explain findings: *Click here to enter text.*

Dye (or other) test performed: *Click here to enter text.*

**Tributary has (check all that apply):**

Bed and banks

OHWM<sup>6</sup> (check all indicators that apply):

- |   |  |
|---|--|
| <input type="checkbox"/> clear, natural line impressed on the bank      | <input type="checkbox"/> the presence of litter and debris                                 |
| <input type="checkbox"/> changes in the character of soil               | <input type="checkbox"/> destruction of terrestrial vegetation                             |
| <input type="checkbox"/> shelving                                       | <input type="checkbox"/> the presence of wrack line  |
| <input type="checkbox"/> vegetation matted down, bent, or absent        | <input type="checkbox"/> sediment sorting  |
| <input type="checkbox"/> leaf litter disturbed or washed away           | <input type="checkbox"/> scour   |
| <input type="checkbox"/> sediment deposition                            | <input type="checkbox"/> multiple observed or predicted flow events                        |
| <input type="checkbox"/> water staining                                 | <input type="checkbox"/> abrupt change in plant community <i>Click here to enter text.</i> |
| <input type="checkbox"/> other (list): <i>Click here to enter text.</i> |  |

Discontinuous OHWM.<sup>7</sup> Explain: *Click here to enter text.*

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:

Mean High Water Mark indicated by:

- |   |  |
|---|--|
| <input type="checkbox"/> oil or scum line along shore objects           | <input type="checkbox"/> survey to available datum;                    |
| <input type="checkbox"/> fine shell or debris deposits (foreshore)      | <input type="checkbox"/> physical markings;                            |
| <input type="checkbox"/> physical markings/characteristics              | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges                                   |  |
| <input type="checkbox"/> other (list): <i>Click here to enter text.</i> |  |

**(iii) Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: *Click here to enter text.*

Identify specific pollutants, if known: *Click here to enter text.*

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): *Click here to enter text.*
- Wetland fringe. Characteristics: *Click here to enter text.*
- Habitat for:
  - Federally Listed species. Explain findings: *Click here to enter text.*
  - Fish/spawn areas. Explain findings: *Click here to enter text.*
  - Other environmentally-sensitive species. Explain findings: *Click here to enter text.*
  - Aquatic/wildlife diversity. Explain findings: *Click here to enter text.*

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

- Wetland size: # acres
- Wetland type. Explain: *Click here to enter text.*
- Wetland quality. Explain: *Click here to enter text.*
- Project wetlands cross or serve as state boundaries. Explain: *Click here to enter text.*

(b) General Flow Relationship with Non-TNW:

Flow is: *Choose an item.* Explain: *Click here to enter text.*

Surface flow is: *Choose an item.*

Characteristics: *Click here to enter text.*

Subsurface flow: *Choose an item.* Explain findings: *Click here to enter text.*

Dye (or other) test performed: *Click here to enter text.*

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting
- Not directly abutting
  - Discrete wetland hydrologic connection. Explain: *Click here to enter text.*
  - Ecological connection. Explain: *Click here to enter text.*
  - Separated by berm/barrier. Explain: *Click here to enter text.*

(d) Proximity (Relationship) to TNW

- Project wetlands are *Choose an item.* river miles from TNW.
- Project waters are *Choose an item.* aerial (straight) miles from TNW.
- Flow is from: *Choose an item.*
- Estimate approximate location of wetland as within the *Choose an item.* floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: *Click here to enter text.*

Identify specific pollutants, if known: *Click here to enter text.*

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width): *Click here to enter text.*
- Vegetation type/percent cover. Explain: *Click here to enter text.*
- Habitat for:
  - Federally Listed species. Explain findings: *Click here to enter text.*
  - Fish/spawn areas. Explain findings: *Click here to enter text.*
  - Other environmentally-sensitive species. Explain findings: *Click here to enter text.*
  - Aquatic/wildlife diversity. Explain findings: *Click here to enter text.*

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: *Choose an item.*

Approximately (#) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Y/N	#	Y/N	#
Y/N	#	Y/N	#
Y/N	#	Y/N	#
Y/N	#	Y/N	#

Summarize overall biological, chemical and physical functions being performed: [Click here to enter text.](#)

**C. SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

*Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:*

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: [Click here to enter text.](#)
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: [Click here to enter text.](#)
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: [Click here to enter text.](#)

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
  - TNWs: # linear feet # width (ft), Or, # acres.
  - Wetlands adjacent to TNWs: # acres.
2. **RPWs that flow directly or indirectly into TNWs.**
  - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: [Click here to enter text.](#)
  - Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: [Click here to enter text.](#)

Provide estimates for jurisdictional waters in the review area (check all that apply):

  - Tributary waters: # linear feet # width (ft).
  - Other non-wetland waters: # acres.

Identify type(s) of waters: [Click here to enter text.](#)

3. **Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: # linear feet # width (ft).

- Other non-wetland waters: # acres.

Identify type(s) of waters: [Click here to enter text.](#)

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: [Click here to enter text.](#)

- Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: [Click here to enter text.](#)

Provide acreage estimates for jurisdictional wetlands in the review area: # acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: # acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: # acres.

7. **Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or

- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or

- Demonstrate that water is isolated with a nexus to commerce (see E below).

E. **ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.

- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.

- which are or could be used for industrial purposes by industries in interstate commerce.

- Interstate isolated waters. Explain: [Click here to enter text.](#)

- Other factors. Explain: [Click here to enter text.](#)

**Identify water body and summarize rationale supporting determination:** [Click here to enter text.](#)

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: # linear feet # width (ft).

- Other non-wetland waters: # acres.

Identify type(s) of waters: [Click here to enter text.](#)

- Wetlands: # acres.

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: *Click here to enter text.*
- Other: (explain, if not covered above): *Click here to enter text.*

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): # linear feet # width (ft).
- Lakes/ponds: # acres.
- Other non-wetland waters: # acres. List type of aquatic resource: *Click here to enter text.*
- Wetlands: Wetland A (~0.037 acre), Wetland B (~1.629 acres), Wetland C (~0.935 acre), Wetland D (~0.003 acre)

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): # linear feet # width (ft).
- Lakes/ponds: # acres.
- Other non-wetland waters: # acres. List type of aquatic resource: *Click here to enter text.*
- Wetlands: # acres.

**SECTION IV: DATA SOURCES.**

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Location map and delineation map
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: *Click here to enter text.*
- Corps navigable waters' study: *Click here to enter text.*
- U.S. Geological Survey Hydrologic Atlas: USACE ORM NWI Dataset
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: OH-Medina, 7.5 Minute
- USDA Natural Resources Conservation Service Soil Survey. Citation: NRCS Web Soil Survey
- National wetlands inventory map(s). Cite name: USACE ORM NWI Dataset
- State/Local wetland inventory map(s): *Click here to enter text.*
- FEMA/FIRM maps: *Click here to enter text.*
- 100-year Floodplain Elevation is: *Click here to enter text.* (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Maps 2012, Bing Maps Bird's Eye View
  - or  Other (Name & Date): *Click here to enter text.*
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law: *Click here to enter text.*
- Applicable/supporting scientific literature: *Click here to enter text.*
- Other information (please specify): [http://streamstatsags.cr.usgs.gov/oh\\_ss/default.aspx?stabbr=oh&dt=1404401682347](http://streamstatsags.cr.usgs.gov/oh_ss/default.aspx?stabbr=oh&dt=1404401682347)

B. ADDITIONAL COMMENTS TO SUPPORT JD: *Click here to enter text.*



Susan Baker  
Project Manager

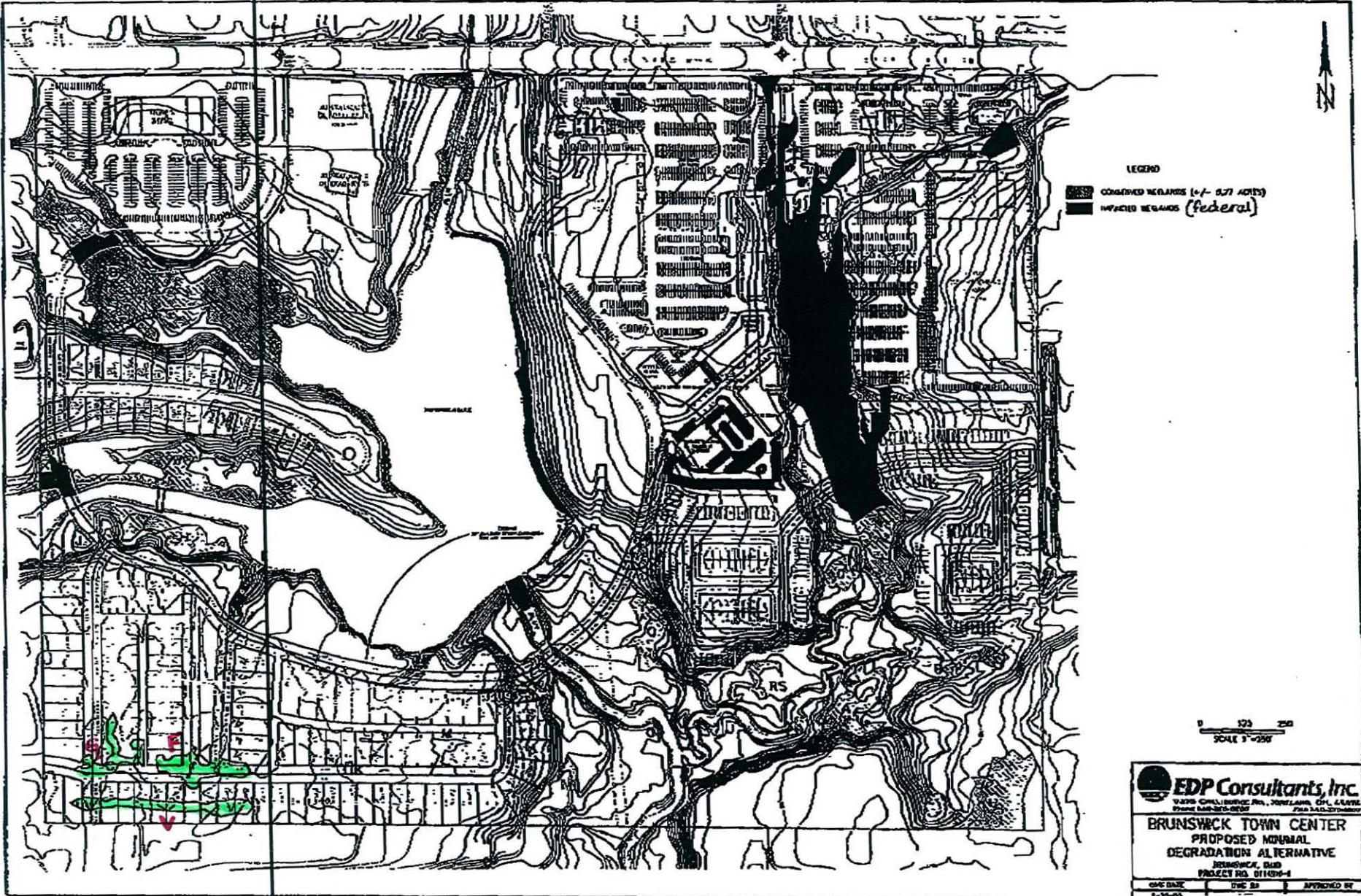
July 30, 2014

Date

**Attachment 7**  
**Brunswick Town Center Permit Information**

# AUTHORIZED IMPACTS

**BRUNSWICK TOWN CENTER**  
 D/A Processing No. 2002-00114(0)  
 Medina County, Ohio Quad: MEDINA  
 Sheet 3 of 20



**EDP Consultants, Inc.**  
2400 CHALLENGER RD., JONESBORO, OH, 44041  
 Phone 440-275-0200 Fax 440-275-0200

**BRUNSWICK TOWN CENTER**  
 PROPOSED MINIMAL  
 DEGRADATION ALTERNATIVE  
 JONESBORO, OH  
 PROJECT NO. 01426-4

DATE	BY	APPROVED BY

Received: 5/15/2003 11:18: ->DAVEY RESOURCE GROUP; #929; Page 16  
 MAY. 15. 2003 9:54AM 44ZAREMBA442  
 CORPS ORWELL OFC  
 NO. 617 P. 163E 04

MAY. 15. 2003 9:51AM ZAREMBA

NO. 617 P. 2



**DEPARTMENT OF THE ARMY**  
**BUFFALO DISTRICT, CORPS OF ENGINEERS**  
1776 NIAGARA STREET  
BUFFALO, NEW YORK 14207-9199

REPLY TO:  
ATTENTION OF:

May 14, 2003

Regulatory Branch

SUBJECT: Transmittal of Unvalidated Department of the Army  
Permit No. 2002-00114(0)

Mr. Nathan Zaremba  
Zaremba Group, LLC  
737 Bolivar Road  
Cleveland, Ohio 44115

Mr. Robert Trimble  
City of Brunswick  
4095 Center Road  
Brunswick, Ohio 44212

Dear Messrs. Zaremba and Trimble:

This letter concerns your application for a Department of the Army permit to place fill in 4.2 acres of federal wetland and 1135 linear feet of stream in the vicinity of Lake Brunswick, located South of Center Street, in the City of Brunswick, Medina County, Ohio.

We have completed our evaluation of your application and have decided to authorize the work described therein.

Enclosed are an original and one duplicate of the unvalidated Department of the Army permit. However, before proceeding with the authorized work, you must complete the permit validation process.

Please indicate your acceptance of the terms and conditions of the enclosed permit by signing and dating the original and duplicate copies. Both documents must be returned to our office so they can be signed by the District Commander or his designated agent. Zaremba Group, LLC must provide a check in the amount of \$100.00 made payable to U.S. Army Engineer District, Buffalo. One copy will then be returned to you for your records. This will complete the validation process, and upon receipt of the signed permit work may commence.

In addition, you must also provide a separate document indicating that the person actually signing the enclosed permit has the authority to do so on behalf of the permittee. This letter must be signed by a qualified official other than the person signing the permit. A sample authorization letter is enclosed.

---

MAY. 15. 2003 9:51AM ZAREMBA

NO. 617 P. 3

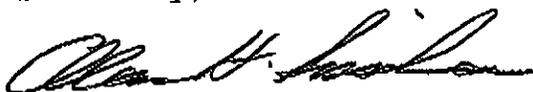
-2-

Regulatory Branch

SUBJECT: Transmittal of Unvalidated Department of the Army  
Permit No. 2002-00114(0)

Questions pertaining to this matter should be directed to  
Theresa B. Hudson, who may be contacted by calling (440)  
437-5847, by writing to the following address: U.S. Army Corps of  
Engineers, Orwell Field Office, 33 Grand Valley Avenue, Orwell,  
Ohio 44076-9566, or by e-mail  
at: [theresa.b.hudson@usace.army.mil](mailto:theresa.b.hudson@usace.army.mil)

Sincerely,



for Paul G. Leuchner  
Chief, Regulatory Branch

Enclosures

MAY. 15. 2003 9:52AM ZAREMBA

NO. 617 P. 4

SAMPLE AUTHORIZATION LETTER

(letterhead paper if applicable)

Date

District Commander  
U. S. Army Corps of Engineers  
1776 Niagara Street  
Buffalo, NY 14207-3199

Dear Sir:

This letter is to verify that (name of person signing permit) is the  
(official title), and has full authority to sign the Department of the  
Army permit and to accept the terms and conditions.

