

PHASE I

VOLUME 1

FORM D: ENVIRONMENTAL ASSESSMENT

ATTACHMENT D-2:

Wetlands Documents

1. Environmental Assessment
2. Chapter 105 Permit Application Brief

Resource Recovery Landfill (RRLF) Wetland Functions and Values Assessment

Groundwater Recharge / Groundwater Discharge

Groundwater recharge is rated as relatively low for the RRLF wetlands due to the small amount of perched groundwater being discharged into these wetlands (limited areal extent due to the nature of the low permeability perching clay layer). Recharge of surface water runoff through the wetlands is also limited, as the wetlands are relatively small, the perching clay permeability is low, and water loss occurs via evapotranspiration. In addition, the RRLF wetlands generally have no inlet other than overland flow, and, generally, there is no channelized outlet. Recharge of the groundwater on site is primarily a function of the permeability of the surrounding uplands, which by far exceeds the rate of recharge from the wetlands. Therefore, discharges of groundwater out of the RRLF wetlands is also rated low.

Floodflow Alteration

The RRLF wetlands do not have surface water entering and/or exiting the wetlands through an outlet with permanent or intermittent flow; therefore the floodflow alteration occurring in the wetlands is high.

However, due to the position of the wetlands within the respective watershed, and their relative position with respect to floodable properties, the floodflow alteration rating of the RRLF wetlands, which are small, upland, and isolated, should be viewed as much lower than those wetlands within the floodplain of the Moshannon Creek. Further, the floodflow alteration rating of wetlands W1, W2 and W10/W23 should be moderate given their size, topography, vegetation structure and having no outlet (wetlands W1 and W2 have no outlets). However, the floodflow alteration rating of wetlands W3/W9 should also be low because, as observed in the field during storm events, these wetlands do little to attenuate flood water flows.

Sediment Stabilization

The sediment stabilization rating of the RRLF wetlands rates moderate to low due to the absence of a potential erosive force in the wetland, the relatively small size of the wetlands, and lack of inlets. The RRLF wetlands are relatively isolated wetlands with no open waters. Wetlands W1 and W2 are rated moderate due to these wetlands having a good cover of standing vegetation, even though neither wetland has an outlet.

Sediment/Toxicant Retention

The RRLF wetlands do not have water entering the wetlands through an inlet with permanent or intermittent flows; therefore, the sediment/toxicant retention rating is high. Although, wetlands W3/W9 and W10/W23 have outlets, flow discharging from them is neither permanent nor intermittent (storm water related, only).



Nutrient Retention/Transformation

The RRLF wetlands do not have water entering the wetlands through an inlet nor leaving the wetland through an outlet (with permanent or intermittent flows); therefore, the nutrient retention/transformation rating is high.

Production Export

Most of the RRLF wetlands are small in size, do not have flowing channels or potential for expansive flooding, and do not have water entering and/or exiting the wetland through an inlet/outlet with permanent or intermittent flow; therefore, the production export rating is low. Although, wetlands W3/W9 and W10/W23 have outlets, flows from them are neither permanent nor intermittent.

Wildlife Diversity/Abundance-Breeding

None of the RRLF wetlands supports a notably great on-site diversity and/or abundance of wetland dependent birds during the breeding season, nor include any of the six types of wetlands that have a high probability of supporting exceptional diversity of breeding birds, including:

1. Non-wooded prairie potholes
2. Western riparian zones
3. Other floodplain wetlands
4. Large and vegetationally diverse wetlands
5. Moderate-size wetlands that are oases or complexes and have at least minimal interspersion

Further, the RRLF wetlands are characterized as palustrine wetlands that are small, with low vegetation class diversity, low edge irregularity, no open water, and are not part of an oasis/cluster, further contributing to a low rating for wildlife diversity/abundance-breeding.

Wildlife Diversity/Abundance-Migration

During the migration season, the RRLF wetlands do not support a notably great on-site diversity and/or abundance of wetland dependent birds.

