

APPENDIX B

Wetland Delineation Study

Regulatory Wetland Delineation Report

Western Wayne Correctional Facility

T1S, R8E, Section 20
Plymouth Township
Wayne County, Michigan

May 20, 2005

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INTRODUCTION

JFNew conducted a regulatory delineation relevant to wetlands, lakes, and streams on the Western Wayne Correctional Facility Site, T1S, R8E, Section 20, Plymouth Township, Wayne County, Michigan on May 12, 2005.

Wetland boundaries were located using a Trimble Pro XL Global Positioning System (GPS) and integrated with a Computer Assisted Design (CAD) file of the site plan you provided.

In making this delineation, techniques outlined in the MDEQ Wetland Identification Manual: A Technical Manual for Identifying Wetlands in Michigan were utilized. This methodology includes investigation and analysis of vegetation, soils, and hydrology.

AREA DESCRIPTIONS

The following discussion is keyed to areas as indicated on the enclosed site plan.

Area A is an emergent wetland. Wetland vegetation is dominant and includes: broad-leaved cat-tail (*Typha latifolia*), and reed canary grass (*Phalaris arundinacea*). According to the Wayne County Soil Survey, soils in Area A are mapped as Houghton Muck, which is a hydric soil. On-site investigation revealed the following hydric profile:

Depth	Texture	Matrix	Hydric Soil Indicators
0-10"	Sandy clay loam	10YR 3/1	Mottles – 10YR 5/6; Low chroma
10-18"	Sandy clay	2.5Y 4/2	Mottles – 10YR 5/6

The water table was encountered 12" below the surface the day the site investigation was conducted. Hydrological indicators include soil saturation at the surface, inundation, and drainage patterns. The area was impounded on the south side by the railroad line. Based on the dominance of wetland vegetation, and the presence of wetland hydrology and hydric soils, this area is considered to be wetland.

Area B is an emergent wetland. Wetland vegetation is dominant and includes: black nightshade (*Solanum dulcamara*), and reed canary grass. According to the Soil Survey, soils in Area B are mapped as Made Land, which is land that has been filled in and contains buried trash, garbage, and rubble. On-site investigation revealed the following hydric soil profile:

Depth	Texture	Matrix	Hydric Soil Indicators
0-9"	Mucky sand	10YR 2/1	Low chroma; High organic matter content
9-15"	Sand	10YR 4/2	Organic streaking
15-18"	Muck	N 2.5/0	Gleyed soil; High organic matter content

The soil was saturated at the surface, and the water table was ½" below the surface, the day the site investigation was conducted. Evidence of wetland hydrology includes localized inundation, saturation, and drainage patterns. Based on the dominance of wetland vegetation, and the presence of hydric soils and wetland hydrology, this area is considered to be wetland.

Area C is an emergent wetland. Wetland vegetation is dominant and includes: Touch-me-not species (*Impatiens* sp.), and reed canary grass. According to the Soil Survey, soils in Area C are mapped as Made Land, which is land that has been filled in and contains buried trash, garbage, and rubble. On-site investigation revealed the following hydric profile:

Depth	Texture	Matrix	Hydric Soil Indicators
0-9"	Clay loam	10YR 3/1	Mottles – 10YR 4/6; Low chroma
9-18"	Gravelly clay loam	10YR 2/1	Low chroma

The water table was encountered 7" below the surface the day the site investigation was conducted. Hydrological indicators include soil saturation 2" below the surface and drainage patterns. Based on the dominance of wetland vegetation, and the presence of wetland hydrology and hydric soils, this area is considered to be wetland.

Area D is an emergent wetland. Wetland vegetation is dominant and includes: reed canary grass and stinging nettle (*Urtica dioica*). According to the Soil Survey, soils in Area D are mapped as Houghton Muck. On-site investigation revealed the following hydric profile:

Depth	Texture	Matrix	Hydric Soil Indicators
0-9"	Clay loam	10YR 3/1	Mottles – 10YR 4/6
9-18"	Gravelly clay loam	10YR 2/1	Low chroma

The water table was encountered 7" below the surface the day the site investigation was conducted. Hydrological indicators include soil saturation 2" below the surface, drainage patterns, and localized inundation. Based on the dominance of wetland vegetation, and the presence of wetland hydrology and hydric soils, this area is considered to be wetland.

Area E is an emergent wetland. Wetland vegetation is dominant and includes: reed canary grass, common horsetail (*Equisetum arvense*), green ash (*Fraxinus pennsylvanica*), and riverbank grape (*Vitis riparia*). According to the Soil Survey, soils in Area E are mapped as Made Land, which is land that has been filled in and contains buried trash, garbage, and rubble. On-site investigation revealed the following hydric profile:

Depth	Texture	Matrix	Hydric Soil Indicators
0-7"	Clay loam	10YR 2/1	Mottles – 10YR 5/6; Low chroma
7-13"	Sandy clay loam	10YR 4/2	Mottles – 10YR 4/6; Low chroma
13-18"	Sandy clay loam	10YR 4/1	Mottles – 10YR 5/6; Low chroma

The water table was encountered 5" below the surface the day the site investigation was conducted. Hydrological indicators include soil saturation at the surface and drainage patterns. The area is impounded on the south by the railroad line. Based on the dominance of wetland vegetation, and the presence of wetland hydrology and hydric soils, this area is considered wetland.