Sincerely,

(signature and title of  
qualified person other  
than the person signing  
the permit)

---

SAMPLE AUTHORIZATION LETTER

MAY. 15. 2003 9:52AM ZAREMBA

NO. 617 P. 5



REPLY TO:  
ATTENTION OF:

**DEPARTMENT OF THE ARMY  
BUFFALO DISTRICT, CORPS OF ENGINEERS  
1776 NIAGARA STREET  
BUFFALO, NEW YORK 14207-3199**

**PERMITTEE:** ZAREMBA GROUP, LLC, AND THE CITY OF BRUNSWICK

**PERMIT NUMBER:** 2002-00114(0)

**EFFECTIVE DATE:** \_\_\_\_\_

NOTE: The term you and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. (and continue on page 5)

**PROJECT DESCRIPTION:** THE CITY OF BRUNSWICK, 4095 CENTER ROAD, BRUNSWICK, OHIO 44212, AND THE ZAREMBA GROUP, LLC, 14600 DETROIT AVENUE, LAKEWOOD, OH 44107, ARE HEREBY AUTHORIZED BY THE SECRETARY OF THE ARMY TO: PLACE FILL IN 4.2 ACRES OF FEDERAL WETLAND AND 1135 LINEAR FEET OF STREAM IN THE PLUM CREEK WATERSHED, IN ACCORDANCE WITH THE GENERAL AND SPECIAL CONDITIONS, AND THE PLANS AND DRAWINGS AND ANY ADDITIONAL SPECIAL CONDITIONS ATTACHED HERETO WHICH ARE INCORPORATED IN AND MADE A PART OF THIS PERMIT.

**PROJECT LOCATION:** THE PROJECT IS LOCATED IN THE VICINITY OF LAKE BRUNSWICK, SOUTH OF CENTER ROAD, IN THE CITY OF BRUNSWICK, MEDINA COUNTY, OHIO.

## PERMIT CONDITIONS

### GENERAL CONDITIONS:

1. The time limit for completing the work authorized ends on\_\_\_\_\_. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you must make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity, or should you desire to abandon it without a good faith transfer, you may obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

### FURTHER INFORMATION:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:  

**Section 404 of the Clean Water Act (33 U.S.C. 1344).**
2. Limits of this authorization.
  - a. This permit does not obviate the need to obtain other Federal, state or local authorizations required by law.
  - b. This permit does not grant any property rights or exclusive privileges.
  - c. This permit does not authorize any injury to the property or rights of others.
  - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
  - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or

MAY. 15. 2003 9:52AM ZAREMBA

NO. 617 P. 7

from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as this specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

\_\_\_\_\_  
(PERMITTEE- City of Brunswick)

\_\_\_\_\_  
(DATE)

\_\_\_\_\_  
(PERMITTEE- Zaremba Group, LLC)

\_\_\_\_\_  
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

\_\_\_\_\_  
(DISTRICT COMMANDER)

\_\_\_\_\_  
(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_  
(TRANSFEREE)

\_\_\_\_\_  
(DATE)

**SPECIAL CONDITIONS:**

*General:*

1. That you are responsible for ensuring that the contractor and/or workers executing the activity(s) authorized by this permit have knowledge of the terms and conditions of the authorization and that a copy of the permit document is at the project site throughout the period the work is underway.
2. That trees with cavities or exfoliated bark shall not be cut between April 15 and September 15 without first conducting a mist survey (or other acceptable survey) for the Indiana bat. Trees with cavities or exfoliating bark may provide potential roosting habitat for this Federally listed endangered species. Additional information may be obtained by contacting Ms. Megan Seymour of the U.S. Fish and Wildlife Service at (614) 469-6923, ext 16.
3. That the Water Quality Certification issued for this project by the State of Ohio is part of this Department of the Army permit pursuant to Section 401(d) of the Clean Water Act. Noncompliance with any limitations or requirements stated in the certification may be a basis for suspension, revocation or modification of this permit.
4. Turbidity controls in the form of silt curtains or similar type cloth material shall be installed downstream from the project area and shall remain in place during all excavation and restoration operations.
5. Siltation fencing or hay bales shall be installed at the toe of the excavation to minimize damage to the undisturbed wetland. The siltation fence shall be checked periodically to ensure that it is not damaged, repairs shall be completed promptly, and shall remain in place until the site is stabilized by the regrowth of suitable vegetation.
6. All erosion and sediment control practices shall be in place prior to any grading or filling operations and installation of proposed structures or utilities. They shall remain in place until construction is completed and the area is stabilized.
7. That as soon as possible following construction all exposed banks and slopes shall be seeded and mulched to prevent erosion.

*Lake Brunswick:*

8. That during the dewatering of Lake Brunswick precautions shall be taken to minimize the release of suspended solids into any water of the United States.
- 
9. That all lake dewatering and lake re-contouring (excavation and grading) shall be completed in one continuous operation and shall not extend beyond one year from the date dewatering commences.

10. Siltation curtains shall be placed parallel with and along both stream banks prior to lake bottom re-contouring and shall be maintained in place until all grading, excavation operations, and dam restoration activities are complete.

11. Lake Bottom re-contouring operations (excavation and grading) shall be strictly controlled to minimize spillage and re-suspension of bottom sediments into the water column.

12. All excess dredged or excavated material not used as backfill in either the lake pits or the upland pit shall be disposed of at a separately approved, upland disposal site.

13. That the dredged material temporarily stored on upland property shall be appropriately stabilized to prevent erosion and subsequent sedimentation of the aquatic habitat of any water of the United States adjacent to or in proximity to that disposal site.

14. This permit does not authorize the construction of fords or the excavation of soil or other sediments into and across Plum Creek within the boundaries of Lake Brunswick. All material may be transported across the stream in vehicles crossing at culverted crossings only. The temporary placement of stone for construction of these crossings is authorized; the stone shall be appropriately sized to withstand high flows and removed immediately upon lake bed re-contouring completion. The mechanical equipment used to execute the work authorized herein shall be operated in such a way as to minimize turbidity that could degrade water quality and adversely affect aquatic plant and animal life.

15. You shall notify the District Engineer 14 days prior to the commencement of lake bottom re-contouring (excavation and grading) activities.

16. Lake bottom re-contouring activities are not authorized by this permit within 25 feet of an existing wetland, including wetlands A, B, E, and W.

17. The base flow in Plum Creek shall be maintained through the outflow during the re-filling of Lake Brunswick. Storm flow and flows in excess of the base flow may be used to refill the lake.

18. You shall prepare a contingency plan in case of dam emergencies. The plan shall include downstream landowner notification procedures to be followed during the dam repair period. You shall make the plan available upon request.

*Mitigation for Authorized Impacts:*

19. That as mitigation for the authorized impacts to 4.2 acres of federal wetlands and 1135 linear feet of stream you have agreed to perform the following:

- 
- a) construct 0.9 acres of jurisdictional wetlands in Lake Brunswick;
  - b) install 2 Newbury riffles to be located in unnamed tributaries A and B for the

purpose of improving water quality in Lake Brunswick and maintaining the appropriate surface water elevations in the remaining wetlands (see sheets 5 and 6 of 20);

c) construct a minimum of 3 acres of federal wetlands at Plum Creek Park, located in Brunswick Township, Medina County, Ohio (see sheet 17-20 of 20);

d) purchase wetland credits from the Carlisle Mitigation Bank sufficient to bring the total of created wetland acres to a total of 7.2 acres (e.g. 3+ acres created wetlands at Plum Creek Park + 0.9 Lake Brunswick wetland acres + remaining required Carlisle Mitigation acres = 8.2 acres total wetland creation);

e) construct a minimum of 219 linear feet of perennial stream channel using natural channel design methods as the primary spillway for Lake Brunswick (see sheet 7-9 of 20);

f) construct aeration features in the primary stream channel and in the lake dam emergency spillway for the purpose of improving water quality in lower Plum Creek (see sheet 7 of 20);

g) grant a conservation easement of land to be held by the Medina County Park District (see sheet 4 of 20) to guarantee its preservation of wetland and wildlife resources in perpetuity. The restrictions contained in the easement shall specifically state that the mitigation areas (the wetlands, streams and buffers to remain) will not be adversely impacted.

20. You shall submit Final Mitigation Plans for review for projects required in Special Conditions 19a, 19c, and 19e within four (4) months from the issuance of this permit. The plans shall include a construction plan and accompanying drawings, a five-year monitoring plan, a contingency plan, a planting plan (if appropriate), and stated project objectives and goals. Details of the Final Mitigation Plan should be coordinated with this office prior to formal submittal.

21. Once the Corps has approved the mitigation plans in writing, you shall complete the construction phase of all of the approved mitigation identified in Special Condition 19a, 19c, 19e, and 19f within one (1) calendar year of the date of this permit. The approved mitigation plans shall be incorporated as Attachment A and made a part of this permit.

22. You shall construct and install the Newbury riffles identified in Special Condition 19b within 120 days of the commencement of Lake Brunswick dewatering to prevent additional impacts to adjacent wetlands and "down-cutting," and improve water quality. Stone used in the construction shall be appropriately sized to withstand normal high flows. Maintenance shall be performed as necessary during Lake re-contouring.

23. That as mitigation for the permanent loss of wetlands you have agreed to purchase wetland acres at the Carlisle Bank mitigation as required in Special Condition 19d.
- a. Payment shall be forwarded to Lorain County Metroparks, 12882 Diagonal Road, LaGrange, Ohio 44050-9728, within 150 days from the date of this permit.
  - b. That you shall provide verification of the transfer of mitigation funds to Lorain County Metroparks. This verification shall be sent to the attention of Ms. Theresa Hudson, US Army Corps of Engineers, 33 Grand Valley Avenue, Orwell, Ohio 44076 within 180 days of issuance of this permit.
24. That the conservation easement required in Special Condition 19g include language that protects aquatic resources in perpetuity. Activities to be restricted or prohibited include, but are not limited to:
- a. Tree clearing shall be prohibited.
  - b. Land clearing activities in forested areas shall be limited to the construction of trails and that tree canopy cover shall be maintained throughout forested areas.
  - c. The easement shall prohibit the construction of pavilions, parking areas and other buildings or facilities within 125 linear feet of a wetland or other waters of the United States.
  - d. Only boardwalked wetland crossings identified on sheet 4 of 20 may be allowed in wetlands; only pile-driven piers or floating docks indicated on sheet 4 of 20 may be constructed in Lake Brunswick. Other materials used in the construction of these crossings shall be strictly prohibited.
  - e. Paved trails located in forested areas shall not be located within 40 linear feet of any wetland.
  - f. Lighting shall be prohibited within 125 feet of a wetland.
  - g. Naturalized vegetative buffers shall be maintained within 40 linear feet of any wetland or water of the US.
25. That the conservation easement required in Special Condition 19g shall be submitted to the Buffalo District Corps of Engineers for review. Once you have received written approval of the language contained in the easement document, you shall record the signed and notarized conservation easement with the Medina County Recorder of Deeds. A certified copy of the Conservation Easement shall be forwarded to Ms. Theresa Hudson, US Army Corps of Engineers, 33 Grand Valley Avenue, Orwell, Ohio 44076, within 125 days of the issuance of this permit.
26. That at the request of an authorized representative of the Buffalo District, U.S. Army Corps of Engineers, you shall allow access to the project site and the mitigation parcel to determine compliance with the conditions of this permit.
- 
27. There shall be no construction or placing of buildings, camping accommodations or mobile homes, billboards or other advertising material within the limits of the designated mitigation areas.

28. That the permittees shall jointly assume all responsibility for complying with all Special Conditions. If the reports, submittal and payments are not submitted by their required date, unless a time extension is granted in writing by the Corps of Engineers, the permittee shall pay stipulated penalties in the amount of \$250.00 per day past each submittal date. Such funds shall be submitted by check made payable to "The Finance and Accounting Officer," and forwarded directly to the Office of Counsel, U.S. Army Corps of Engineers, Buffalo District, 1776 Niagara Street, Buffalo, New York 14207-3199.