The RRLF wetlands are not large, located in agricultural areas or along river valleys or coastlines, nor do they have open water components, all characteristics of high wildlife diversity abundance-migration ratings.



Wildlife Diversity/Abundance-Wintering

During the wintering season the RRLF wetlands do not support a notably great on-site diversity and/or abundance of wetland dependent birds.

The RRLF wetlands do not meet the description of any of the types of wetlands that would likely receive a high rating for this function. In addition, the RRLF wetlands are small with no open water and are frozen for more than a month, further contributing to a low rating.

Aquatic Diversity/Abundance

The RRLF wetlands do not support any fish and they do not support a notably great on-site diversity and/or abundance of invertebrates. The RRLF wetlands do not exhibit the required characteristics of moderate amounts of standing vegetation well juxtapositioned with open water, or forested, flowing regimes that persist throughout the year. Therefore the rating is low.



TABLE 1. RESOURCE RECOVERY WET EFFECTIVENESS EVALUATION RESULTS

Wetland ID	Ground Water Recharge (GWR)	Ground Water Discharge (GWD)	Floodflow Alteration (FFA)	Sediment Stabilization (SS)	Sediment/Toxicant Retention (STR)	Nutrient Removal/Transformation (NRT)	Production Export (PE)	Wildlife Diversity/Abundance-Breeding (WDA-B)	Wildlife Diversity/Abundance-Migration (WDA-M)	Wildlife Diversity/Abundance-Wintering (WDA-W)	Aquatic Diversity/Abundance (ADA)
Wetland W1	LOW	LOW	HIGH	MODERATE	HIGH	HIGH	LOW	LOW	LOW	LOW	LOW
Wetland W2	LOW	LOW	HIGH	MODERATE	HIGH	HIGH	LOW	LOW	LOW	LOW	LOW
Wetland W3	LOW	LOW	HIGH	LOW	HIGH	HIGH	LOW	LOW	LOW	LOW	LOW
Wetland W9	LOW	LOW	HIGH	LOW	HIGH	HIGH	LOW	LOW	LOW	LOW	LOW
Wetland W10	LOW	LOW	HIGH	LOW	HIGH	HIGH	LOW	LOW	LOW	LOW	LOW
Wetland W23	LOW	LOW	HIGH	LOW	HIGH	HIGH	LOW	LOW	LOW	LOW	LOW

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ARM GROUP INC.
 1129 W. Governor Road, P.O. Box 797
 HERSHEY, PA 17033-0797

LETTER OF TRANSMITTAL

PH (717) 533-8600
FAX (717) 533-8605

DATE	5/5/06	JOB NO.	04117
ATTENTION	Mr. F. Alan Sever, Section Chief		
RE:	Resource Recovery Landfill Project Water Obstruction & Encroachment Joint Permit Application		

TO
 Pennsylvania Department of Environmental
 Protection, Northcentral Regional Office
 Water Management - Soils and Waterways
 208 West Third Street, Suite 101
 Williamsport, PA 17701-6448

WE ARE SENDING YOU Attached Under separate cover via: _____ the following items:
 Shop Drawings Prints Plans Samples Specifications
 Copy of letter Change Order

COPIES	DATE	NO.	DESCRIPTION
1			Joint Permit Application Package – Original w/ Application Fee & Signatures
2			Copies of Joint Permit Application Package

THESE ARE TRANSMITTED as checked below:

- For Approval
- For your use
- As requested
- For review and comment
- FOR BIDS DUE _____
- Approved as submitted
- Approved as noted
- Returned for corrections
-
- Resubmit _____ copies for approval
- Submit _____ copies for distribution
- Return _____ corrected prints
- PRINTS RETURNED AFTER LOAN TO US

REMARKS:
 Mr. Sever,

Attached please find the Joint Permit (Standard) Application package for the proposed Resource Recovery Landfill project for your review and distribution. Please feel free to call me with any questions. Thank you for your time in this matter.

Ami Gulden

OPY TO: _____ SIGNED Ami Gulden

If enclosures are not as noted, kindly notify us at once.

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