

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Proposed **Nestle Global Research Center** City/County: **Solon, Cuyahoga** Sampling Date: **9/27/11**  
 Applicant/Owner: **Nestle R&D Center, Inc.** State: **Ohio** Sampling Point: **Upland b/w Wetland C & D**  
 Investigator(s): **S.Peffer/Atwell, LLC** Section, Township, Range:  
 Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): **convex**  
 Slope (%): Lat: **41.407716** Long: **-81.471397** Datum:  
 Soil Map Unit Name: **Wadsworth silt loam, 0-2% slopes** NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes  No  **Is the Sampled Area within a Wetland?** Yes  No   
 Hydric Soil Present? Yes  No   
 Wetland Hydrology Present? Yes  No  If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Microtopographic Relief (D4)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches):  
 Water Table Present? Yes  No  Depth (inches):  
 Saturation Present? Yes  No  Depth (inches):  
 (Includes capillary fringe)

**Wetland Hydrology Present?** Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION – Use scientific names of plants.**

Sampling Point: Upland b/w

Wetland C & D

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	= Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	= Total Cover			
<b>Herb Stratum</b> (Plot size: 15')				
1.	Apocynum cannabinum	10	Yes	FAC
2.	Carex lurdia	5	No	OBL
3.	Cyperus odoratus	5	No	FACW
4.	Mentha arvensis	5	No	FACW
5.	Phalaris arundinacea	60	Yes	OBL
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	85= Total Cover			
<b>Woody Vine Stratum</b> (Plot size: )				
1.				
2.				
3.				
4.				
	= Total Cover			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

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**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

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**Hydrophytic Vegetation Indicators:**

- Rapid Test for Hydrophytic Vegetation
- Dominance Test is >50%
- Prevalence Index is ≤3.0<sup>1</sup>
- Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

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**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-10	10 YR 4/3	75	10 YR 4/6	25			clay loam	
11-18	10 YR 4/3	100					clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type:

Depth (inches )

Hydric Soil Present? Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)