# PROJECT LOCATION MAP

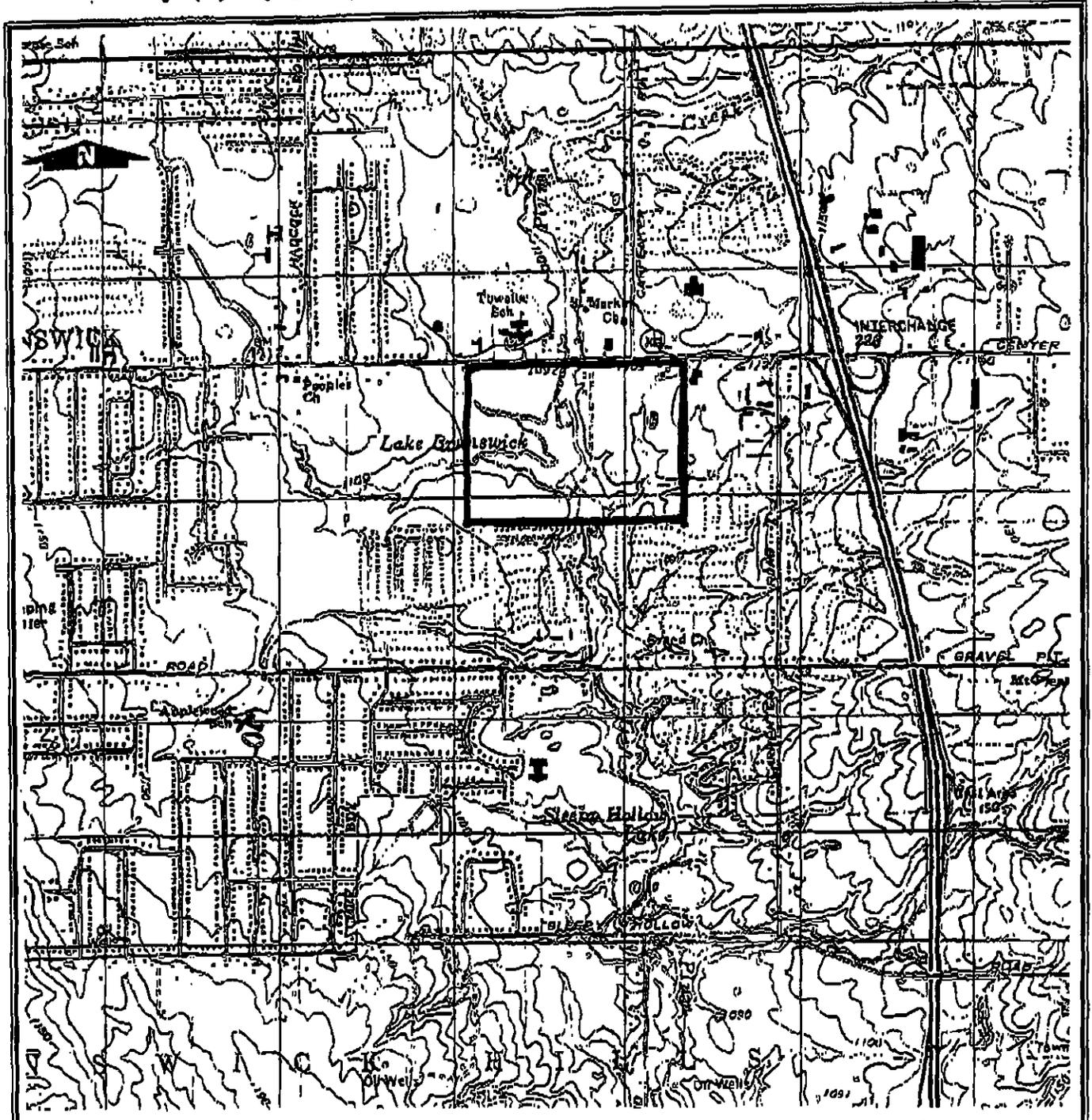


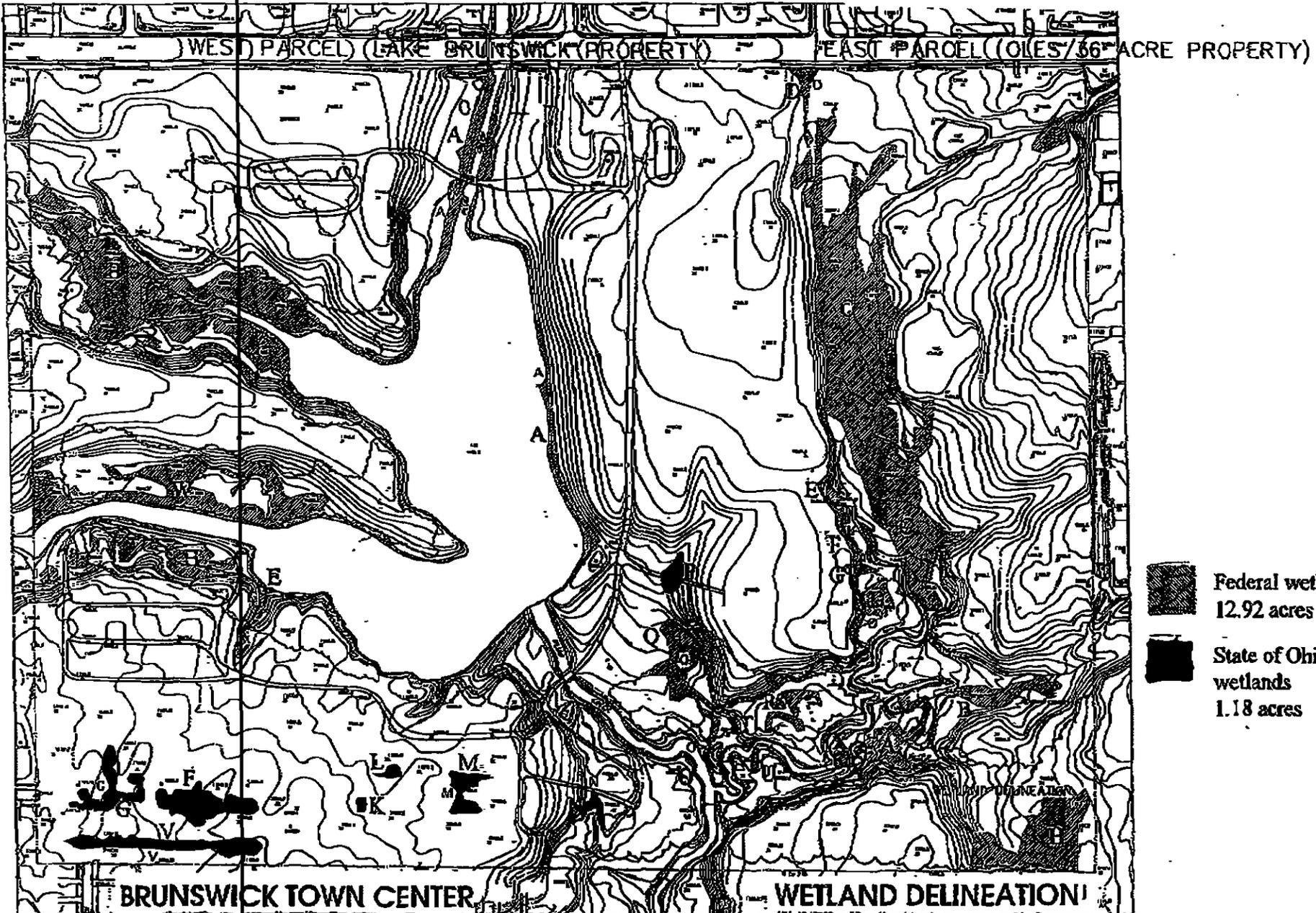
Figure 1: Site Location and surrounding area of proposed Brunswick Town Center site on the 7.5' USGS Topographic Map of the Medina, Ohio quadrangle.

Contour Interval: 10 feet  
Scale: 1"=2000'

<b>BRUNSWICK TOWN CENTER</b>
D/A Processing No. 2002-00114(0)
Medina County, Ohio Quad: MEDINA
Sheet 1 of 20

# Wetland Location Map

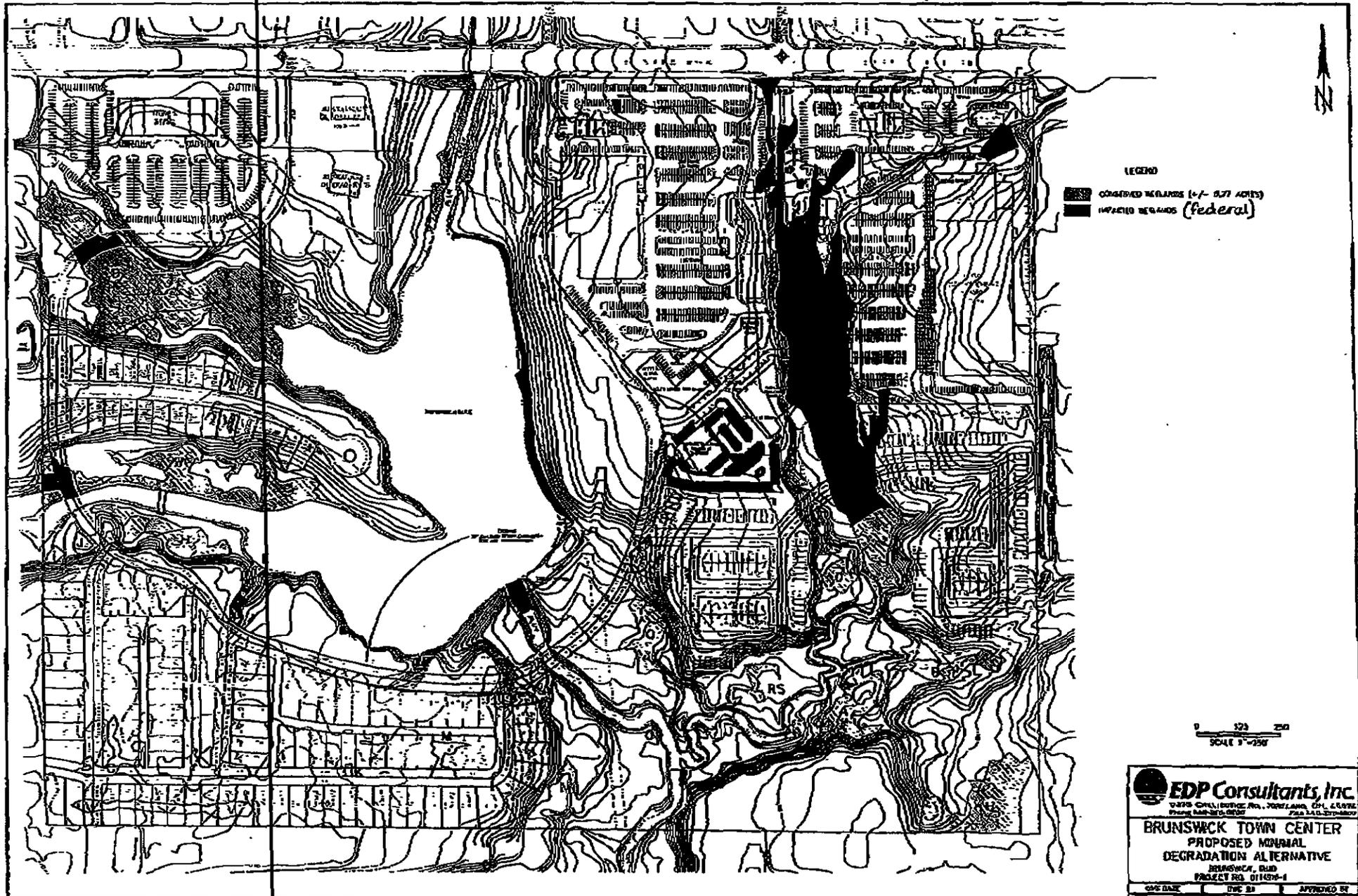
BRUNSWICK TOWN CENTER  
D/A Processing No. 2002-00114(0)  
Medina County, Ohio Quad: MEDINA  
Sheet 2 of 20



Received: 5/15/2003 11:17: ->DAVEY RESOURCE GROUP; #929; Page 15  
MAY 15 2003 9:54AM 44ZAREMBA42  
CORPS ORWELL OFC  
NO. 617 P. 153E 03

**BRUNSWICK TOWN CENTER**  
 D/A Processing No. 2002-00114(0)  
 Medina County, Ohio Quad: MEDINA  
 Sheet 3 of 20

# AUTHORIZED IMPACTS

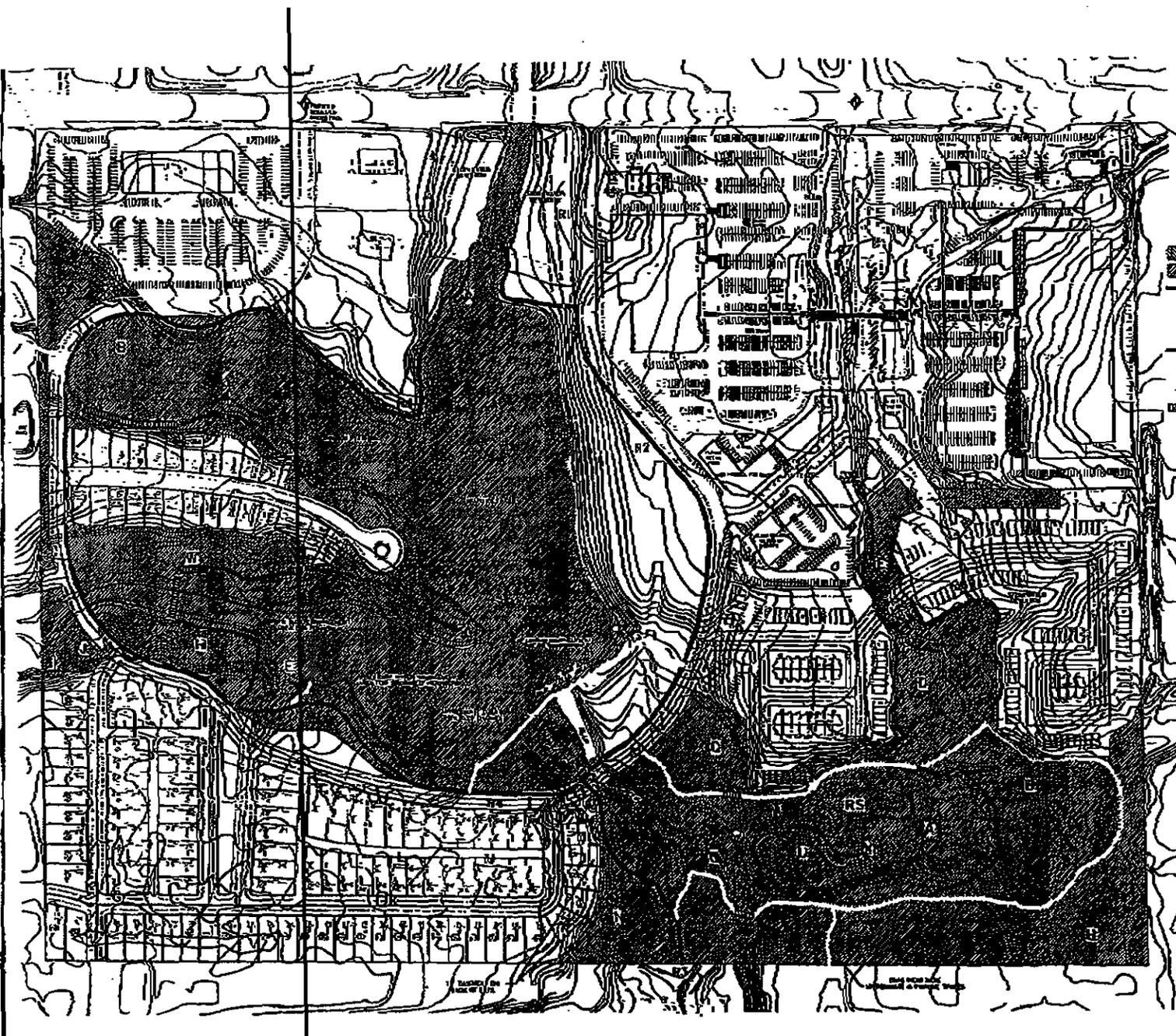


**EDP Consultants, Inc.**  
2000 CAMPBELL DRIVE, NO. 700, LANSING, OH, 44130  
 PHONE 440-525-0200 FAX 440-525-0200

**BRUNSWICK TOWN CENTER**  
 PROPOSED MINIMAL  
 DEGRADATION ALTERNATIVE  
 BRUNSWICK, OHIO  
 PROJECT NO. 014269-1

DATE	DWG NO.	APPROVED BY
5/15/2003	01	[Signature]

Received: 5/15/2003 11:18: -DAVEY RESOURCE GROUP; #929; Page 16  
 MAY 15 2003 9:54AM 44ZAREMBAJ42  
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 NO. 617 P. 163E 04



- LEGEND**
- CONSUMED WETLANDS (+/- 8.77 ACRES)
  - CONSERVATION EASEMENT (+/- 32.5 ACRES)
  - 6" CRUSHED STONE (SHARPE DRIVE/MAGNIFIC CONSERVATION) (SEGMENTS 01 THROUGH 03)
  - 6" PAVED (SEGMENTS 11 THROUGH 14)
  - 12" PAVED WITH LIGHTS (CONDITIONS BEFORE LIGHTING ALONG WITH EXISTING STREET LIGHTING) (SEGMENTS 01 THROUGH 04)
  - TOWNSHIP
  - BRIDGES
  - ELEVATED ROADWAYS/DECKING
- TRAILS WITHIN CONSERVATION EASEMENT ARE APPROPRIATE.  
 TRAILS & TRAIL-RELATED STRUCTURES TO BE CONSTRUCTED WITHIN WETLANDS WOULD BE DONE WITH ZERO IMPACT.  
 CONSERVATION EASEMENTS TO BE MOVED BY MEDINA COUNTY PUBLIC UTILITIES.  
 APPROXIMATELY 4,000 LINEAR FEET OF STREAM WILL BE PERMANENTLY PROTECTED WITHIN THE CONSERVATION EASEMENT.