Area F is an upland forest. Upland vegetation is dominant and includes: common buckthorn (*Rhamnus cathartica*), garlic mustard (*Alliaria petiolata*), stinging nettle, common burdock (*Arctium minus*), motherwort (*Leonurus cardiaca*), and box-elder (*Acer negundo*). According to the Soil Survey, soils in Area F are mapped as Made Land, which is land that has been filled in and contains buried trash, garbage, and rubble. On-site investigation revealed the following hydric profile:

Depth	Texture	Matrix	Hydric Soil Indicators
0-8"	Loam (fill)	10YR 2/1	Low chroma
8-18"	Loam w/trash (fill)	10YR 2/1	Low chroma

The water table was not encountered within 18" of the surface the day the site investigation was conducted. No hydrological indicators were present. Despite the presence of hydric soils, this area is not considered a wetland because of the dominance of upland vegetation, and the absence of wetland hydrology.

Area G is an old field. Upland vegetation is dominant and includes: smooth brome (*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*), and spotted knapweed (*Centaurea maculata*). According to the Wayne County Soil Survey, soils in Area G are mapped as Boyer loamy sand, Morley loam, and Owosso-Morley Complex, all of which are non-hydric soils. On-site investigation revealed the following non-hydric profile:

Depth	Texture	Matrix	Hydric Soil Indicators
0-9"	Sandy loam	10YR 3/2	None
9-18"	Sandy loam	10YR 4/3	None

The water table was not encountered within 18" of the surface the day the site investigation was conducted. No hydrological indicators were present. Based on the dominance of upland vegetation, and the absence of wetland hydrology and hydric soils, this area is not considered wetland.

Area H is a disturbed upland forest. Upland vegetation is dominant and includes: common buckthorn, garlic mustard, common burdock, box-elder, Virginia creeper (*Parthenocissus quinquefolia*), and cottonwood (*Populus deltoides*). According to the Soil Survey, soils in Area H are mapped as Made Land, which is land that has been filled in and contains buried trash, garbage, and rubble. On-site investigation revealed the following non-hydric soil profile, which consisted of fill material:

Depth	Texture	Matrix	Hydric Soil Indicators
0-5"	Loam (fill)	10YR 3/2	None
5-18"	Loam (fill)	10YR 4/3	Mottles – 10YR5/6 & 10YR 3/2

The water table was not encountered within 18" of the surface the day the site investigation was conducted. No hydrology indicators were present. This area is not considered a wetland because of the dominance of upland vegetation, and the absence of wetland hydrology and hydric soils.

Area I is an emergent marsh. Wetland vegetation is dominant and includes: broad-leaved cat-tail, and reed canary grass. According to the Wayne County Soil Survey, soils in Area I are mapped as Pewamo loam, which is a hydric soil. On-site investigation revealed the following hydric profile:

Depth	Texture	Matrix	Hydric Soil Indicators
0-10"	Sandy clay loam	10YR 3/1	Mottles – 10YR 5/6; Low chroma
10-18"	Sandy clay	2.5Y 4/2	Mottles – 10YR 5/6

The water table was encountered 12" below the surface the day the site investigation was conducted. Hydrology indicators include soil saturation at the surface, inundation, and drainage patterns. The area was impounded on the south side by the railroad line. Based on the dominance of wetland vegetation, and the presence of wetland hydrology and hydric soils, this area is considered to be wetland.

REGULATED AREAS

Based on the criteria outlined in the Michigan Natural Resources and Environmental Protection Act (P.A. 451 of 1994, Part 303, Wetland Protection, and Part 301, Inland Lakes & Streams), JFNew has preliminarily determined Areas A, B, C, D, E, and I, delineated on the map, to be wetland. A wetland is regulated if it has a direct or seasonal surface water connection to an inland lake, pond, river, or stream; is within 500 feet of one of the above-mentioned waterbodies; or has a total area greater than 5 acres in a county with a population greater than 100,000, and is therefore considered contiguous. Areas B, C, D, and I are within 500 feet of either a stream or pond, and are regulated. Area A is a regulated wetland because it meets the requirement of being greater than 5 acres. The railroad tracks, which separate this area from the rest of the wetland are an artificial boundary, and therefore are not taken into account when determining the size of the wetland. Area E, while wetland, is not regulated because it does not meet any of the aforementioned criteria.

Any dredging, draining, filling, or construction in Areas A, B, C, D, and I will require a permit from the Michigan Department of Environmental Quality (MDEQ) under Part 303.

DEVELOPMENT CONSIDERATIONS

As previously mentioned, activities proposed within Areas A, B, C, D, and I will require a permit from the MDEQ. In order to obtain a permit for an activity proposed in a regulated wetland, the applicant must demonstrate that the activity is either dependent on being located in the wetland, or a feasible and prudent alternative does not exist which would avoid the wetland impact proposed. As of October 3, 1994, the MDEQ requires wetland mitigation for most filling activities proposed in regulated wetlands. Wetland mitigation is the creation of wetland from upland to replace acreage impacted by filling and other activities conducted in a regulated wetland. Currently the MDEQ requires that 1.5-2 acres of wetland be constructed for every acre proposed to be impacted. The opportunity to gain permits for impacting any of the regulated wetlands on the site depend on the magnitude of the impact and the feasible/prudent justification available.

CONCLUSIONS

This report is a summary of our findings for the property, in a form intended to provide easily understood information. Should the need arise to provide a more detailed technical basis for our conclusions, we will be pleased to do so. Soils and water table information contained in this report relate to state wetland delineation methodology and should not be used for engineering purposes.

Due to the dynamic nature of wetland resources, this wetland delineation is valid for one year (a growing season) only. In the event that site conditions should change, this wetland delineation should be confirmed prior to construction. Please be advised this regulatory delineation represents our professional opinion based on application of established regulatory methodologies. The MDEQ is the agency charged with wetland regulatory oversight within the State of Michigan.