**TRAIL A - CROSSINGS ARE NOT AUTHORIZED**



**EDP Consultants, Inc.**  
 9300 E. CHILLICOTTE RD., WILMINGTON, OH, 45394  
 PHONE 513-253-6928 FAX 513-253-6927

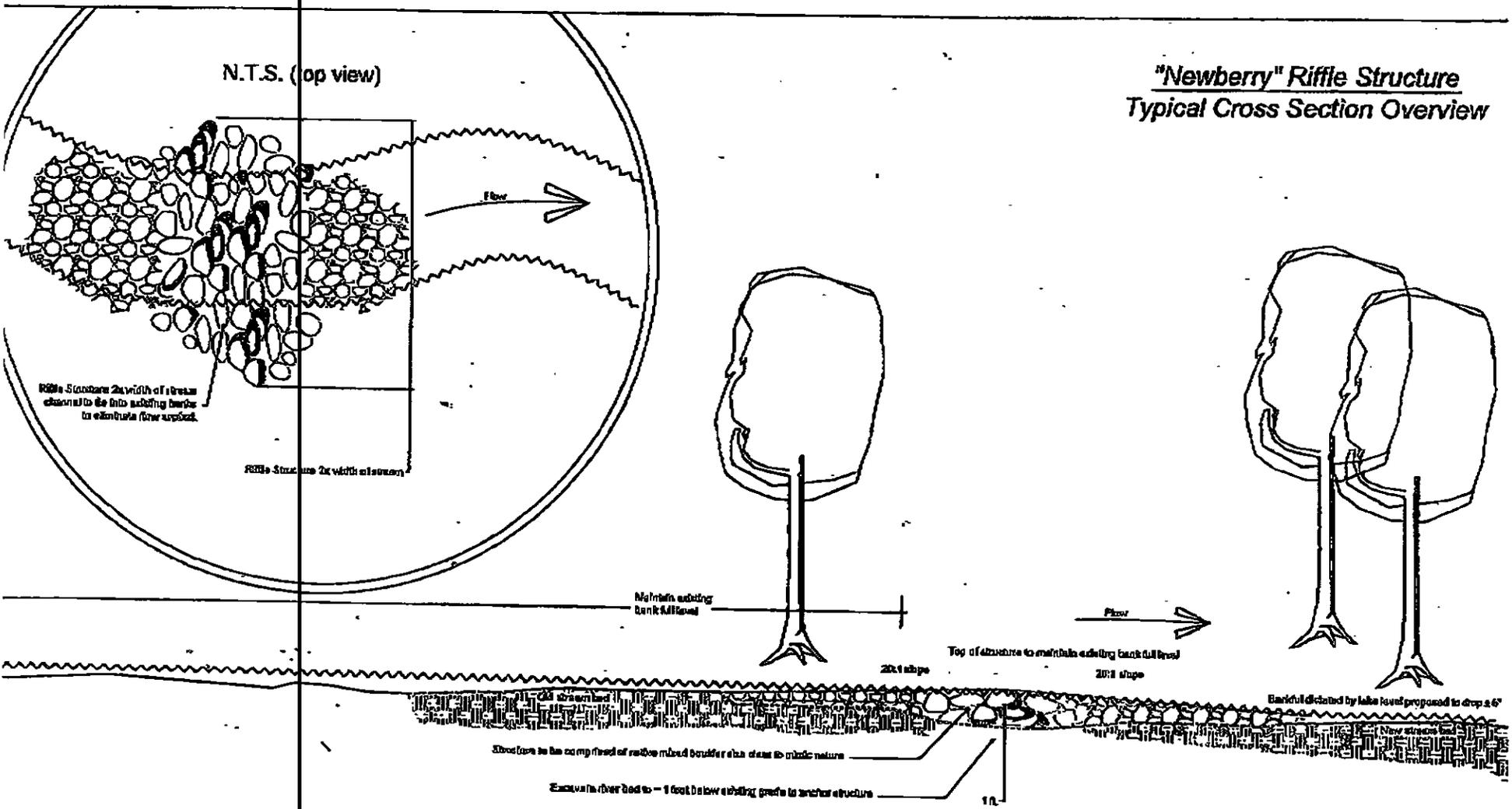
**BRUNSWICK TOWN CENTER  
 CONSERVATION EASEMENT**  
 BRUNSWICK, OHIO  
 PROJECT #02-014(0)-5

DATE	BY	APPROVED BY
05-15-03	MD	DFC

# CONSERVATION EASEMENT AREA

**BRUNSWICK TOWN CENTER**  
 D/A Processing No. 2002-00114(0)  
 Medina County, Ohio Quad: MEDINA  
 Sheet 4 of 20

**"Newberry" Riffle Structure**  
**Typical Cross Section Overview**

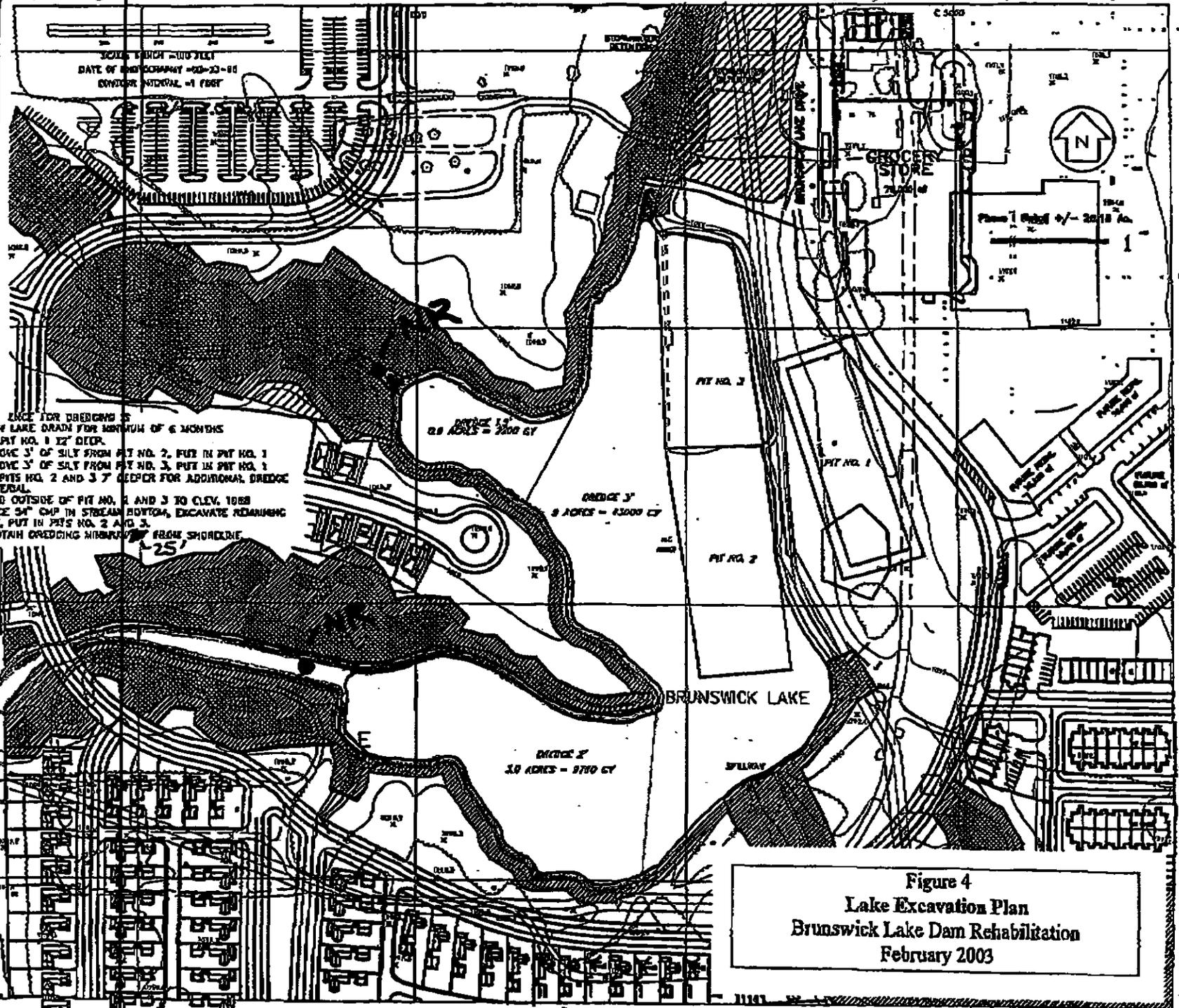


N.T.S.  
**BRUNSWICK TOWN CENTER**  
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 Medina County, Ohio Quad: MEDINA  
 Sheet 5 of 20

# NEUBURY RIFLE INSTALLATION AND LAKE DREDGING

Received: 5/15/2003 11:19: ->DAVEY RESOURCE GROUP; #929; Page 19  
 MAY 15, 2003 9:56AM 441ZARENB8A942  
 CORPS DRWELL OFC NO. 617 P. 19GE 07

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 Medina County, Ohio Quad: MEDINA  
 Sheet 6 of 20



CITY OF  
 BRUNSWICK

BRUNSWICK DAM  
 REHABILITATION PROJECT  
 MEDINA COUNTY, OHIO

05/03  
 22 MAY 03  
 SKETCH  
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NO. Neubury Rifle Location

BRUNSWICK TOWN CENTER  
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 Sheet 7 of 20

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 MAY 15, 2003 9:56AM 44ZAREMBA342  
 CORPS DRWELL DFC  
 NO. 617 P. 20GE 08

MS CONSULTANTS, INC.  
 CONSULTING STATE ENGINEERS & ARCHITECTS  
 10000 W. STATE ROUTE 163  
 COLUMBUS, OH 43240  
 (614) 865-1100  
 APPROVED AND RECOMMENDED BY  
 BRUNSWICK TOWN CENTER  
 CITY OF BRUNSWICK  
 BRUNSWICK DAM REHABILITATION PROJECT  
 MEDINA COUNTY, OHIO  
 SHEET NO. 7  
 SKETCH

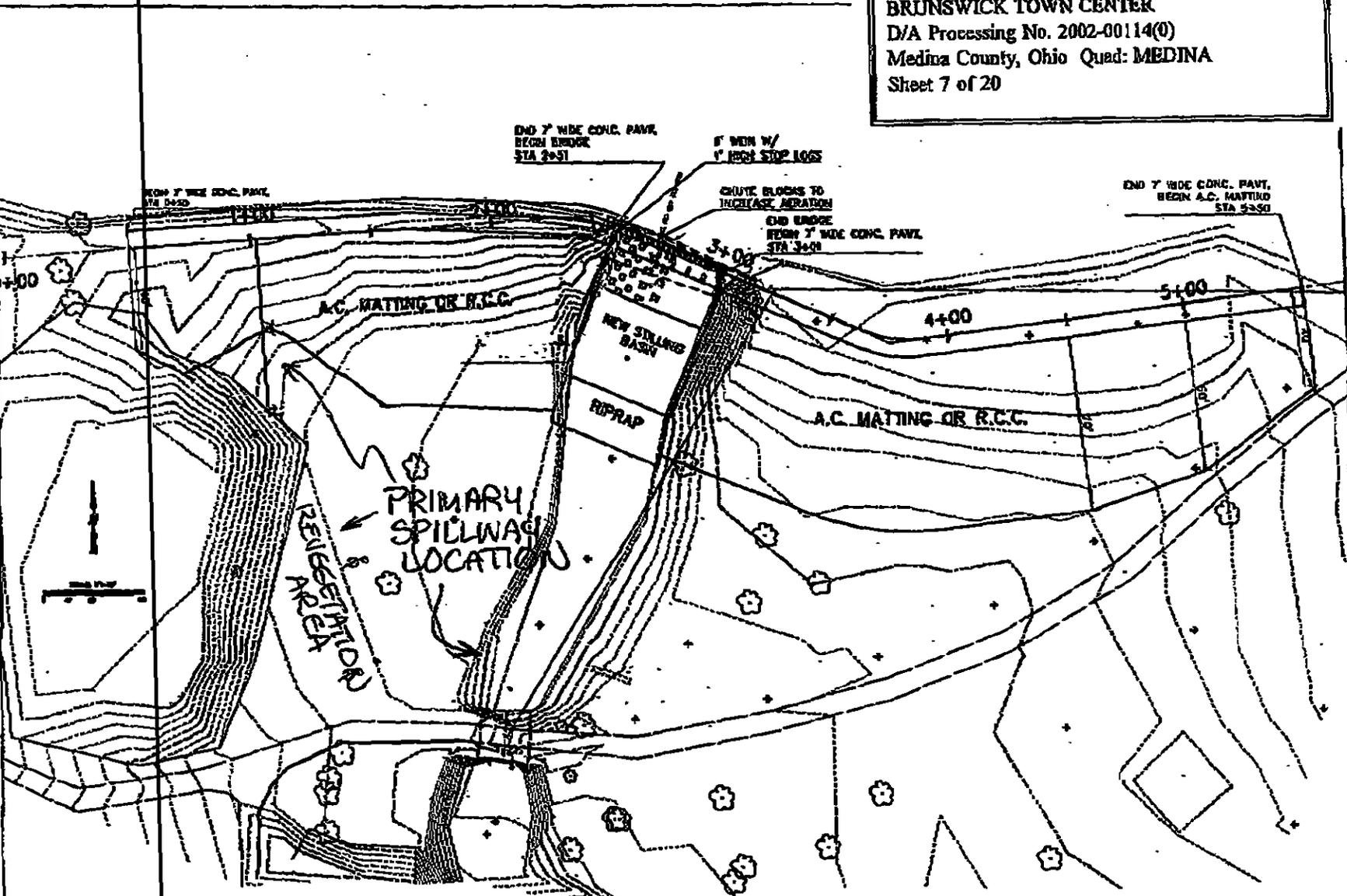


Figure 3  
 Spillway Site Plan  
 Brunswick Lake Dam Rehabilitation  
 February 2003

SITE PLAN

DESCRIPTION:  
 THE SCOPE OF WORK INCLUDES REHABILITATION OF THE EXISTING CONCRETE SPILLWAY, DESTABILIZING A NEW STILLING BASIN, PLACING RIPRAP AT THE END OF THE BASIN, CONSTRUCTING OTHER ARTICULATED CONCRETE (A.C.) MATINGS OR ROLLER COMPACTED CONCRETE (RCC) FOR OVERTOPPING PROTECTION AND PLACING 6" TOPSOIL ON TOP, FURNISH AND INSTALL A NEW PEDESTRIAN BRIDGE (8' WIDE), INSTALL CONCRETE PAVEMENT (7" WIDE) WITH 2" CURB WALL ON TOP OF THE EMBARCAMENT, INSTALL 8" WIDE W/ 1" HIGH STOP LOGS, AND CHUTE BLOCKS ON THE SPILLWAY. THE WORK ALSO INCLUDES OBTAINING BRIDGE MATERIAL ABOVE THE EXISTING LAKE DRAIN TO BRUSH DOWN THE LAKE. THE LAKE IS TO BE DREDGED AN AVERAGE OF 2'-6", AND A NEW LAKE DRAIN BOX IS TO CONSTRUCTED AT THE EXISTING INLET LOCATION.

MAY. 15. 2003 9:57AM 44ZAREMBA,42

CORPS DRWELL OFC

NO. 617

P. 215E 09

Sent by: DAVEY RESOURCE GROUP

330 673 0860;

04/03/2003 13:29; #431;

Page 3/3

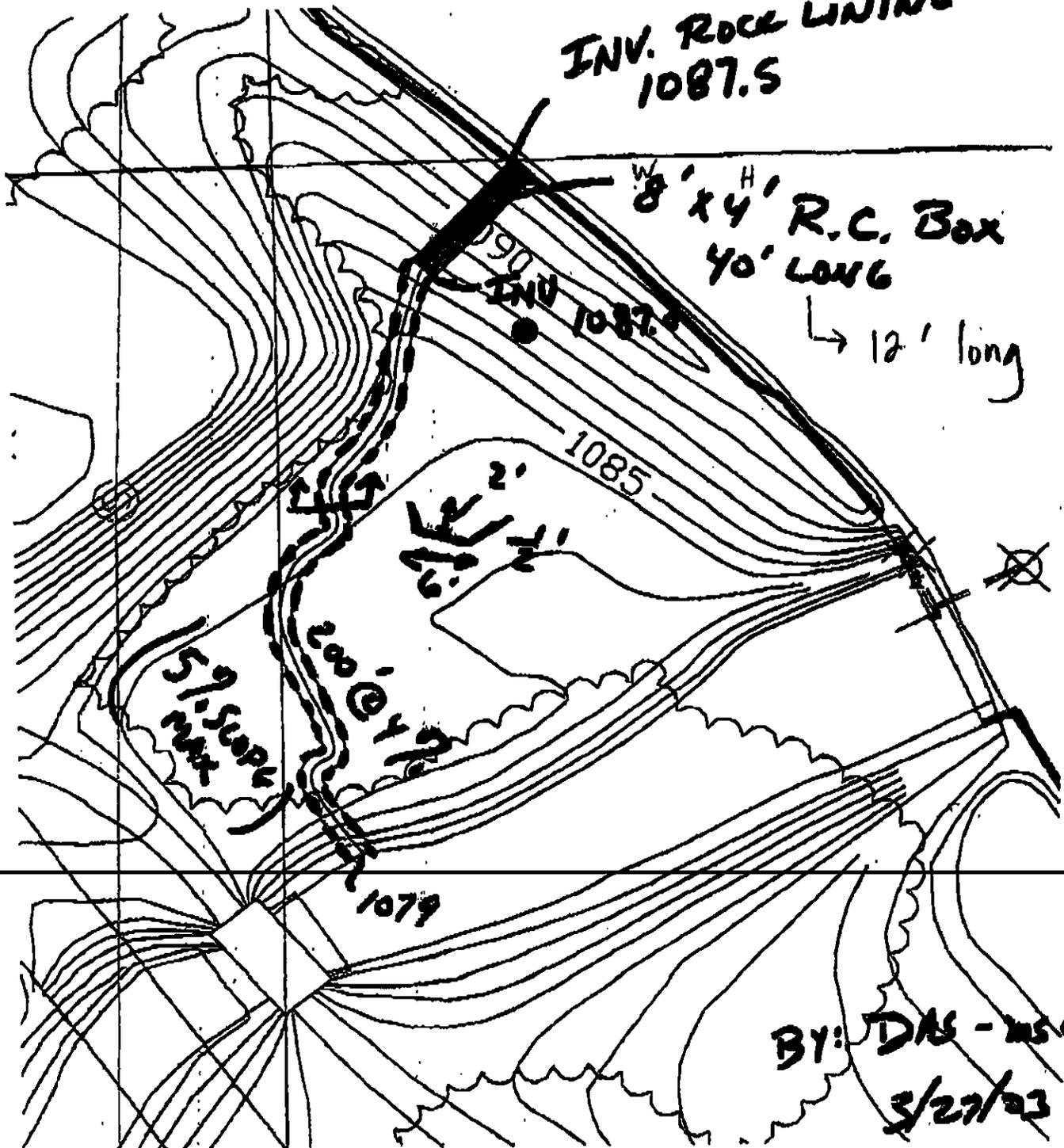
SOURCE GROUP; #430; Page 2  
:KOB Gibson #6

002

BRUNSWICK TOWN CENTER  
D/A Processing No. 2002-00114(0)  
Medina County, Ohio Quad: MEDINA  
Sheet 8 of 20

PLACE STOP LOGS AT  
FACE OF 8'x4' BOX

INV. ROCK LINING  
1087.5



BY: DAS - MS CWSI  
3/27/03

MAY. 15. 2003 9:57AM 44ZAREMBA42

CORPS ORWELL OFC

NO. 617 P. 22:10

373 0860; 04/03/2003 13:29; #431; Page 2/3

RESOURCE GROUP; #929; Page 1  
1308 GIBSON MS

001

BRUNSWICK TOWN CENTER  
D/A Processing No. 2002-00114(0)  
Medina County, Ohio Quad: MEDINA  
Sheet 9 of 20

**ms consultants, inc.**  
engineers, architects, planners

336 B Carthage Street  
Sanford, NC 27330  
(919) 774-7303  
FAX: (919) 774-6109



## FAX COVER PAGE

DATE: 3/27/03

SUBJECT: Brunswick Dam JOB NO. \_\_\_\_\_

### TRANSMISSION TO:

NAME: Karen Wise

COMPANY: Davey Resource

FAX #: 330-673-0860

CC: Ed Hagan 216 221-1031

### RECEIVED FROM:

NAME: Don Sever

If you did not receive 2 pages (including cover letter) please contact \_\_\_\_\_ at (919) 774-7303 as soon as possible.

### MESSAGE:

After giving it further thought, we came up with the idea of building a 8' wide by 4' high by 40' long reinforced concrete box culvert at the western side of the dam. We would move the stop logs on the dam to the entrance of the culvert. This way we can maintain the lake level as desired by the city. The culvert would have a rock lining to allow fish passage, and the downstream channel would be 200' long with a 4 to 5% (max) slope, where the velocities would be around 6 feet per second for a 6' wide channel. This would handle 150 cfs of flow when full, but be around 6 - 8" deep for a 20 cfs flow which would be an anticipated base flow. By using the concrete box, we would eliminate the need for a bridge and simplifies grading. Rough cost \$15,000 for culvert, \$35,000 for stream, which includes \$6,000 for design.

This information contained in this facsimile message is confidential information and intended only for the individual(s) or entity(ies) named above. If the number of this message is not the intended recipient, or the employee or agent responsible to deliver to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please immediately notify us by telephone.

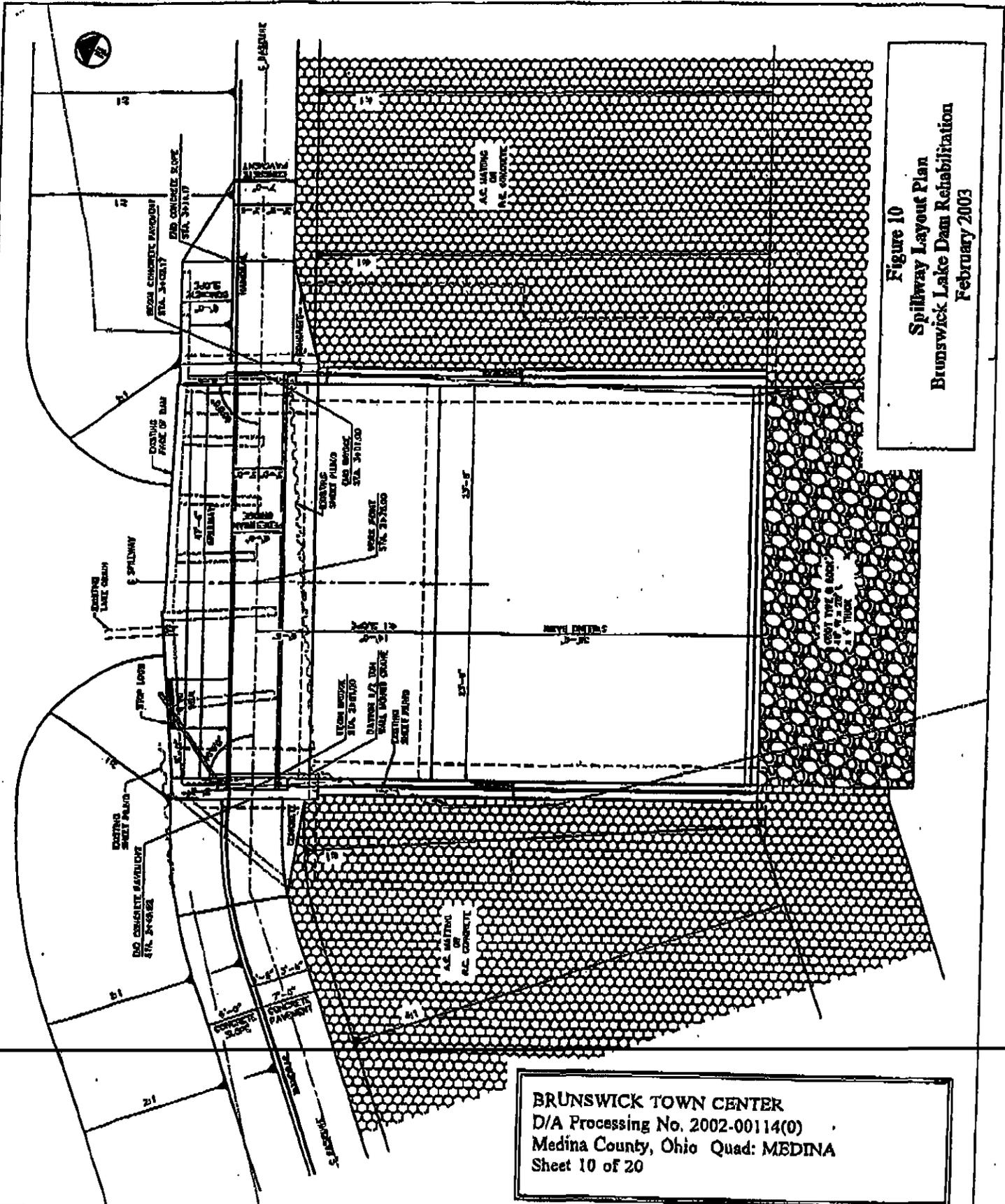


Figure 10  
 Spillway Layout Plan  
 Brunswick Lake Dam Rehabilitation  
 February 2003



PROPOSED AND RECOMMENDED BY  
**ms consultants, inc.**  
 CONSULTING ENGINEERS, ARCHITECTS & PLANNERS  
 333 E. FEDERAL STREET  
 WASHINGTON, OH 44393  
 (614) 882-1100 FAX (614) 882-1101

CITY OF  
 BRUNSWICK

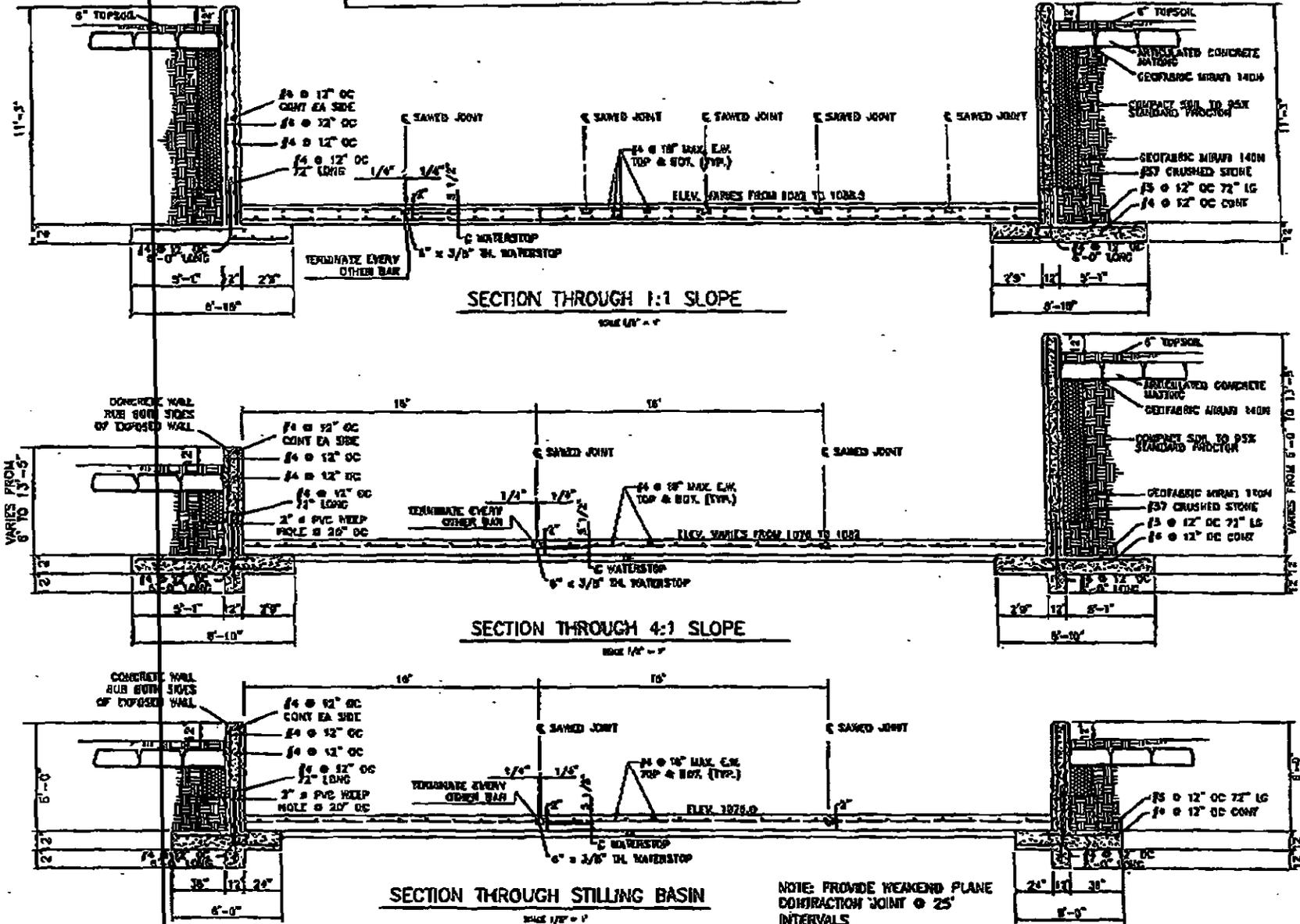
BRUNSWICK DAM  
 REHABILITATION PROJECT  
 MEDINA COUNTY, OHIO

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 2 APR 03  
 SKETCH  
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BRUNSWICK TOWN CENTER  
 D/A Processing No. 2002-00114(0)  
 Medina County, Ohio Quad: MEDINA  
 Sheet 12 of 20

Figure 12  
 Spillway Cross Section View  
 Brunswick Lake Dam Rehabilitation  
 February 2003



Prepared and designed by  
**Mc Consultants, Inc.**  
 3400 Corporate Lakeside  
 Columbus, OH 43260  
 (614) 291-1000 Fax: (614) 291-1001

CITY OF  
 BRUNSWICK

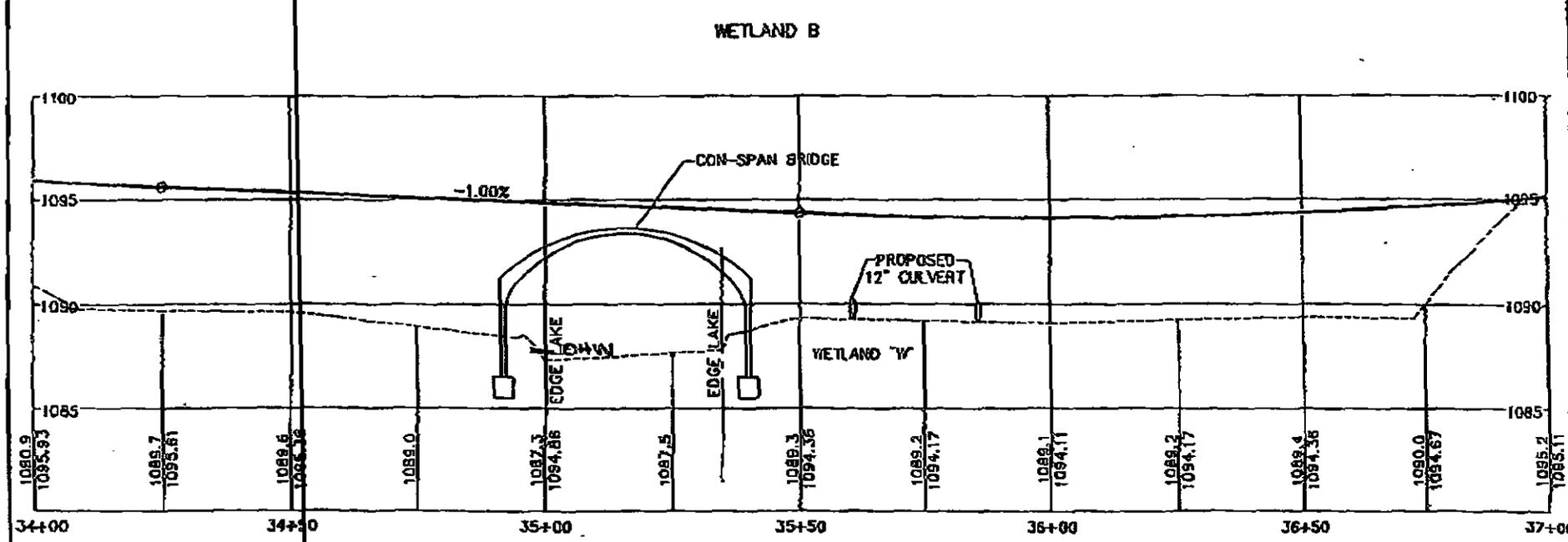
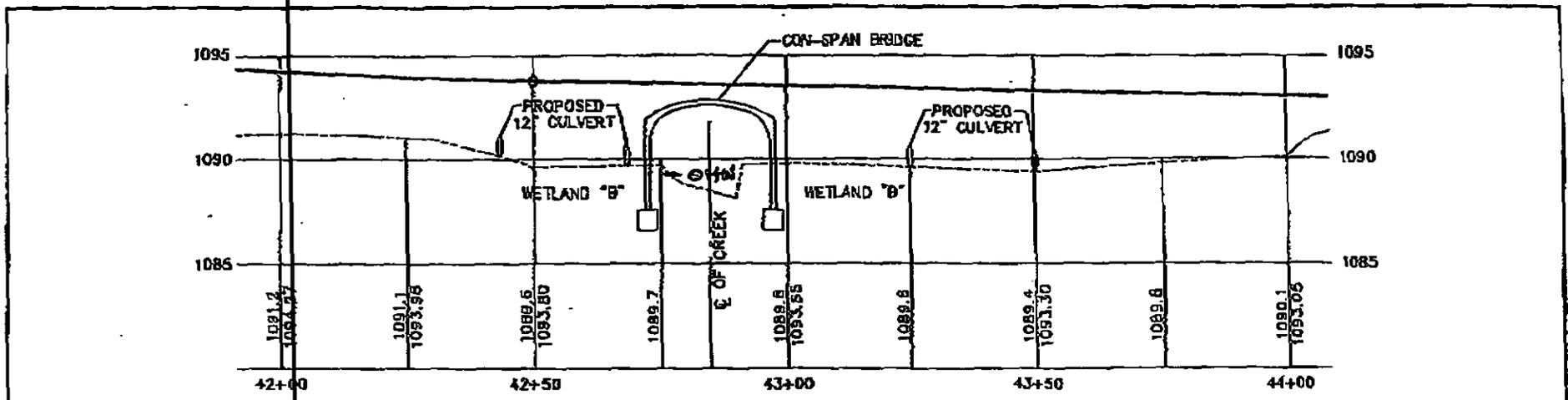
BRUNSWICK DAM  
 REHABILITATION PROJECT  
 MEDINA COUNTY, OHIO

8  
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 MAY 15 2003 9:58AM 44ZARENBA342  
 CORPS DRWELL DFC  
 NO. 617 P. 25 of 13

BRUNSWICK TOWN CENTER  
 D/A Processing No. 2002-00114(0)  
 Medina County, Ohio Quad: MEDINA  
 Sheet 13 of 20

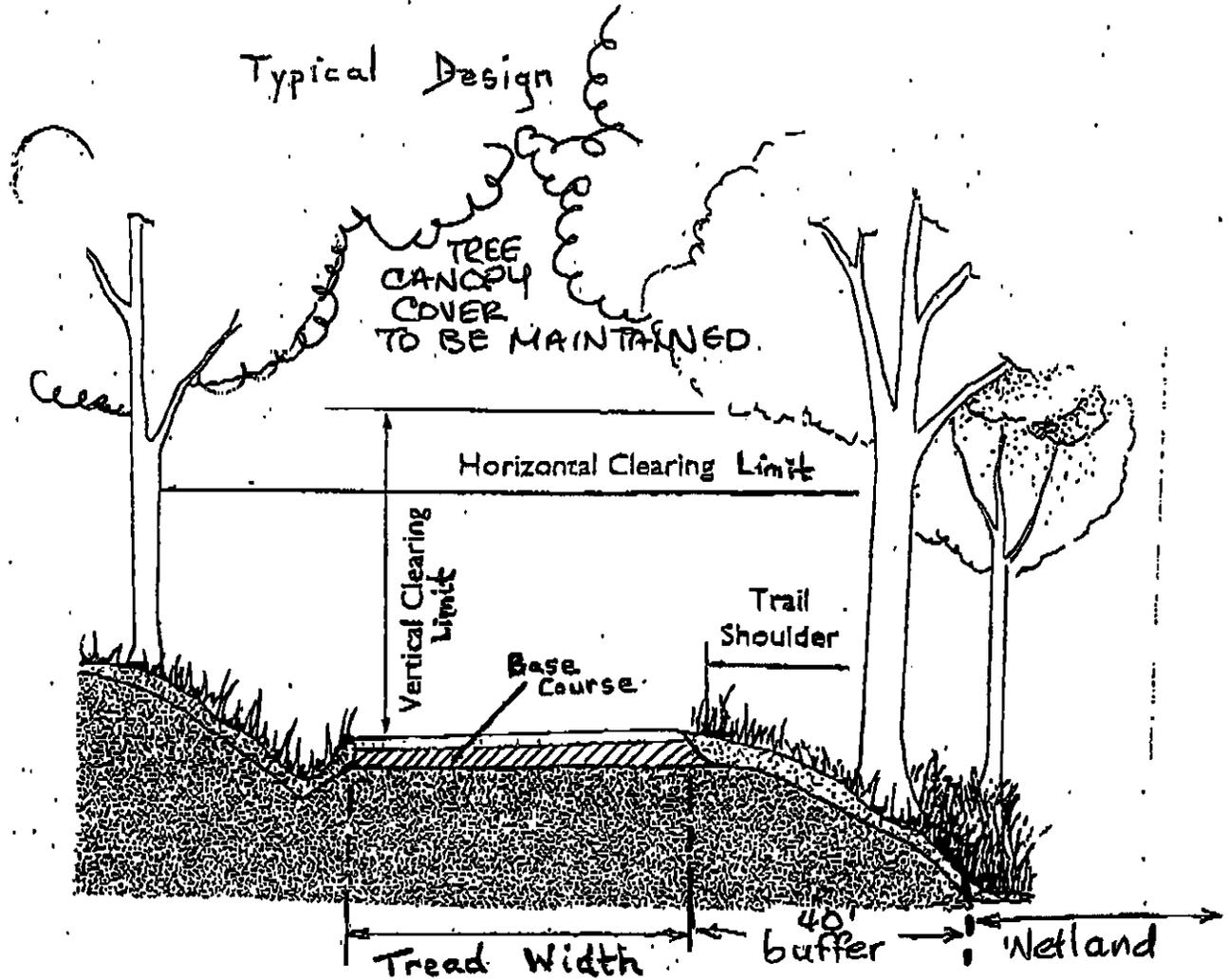
Received: 5/15/2003 11:21: --DAVEY RESOURCE GROUP; #929; Page 26  
 MAY. 15. 2003 9:58AM 441ZAREMBA342  
 CORPS DRWELL DFC NO. 617 P. 263E 14



WETLAND B  
 WETLAND W  
 SCALE: 1" = 20' HOR  
 1" = 5' VER  
 CUNNINGHAM & ASSOCIATES, INC.



# TRAILS CROSS-SECTION WITHIN CONSERVATION EASEMENT AREA



BRUNSWICK TOWN CENTER  
D/A Processing No. 2002-00114(0)  
Medina County, Ohio Quid: MEDINA  
Sheet 15 of 20

## **TRAIL GUIDELINES WITHIN CONSERVATION EASEMENT**

- \* all cutting, brushing, clearing will be kept to the needed clearing height and width.
- \* minimize disturbances to adjacent vegetation
- \* trails will be strategically placed to avoid the removal of unique flora specimens or groupings
- \* only the vegetation within the horizontal and vertical clearing limits will be removed
- \* horizontal clearing limit will vary with trail type
- \* vertical clearing limit for all trails will be - 8'

### **TRAIL TYPES**

#### **12' paved with lighting**

- \* tread width - 12'
- \* base course width - 14'
- \* horizontal clearing limit - 16'
- \* when passing through conserved wetland/conservation easement - trail shoulder will be kept natural
- \* cutting back, pruning vegetation growth within trail clearing limits will be standard maintenance practice
- \* bollard-type lighting
- \* benches

#### **8' paved**

- \* tread width - 8'
- \* base course width - 10'
- \* horizontal clearing limit - 12'
- \* when passing through conserved wetland/conservation easement - trail shoulder will be kept natural
- \* cutting back, pruning vegetation growth within trail clearing limits will be standard maintenance practice
- \* benches

#### **6' crushed stone**

- \* tread width - 6'
- \* base course width - 8'
- \* horizontal clearing limit - 10'
- \* when passing through conserved wetland/conservation easement - trail shoulder(s) will be kept natural
- \* cutting back, pruning vegetation growth within trail clearing limits will be standard maintenance practice
- \* benches

BRUNSWICK TOWN CENTER  
D/A Processing No. 2002-00114(0)  
Medina County, Ohio Quad: MEDINA  
Sheet 16 of 20



## Plum Creek Park Wetlands Mitigation Proposal

As partial mitigation for impacts associated with the proposed Brunswick Town Center project, Davey biologists examined portions of Plum Creek park for wetlands creation, restoration, and enhancement potential. The north part of Plum Creek park was studied, just south of Sleepy Hollow Road. Upland old fields on the east and west sides of an unnamed tributary to Plum Creek were evaluated. The area west of the unnamed tributary appears to have the best potential. This field receives ample surface runoff from an adjacent development and its associated impervious surfaces. The off-site drainage flows east through the upland old field before making its way into the floodplain wetlands along the unnamed tributary. Evidence of these small drainage swales can be seen in the attached picture. Performing wetlands mitigation in this area would serve as an important water quality purification function, as runoff from new development to the west would be filtered through the mitigation area before entering the Plum Creek drainage system.

The upland old field where the work is proposed to occur contains hydric soils with non-hydric inclusions, and has been tilled and surface drained for farming in the past. Some wetlands vegetation, such as soft rush and silky dogwood, is currently growing in depressions and ruts within this field. It would be our plan to remove the topsoil and large pieces of plant material, stockpile it while earthwork is going on, and then place it back into the newly excavated wetlands. Using the existing topsoil would provide a rich seed bank of wetlands plants. Supplemental planting of arrow-wood (open areas), buttonbush, and spice bush (along the wooded berm) would be performed. Eventually this area should return to riparian woods and the deeper emergent area as a vernal pool or buttonbush community. Royal fern and skunk cabbage and other desirable woodland wetland plants could be supplemented later as the site matures.

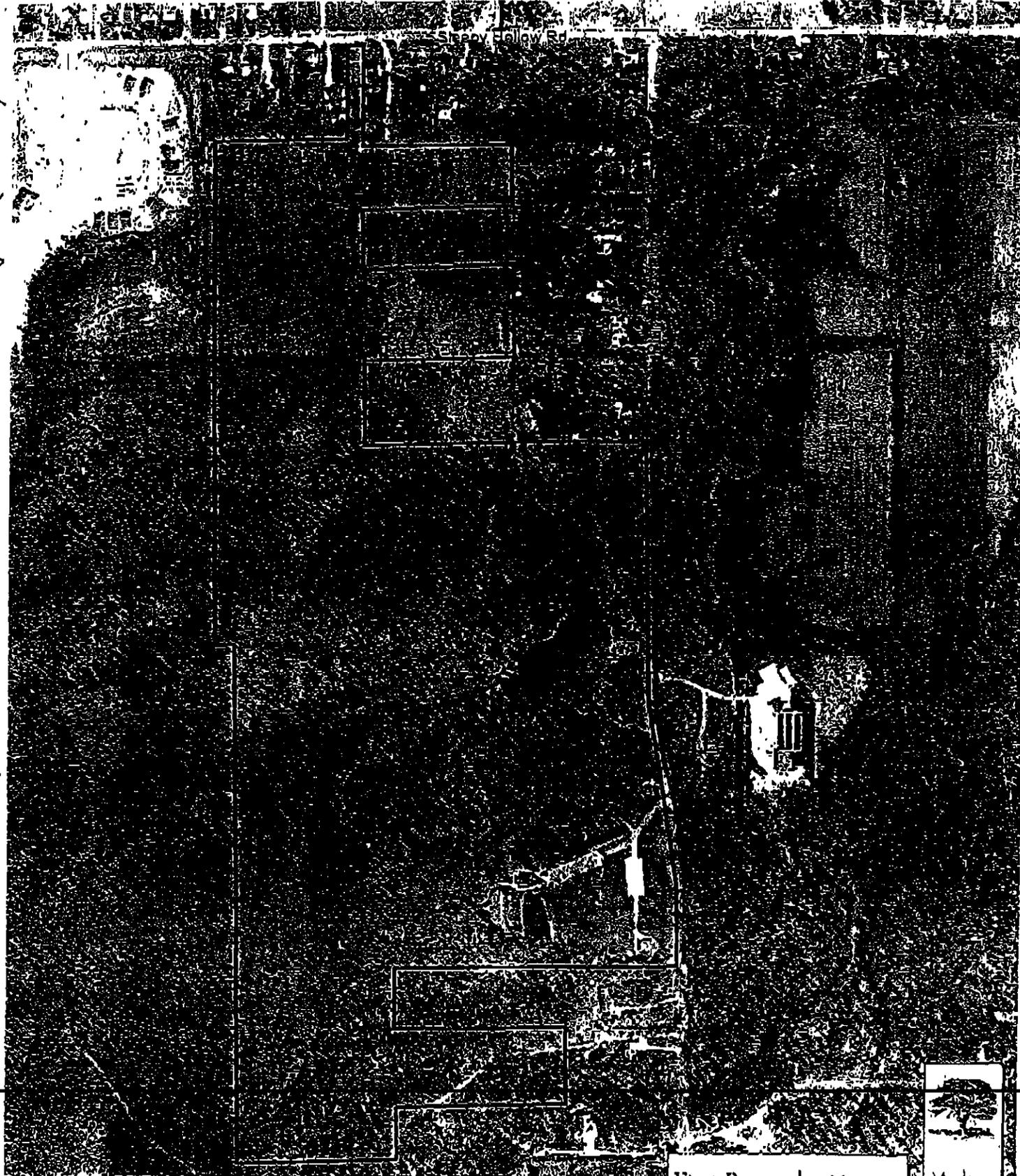
Davey believes that with minimal excavation and the construction of a small berm at the tree line, that at least two acres of the upland old field will convert to wetlands. Additional areas to the west of the excavated area would be intentionally compacted with heavy equipment, and we expect further wetlands conversion to occur within these areas based solely on the amount of water entering the site from the west and the amount of clay in the soils. These fringe wetlands would most likely be meadows.

The mitigation site should be accessible by park patrons and used as an educational exhibit. If edge effect is maintained on portions of this site through periodic mowing, then the combination of shrubby old fields and new wetlands could be a very productive birding area. This potential smorgasbord of vegetative communities could draw in a variety of birds.

BRUNSWICK TOWN CENTER  
D/A Processing No. 2002-00114(0)  
Medina County, Ohio Quad: MEDINA  
Sheet 18 of 20

11905 - Mahoning - (Fair)

Condrt - (good)

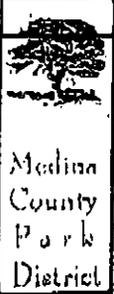


BRUNSWICK TOWN CENTER  
D/A Processing No. 2002-00114(0)  
Medina County, Ohio Quad: MEDINA  
Sheet 19 of 20

First Responder Map  
Plum Creek Park  
Eastern Portion  
Page 2 of 2  
Not to Scale



11/01



PLUM CREEK PARK PARCEL

# PLUM CREEK PARK CONCEPTUAL MITIGATION PROSAL

Proposed areas of restored/increased wetlands excavation - 1'

Proposed areas of restored fringe wetlands excavation 6'-12' (-2 acres total wetlands created)

Mitigation area drainage area (8.4 acres)

Drainage scale to be finished by turn

Proposed berm 1'-2' (-675 feet linear feet)

Direction of flow

GRAPHIC SCALE

BRUNSWICK TOWN CENTER  
D/A Draining No. 2012-001400  
Madison County, Ohio (lead: MEDINA)  
Sheet 20 of 26

MAY. 15. 2003 10:01AM ZAREMBA

NO. 617 P. 34

Applicant: Zarembo Group, LLC		File Number: 2002-00114(0)	Date: 5/14/03
Attached is:			See Section below
X	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
	PROFFERED PERMIT (Standard Permit or Letter of permission)		B
	PERMIT DENIAL		C
	APPROVED JURISDICTIONAL DETERMINATION		D
	PRELIMINARY JURISDICTIONAL DETERMINATION		E

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

If you have questions regarding this decision and/or the appeal process you may contact:

Theresa B. Hudson  
U.S. Army Corps of Engineers  
Orwell Field Office  
33 Grand Valley Avenue  
Orwell, Ohio 44076-9566  
(440) 437-5847  
theresa.b.hudson@usace.army.mil

If you only have questions regarding the appeal process you may also contact:

Ms. Suzanne Chubb  
U.S. Army Corps of Engineers  
Great Lakes and Ohio River Division  
550 Main Street  
Cincinnati, OH 45201-1159  
(513) 684-7261  
suzanne.l.chubb@lrdor.usace.army.mil

**RIGHT OF ENTRY:** Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

\_\_\_\_\_  
Signature of appellant or agent.

Date:

Telephone number:



State of Ohio Environmental Protection Agency

STREET ADDRESS:

Lazarus Government Center  
122 S. Front Street  
Columbus, Ohio 43216

TELE: (614) 644-3020 FAX: (614) 644-3184

MAILING ADDRESS:

P.O. Box 1049  
Columbus, OH 43216-1049

**Certified Mail**

May 7, 2003

City of Brunswick  
4095 Center Road  
Brunswick, Ohio 44212

and

Nathan Zaremba  
Zaremba Group  
737 Bolivar Road #4000  
Cleveland, Ohio 44115

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By Doreen Jackson Date 5-7-03

OHIO E.P.A.  
MAY - 7 2003  
DIRECTOR'S OFFICE

Re: Medina County / City of Brunswick  
Grant of Section 401 Water Quality Certification (Minimal Degradation Alternative)  
Project to construct a mixed use development  
ACOE Public Notice No. (B)2002-00114(0)  
Ohio EPA ID No. 021019

Ladies and Gentlemen:

The Director of Ohio Environmental Protection Agency hereby authorizes the above referenced project under one or both of the following authorities.

Section 401 Water Quality Certification

Pursuant to Section 401 of the Federal Water Pollution Control Act, Public Law 95-217, the Director of Ohio Environmental Protection Agency hereby certifies that the above-referenced project will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act.

Ohio Isolated Wetland Permit

Pursuant to Ohio Revised Code Chapter 6111 and Ohio Administrative Code Chapter 3745-1, and other applicable provisions of state law, the Director of Ohio Environmental Protection Agency hereby concludes that the above-referenced project will comply with the applicable provisions of Sections 6111.03 and 6111.04 of the Ohio Revised Code.

This authorization is specifically limited to a Section 401 Water Quality Certification and/or Ohio Isolated Wetlands permit with respect to water pollution and does not relieve the applicant of further Certifications or Permits as may be necessary under the law. I have

Bob Taft, Governor  
Jennette Bradley, Lieutenant Governor  
Christopher Jones, Director

determined that a lowering of water quality in Plum Creek (River Code 13-206), a tributary of the North Branch Rocky River in the Rocky River basin (04110004) as authorized by this Section 401 Water Quality Certification/Ohio Isolated Wetlands Permit is necessary. I have made this determination based upon the consideration of all public comments, and including the technical, social, and economic considerations concerning this application and its impact on waters of the state.

This Section 401 Water Quality Certification pertains to Minimal Degradation Alternative and is issued subject to the following modifications and/or conditions:

I. General

- A. The work shall take place during low flow conditions in order to minimize adverse impacts to water quality away from the project site.
- B. Fill used in this project shall consist of suitable material free from toxic contaminants in other than trace quantities.
- C. Steps shall be taken during construction to minimize bank erosion.
- D. Steps shall be taken upon completion of this project, to ensure bank stability. This may include but is not limited to, the placement of riprap or bank seeding.
- E. Materials used for bank protection shall be erosion resistant and free from toxic or other contaminants. Broken asphalt is specifically excluded from use as bank protection.
- F. Steps must be employed throughout the course of this project to avoid the creation of unnecessary turbidity which may degrade water quality or adversely affect aquatic life outside of the project area.
- G. Any damages to the immediate environment of the project by equipment needed for construction or hauling will be repaired immediately.
- H. In order to control pollution of public waters by soil sediment from accelerated stream channel erosion and flood plain erosion caused by accelerated stormwater runoff from development areas, the applicant shall ensure stormwater basins on the site comply, at a minimum, with Ohio EPA Permit No. OHC00002, which became effective April 21, 2003. In particular, the applicant shall comply with PART III.G.2.e, Post-Construction Storm Water Management Requirements. Stormwater ponds on the site shall provide both a permanent wet pool and an extended detention volume above the permanent pool, each sized at  $0.75 * Wq_v$ , as discussed in the permit.

In addition, the stormwater basins on the site shall meet, at a minimum, the design specifications for "Aquatic Benches and Wetlands", "Reverse Flow Pipe", "Forebay", and "Optimum Flow Length" contained in the Ohio Department of Natural Resources Rainwater and Land Management document. Within 30 days of completion of each stormwater pond for the site, the applicant shall submit certified professional engineer verification to Ohio EPA that these requirements have been met. The applicant is responsible for maintaining these features in a functioning condition in perpetuity.

- I. In future phases of the project, the applicant shall provide a copy of the Stormwater Pollution Prevention Plan for the phase to Ohio EPA for review and approval prior to applying to Ohio EPA for coverage under the permit.
- J. The applicant shall protect the area depicted in the drawing entitled "Brunswick Town Center, Conservation Easement dated April 8, 2003, with an acceptable, notarized, recorded, and filed Conservation Easement held by Medina County Park District. This shall result in the preservation of approximately 63 acres. The applicant shall provide Ohio EPA with a copy of the proposed Conservation Easement for prior review and approval. The applicant shall provide Ohio EPA with a copy of the easement filed in the county court house within 30 days of its filing. The areas shall be preserved in perpetuity within 60 days of the issuance of the Section 404 permit for the site.
- K. This proposal requires an NPDES permit from Ohio EPA. For information concerning application procedures, contact the Ohio EPA District Office at the following address:

Northeast District Office, 2110 East Aurora Road, Twinsburg, Ohio  
44087.

## II. Impacts

- A. Streams-Impacts to 1,135 feet of Stream III (northeastern tributary to Brunswick Lake) are certified at the location shown in the application. In addition, the applicant may install two grade control structures (Newberry Riffles) at the locations shown in the application on Stream 1 (northwestern tributary) and Stream II (southwestern tributary). Lastly, impacts to approximately 90 feet of Plum Creek in association with work on the dam are certified.
- B. Wetlands-Impacts to 5.33 acres or wetlands are certified as follows:
  1. Brunswick Lake Property (West Parcel)

- a. Wetland B—0.06 acres (Category 2)
  - b. Wetland D—0.13 acres (Category 1)
  - c. Wetland E—0.02 acres (Category 2)
  - d. Wetland FGKLMV—1.04 acres (Category 1, Isolated)
  - e. Wetland W—0.10 acres (Category 2)
  - f. Wetland P—0.09 acres (Category 1, Isolated)
  2. Oles Property (East Parcel)
    - a. Wetland C—3.78 acres (Category 2)
    - b. Wetland F—0.01 acres (Category 2)
    - c. Wetland I—0.10 acres (Category 1)
- C. Lakes-Lake dewatering, dredging, and filling impacts to Brunswick Lake are certified in the areas and manner shown in the application.
1. The applicant shall not dredge within a minimum of 15 feet from existing fringe wetlands or fringe wetlands expected to develop with lake lowering.
  2. The applicant shall submit a plan to Ohio EPA within 30 days of the date this certification/isolated wetland permit is issued on how flows of Plum Creek and tributaries entering Brunswick Lake will be handled while the lake is dewatered to minimize downstream turbidity in Plum Creek.

III. Avoidance

- A. Streams-Impacts to the remaining stream channels on the site shall be avoided by the installation of three-sided box culverts for all vehicular road crossings over streams and installation of elevated walkways/decking at all trail crossings over streams. This will result in the avoidance of impacts to 6,030 feet of the remaining Streams I, Stream II, Stream III, Stream IV, and Plum Creek.
- B. Wetlands-Impacts to 8.77 acres of wetlands shall be avoided as follows:
1. Brunswick Lake Property (West Parcel)
    - a. Wetland A—0.88 acres (Category 2)
    - b. Wetland B—2.90 acres (Category 2)
    - c. Wetland E—0.14 acres (Category 2)
    - d. Wetland H—0.53 acres (Category 2)
    - e. ~~Wetland I—0.04 acres (Category 2)~~
    - f. Wetland J—0.04 acres (Category 2)
    - g. Wetland N—0.04 acres (Category 1)
    - h. Wetland Q—0.37 acres (Category 2)
    - i. Wetland OU—0.03 acres (Category 2)
    - j. Wetland RS—0.13 acres (Category 2)
- 

- k. Wetland T-0.01 acres (Category 2)
- l. Wetland W-1.44 acres (Category 2)
- 2. Oles Property (East Parcel)
  - a. Wetland AB-0.64 acres (Category 2)
  - b. Wetland X-0.03 acres (Category 2)
  - c. Wetland C-0.47 acres (Category 2)
  - d. Wetland D-0.07 acres (Category 2)
  - e. Wetland E-0.04 acres (Category 2)
  - f. Wetland G-0.02 acres (Category 2)
  - g. Wetland H-0.95 acres (Category 2)
- C. Lakes-Impacts to Brunswick Lake shall be avoided in the areas shown in the application. No dredging impacts may occur within 15 feet of existing wetlands to be avoided. In addition, no dredging impacts may occur within 15 feet of where wetlands are expected to become established due to the lowering of the Brunswick Lake by 6 inches.
- D. Buffers
  - 1. Buffers shall be provided on streams and wetlands as shown in the Brunswick Town Center, Conservation Easement map dated April 8, 2003.
  - 2. Trails and roadways shall be installed so as not to interfere with hydrology of adjacent wetlands. This shall be done utilizing culverts, pipes, gravel, organic matting, or other suitable methods. Crushed stone and paved trails may be installed within the wetland and stream buffers and wetlands as shown in the Conservation Easement map. Clearing of wooded areas for the construction of trail shall be minimized to the maximum extent practical, especially through wooded areas, but shall not exceed 2 feet on either side of the trail. Through wetlands the trails shall be elevated decks so as not fill additional wetlands. In addition, trails through wetlands shall be installed using construction methods to minimize disturbance of the wetland. Overhead methods of installation in wetlands or working on mats shall be used.

#### IV. Mitigation

- A. Streams-For the certified impacts described above, the applicant shall, at a minimum, accomplish the following.
  - 1. The applicant shall restore 300 feet of Stream III as described in the application. This shall include the installation of a forebay sedimentation basin located between the portion of Stream III to be culverted and the restored portion.
  - 2. The applicant shall install a modified outlet channel for Brunswick

Lake to promote some fish passage and aeration. The channel length shall be maximized to the extent practical but be no less than 240 feet in length. The applicant will submit a final design for this channel to Ohio EPA for prior review and approval within 30 days of issuance of the Section 404 permit for the project.

3. The applicant shall preserve in perpetuity 6,030 feet of avoided stream channels on the site and the restored 300 feet of Stream III channel referenced above.

B. Wetlands-For the certified impacts described above, the applicant shall, at a minimum, accomplish the following:

1. The applicant shall increase the size of fringe Wetlands A, B, E, and W to 6.91 acres.
2. The applicant shall ensure the restoration/creation of a total of 8.2 acres of wetlands at the Plum Creek Park site and at an approved mitigation bank.
  - a. The applicant shall maximize wetland mitigation at the Plum Creek Park site to the extent ecologically practical. The applicant shall submit a mitigation and monitoring plan as described in the Conceptual Wetlands Mitigation and Monitoring Plan at Plum Creek Park to Ohio EPA for prior review and approval within 4 months of the date the Section 404 permit is issued.
  - b. The difference between 8.2 acres and the acreage created at the Plum Creek Park site shall be mitigated by purchasing credits at an approved wetland mitigation bank.

C. Lakes-None

V. Monitoring

A. Streams-The applicant shall monitor the 300 feet of stream restoration as described in the Section 401 application.

B. Wetlands

1. Plum Creek Park Site-The applicant shall monitor wetlands created at Plum Creek Park and report the results of the monitoring to Ohio EPA as described in the approved monitoring plan.
2. ~~Brunswick Lake adjacent wetland monitoring~~
  - a. Annual water quality, hydrology, soils, and vegetation surveys shall be conducted. A report containing these data shall be submitted to Ohio EPA for each of five consecutive years following completion of mitigation construction. The first annual report is due to Ohio EPA by December 31 of the full

year following completion of mitigation construction. All subsequent reports shall be submitted by December 31<sup>st</sup> of each of the five monitoring years. The reports shall contain, at a minimum, the following information:

- (1) **Hydrology Monitoring:** Water level data shall be collected in May and late August of each monitoring year. Ground water levels shall be measured in the absence of inundated conditions.
- (2) **Soils Monitoring:** 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.
- (3) **Vegetation Monitoring:** The location and name of each plant community type within the mitigation area and buffer area shall be marked on a scaled drawing or scaled aerial photograph (base map) and named.

A representative observation point shall be selected in each plant community type in each distinct wetland mitigation area. This shall be a point which best represents the characteristics of the entire plant community. The observation points shall be marked on the base map.

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. Dominant species are those species which have the greatest relative basal area (woody overstory), greatest height (woody overstory), greatest percentage of aerial coverage (herbaceous understory), and/or greatest number of stems (woody vines).

3. The applicant shall conduct a wetland delineation according to approved Corps of Engineers methods of the wetlands adjacent to Brunswick Lake during the growing season of the third and fifth year after the year the lake level reestablishes at the new elevation. This data shall be directly compared with the data collected for the pre-development Corps approved wetland delineation. This direct comparison shall be submitted to Ohio EPA with the third and fifth

year reports.

4. A report containing these data shall be submitted to Ohio EPA for each of five consecutive years following the year the lake level reestablishes at the new elevation. The applicant may include any additional information that it believes relevant for Ohio EPA's consideration. The report shall include ample photographic documentation from fixed points of the stream and wetland mitigation areas. The first annual report on the lake fringe wetlands is due to Ohio EPA by December 31 of the full year following lake level lowering. The first annual report for the Plum Creek Park wetland mitigation site will be due the first full year following construction of the wetland.

VI. Mitigation Performance Criteria

- A. Streams-Restored Stream III shall, at a minimum, be 300 feet in length, have a QHEI of 35, and have stable, vegetated stream bank. In addition, upstream of the restored stream, the applicant shall install the forebay sedimentation basin as described in the application.
  - B. Wetlands
    1. Plum Creel Park site-Within the five year monitoring period, the applicant shall attain the goals for the wetland mitigation established in the approved plan.
    2. On-site wetland mitigation-Within the five year monitoring period, the applicant shall, at a minimum, increase the size of the avoided portions of fringe Wetlands A, B, W, and E to 6.91 jurisdictional wetland acres. The increased wetland area shall contain no more than 5% invasive species. Species diversity shall be similar to the species diversity of existing adjacent fringe wetlands.
    3. The Vegetation Index of Biotic Integrity of Wetland B shall not be reduced from its pre-development Vegetation Index of Biotic Integrity.
    4. The applicant shall verify to Ohio EPA that the correct number of mitigation credits have been purchased at the approved mitigation bank by sending a fully executed Mitigation Bank Agreement within one month of determining the number of acres of wetland mitigation that will occur at the Plum Creek Park site.
-

C. Lakes

VII. Timing of Mitigation

The applicant shall complete wetland and stream mitigation within one year of issuance of the Section 404 permit. The Conservation Easement shall be filed within 60 days from the date of the Section 404 permit for the site.

VIII. Notifications to Ohio EPA

All notifications, correspondence, and reports regarding this Section 401 Water Quality Certification and/or Isolated Wetlands Permit shall reference the following information:

Applicant: City of Brunswick/Zaremba Group  
Project: Brunswick Town Center  
Ohio EPA ID#: 021019

and shall be sent to:

Ohio EPA, Division of Surface Water, 401 Unit  
Lazarus Government Center  
122 South Front Street  
P.O. Box 1049  
Columbus, Ohio 43216-1049

The applicant shall notify Ohio EPA in writing upon the commencement and completion of wetland and stream mitigation.

IX. Third-Year Site Review-The applicant shall arrange an on-site mitigation meeting with Ohio EPA during the growing season after the third year report has been submitted. The purpose of this inspection is to determine if the mitigation project has been constructed in accordance with the agreement between the applicant and Ohio EPA. If necessary, Ohio EPA may make recommendations to improve the wetland. The applicant is responsible for undertaking any reasonable modifications identified by Ohio EPA.

X. Contingency Plans

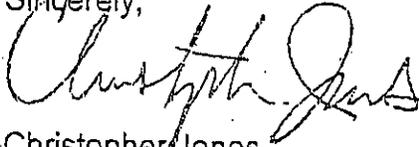
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If the mitigation areas are not performing as proposed by the end of the fifth year of post construction monitoring, the monitoring period may be extended and or the applicant may be required to revise the existing mitigation or seek out new or additional mitigation areas.

City of Brunswick and Zaremba Group  
May 7, 2003  
Page 10 of 10

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code by any person who was a party to this proceeding. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Review Appeals Commission within thirty (30) days after the notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency and the Environmental Enforcement Section of the Office of the Attorney General within three (3) days of the filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission, 236 East Town Street, Room 300, Columbus, Ohio 43266-0557.

Sincerely,



Christopher Jones  
Director

cc: Theresa Hudson, U.S. Army Corps of Engineers, Orwell Office  
Kevin Pierard, U.S. EPA, Region 5  
Mary Knapp, U.S. Fish & Wildlife Service  
Randy Sanders, ODNR, Division of Real Estate & Land Management  
Marc Smith, EAS  
Paul Anderson, NEDO  
Vicki Derr, Envirotech, 462 South Ludlow Alley, Columbus, Ohio 43215  
Karen Wise, Davey, 1500 N. Mantua St., P.O. Box 5193, Kent, Ohio 44240-5193  
Barb Costelloe, EDP, 9375 Chillicothe Road, Kirtland, Ohio 44094-8501  
Mike Smith, DSW

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**Attachment 8**  
**Mitigation Contract**

## Mitigation Agreement

This Mitigation Agreement is entered into at LaGrange, Ohio, the 25<sup>th</sup> day of August 2014, between the North Coast Regional Council of Park Districts ("NCRCPD") and Drees Homes ("Client").

### RECITALS

A. The NCRCPD was organized to plan, develop and promote the restoration and enhancement of wetlands and has developed a regional mitigation bank known as the North Coast Regional Mitigation Bank (the "Regional Mitigation Bank") containing mitigation sites in Wood, Sandusky, Erie, Lorain and Medina counties.

B. Mitigation for unavoidable impacts to wetlands can be located at mitigation banks, such as the Regional Mitigation Bank, subject to regulatory approval on a project specific basis under the Clean Water Act (33 U.S.C. §§ 1251-1387) by the United States Army Corps of Engineers (the "COE") and/or the Ohio Environmental Protection Agency ("OEPA") under Chapter 6111 of the Ohio Revised Code.

C. The Client desires to provide for the restoration and/or enhancement of wetlands at the Regional Mitigation Bank to be considered by the COE and OEPA as fulfilling the Client's mitigation requirement pursuant to Sections 401 and 404 of the Clean Water Act or Chapter 6111 of the Ohio Revised Code.

NOW, THEREFORE, in consideration of the mutual promises contained herein and other good and valuable consideration, the receipt of which is hereby acknowledged, the Client and the NCRCPD agree to be bound by the following terms and conditions.

### PROVISIONS

#### 1. General Provisions

A. The Client will complete Attachment 1 locating the project, and describing the wetland impacts and expected mitigation requirements for which the Client requests that mitigation be provided by the NCRCPD at its Regional Mitigation Bank. An executed copy of this Mitigation Agreement, Attachment 1 and the initial deposit should be returned to NCRCPD at the address set forth at the end of this Mitigation Agreement. The Client agrees that the NCRCPD has the right to substitute a revised Attachment 1 based on the actual acres mitigated.

B. The initial mitigation deposit made by the Client shall be held by the NCRCPD in a separate fund until such time as the Client receives the necessary Clean Water Act permit or isolated wetland permit from the COE and/or the OEPA.

C. If the COE denies the Client's request for a Section 404 individual or nationwide permit for the wetland impacts within six (6) months from the receipt of Client's initial deposit, the Client may terminate this Mitigation Agreement and be refunded its deposit. If the OEPA denies the Client's request for a Section 401 water quality certification or isolated wetland permit within six (6) months

from the receipt of Client's initial deposit, the Client may terminate this Mitigation Agreement and be refunded its deposit.

D. If the Client fails to receive the necessary Clean Water Act permit(s) or isolated wetland permit from the COE and/or OEPA within six (6) months from the receipt of the Client's initial deposit, the NCRCPD has the right to terminate this Mitigation Agreement and refund the Client's deposit.

E. If the Client requires additional time to pursue and receive its Clean Water Act permit and/or isolated wetland permit, it shall request such additional time in writing, specifying the amount of additional time required. The NCRCPD shall have the right, but not the obligation, to grant such additional time. If the NCRCPD grants such additional time, then an additional mitigation deposit will be required to be deposited by the Client with the NCRCPD not later than five (5) days after the NCRCPD notifies the Client that such additional time has been granted.

## 2. Obligations of the Client

A. Pursuant to the requirements of Sections 401 and 404 of the Clean Water Act or the requirements of Chapter 6111 of the Ohio Revised Code, and the regulations promulgated by the COE and the OEPA, the Client is obligated to mitigate for wetland impacts at its project as more specifically described in Attachment 1. In order to mitigate for these impacts and meet the permit requirements of the Clean Water Act permit program and/or Chapter 6111 of the Ohio Revised Code, the Client hereby provides for the restoration and/or enhancement, monitoring and maintenance of wetlands as set forth herein.

B. The NCRCPD will apply the Client's payment to fund the restoration or enhancement of wetlands at the Regional Mitigation Bank. The Client hereby agrees to pay to NCRCPD in consideration for its restoration or enhancement of wetlands at the Regional Mitigation Bank the sum set forth in Attachment 1. The Client's initial deposit of ten percent (10%) of the mitigation cost will be based on the anticipated mitigation requirements at the time of execution of this Mitigation Agreement.

C. The balance of the Client's mitigation cost is due within ten (10) days following the issuance of the Clean Water Act permits or isolated wetland permit by the COE and/or the OEPA, copies of which will be provided by the Client to the NCRCPD. Should the Client's final mitigation requirements vary from its expected mitigation requirements, the Client will be notified by the NCRCPD of the balance of the mitigation cost due.

D. Client shall have no other obligation for future payments for maintenance of the restored and/or enhanced wetlands.

## 3. Obligations of The North Coast Regional Council of Park Districts

A. The NCRCPD will restore and/or enhance wetlands at the Regional Mitigation Bank in accordance with the MBRT (Mitigation Bank Review Team) Agreement effective December 27, 2001, and will monitor and maintain the restored or enhanced habitats in accordance with the MBRT Agreement. All restored habitats will be integrated into the NCRCPD member district's county park system.

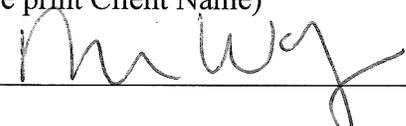
B. In consideration of the payment by the Client of the mitigation cost set forth in Attachment 1, the NCRCPD hereby agrees to restore and/or enhance wetlands at its Regional Mitigation Bank. The NCRCPD shall have sole responsibility to provide for the restoration and/or enhancement and the monitoring and maintenance of the wetlands as provided herein and in the MBRT Agreement.

C. The NCRCPD will provide an annual accounting to the COE and/or the OEPA of the restoration and/or enhancement of the wetlands in the Regional Mitigation Bank. The accounting will identify the Client, the mitigation site, and the acres of wetlands restored and/or enhanced pursuant to this Mitigation Agreement. In addition, the COE and OEPA will be supplied with annual monitoring reports for five (5) years documenting the development of the restored and/or enhanced wetland habitats.

D. The Client may submit the executed copy of this Mitigation Agreement to the COE and/or the OEPA to document its commitment to mitigate for permitted impacts to wetlands. Unless the COE and/or OEPA expressly condition the Client's Clean Water Act permit(s) or isolated wetland permit on a specific location, the NCRCPD reserves the right to locate the Client's mitigation at what the NCRCPD deems to be the most appropriate and/or proximate site within the Regional Mitigation Bank.

IN WITNESS WHEREOF, the parties hereto have executed this Mitigation Agreement on the date and year first written above.

CLIENT: The Drees Company  
(Please print Client Name)

By: 

Please print name: Dave Wager

Title: Land Manager

Address: 6650 West Snowville Road, Suite J, Brecksville, Ohio 44141

Telephone: (440) 554.7192

Telecopy: (440) 771.0013

Email: DWager@Dreeshomes.com

Date: 8/25/14

NORTH COAST REGIONAL COUNCIL OF PARK DISTRICTS

By:  \_\_\_\_\_

Title: SECRETARY

Date: SEPTEMBER 26, 2014

Make Check Payable To: NCRCPD

Mail To: Neil Munger, Secretary, NCRCPD  
c/o Wood County Park District  
18729 Mercer Road  
Bowling Green, Ohio 43402  
Telephone: (419) 353-1897  
Telecopy: (419) 353-7765  
Email: [nmunger@wcparks.org](mailto:nmunger@wcparks.org)

**ATTACHMENT 1  
TO BE COMPLETED BY CLIENT**

<u>Description</u> Name of Client's Project:		Southlake			
Location of Client's Project		Street address; Township and County; coordinates of impact Southlake, Brunswick, Medina; 41.23271, -81.92199			
Impacts to Wetlands (in acres)		HUC Code: 05060001			
		Category 1	Category 2	Category 3	Total
404 Wetlands	Forested				
	Nonforested				
Isolated Wetlands	Forested		0.714		0.714
	Nonforested	0.975	0.696		1.671
Wetland Totals		0.975	1.410		2.385
<u>Mitigation Requirements</u> Wetland Mitigation (in acres to nearest 1/10 acre).		From permit application; amount and type specified by COE and/or OEPA. Provide copy of permit when issued.			
		2.3 acre credit, non-forested 1.1 acre credit, forested			
<u>Mitigation Costs</u> Wetland Mitigation @ \$25,000 per acre times acres required.		25,000 x 3.4 = \$85,000.00			
<u>Mitigation Sites*</u> <input type="checkbox"/> White Star Park <input type="checkbox"/> White Star EA <input type="checkbox"/> White Star III <input type="checkbox"/> Blue Heron <input type="checkbox"/> Castalia Quarry <input checked="" type="checkbox"/> Edison Woods <input checked="" type="checkbox"/> Wellington Reservoir <input type="checkbox"/> Letha House <input type="checkbox"/> Chippewa North		Wellington Reservoir – 2.2 acre credits Edison Woods – 1.2 acre credits			
<u>Payment Terms</u> Initial: 10% on execution.		\$8,500.00			
Balance: due within 10 days of receipt of COE and/or OEPA permits or NCRCPD notification.		\$76,500.00			
<u>Total:</u>		\$85,000.00			
<u>Client's Name, Address, Telephone, Telecopy and Email:</u>		Dave Water Drees Homes 6650 W Snowville Rd, S Brecksville, Ohio 44141 440 com			
<u>Consultant's Name, Address, Telephone, Telecopy and Email:</u>		Judith Mitchell Davey Resource Group 1500 N. Mantua St. P.O. Box 5193 Kent, Ohio 44240-5193 Telephone: (800) 828-8312 Telecopy: (330) 673-0860 Judith.Mitchell@davey.com			

\*Service area descriptions can be reviewed at [www.wetlandsandwatershed.com](http://www.wetlandsandwatershed.com)