U.S. Army Fort Monmouth
Restoration Advisory Board (RAB)
October 4, 2012 ~ 7:00 p.m.

AGENDA

1. Call meeting to order - James Allen

2. Comments old business – James Allen
   - Vote on acceptance of the July 12, 2012 meeting minutes.

3. Discuss new business – Wanda Green
   - New venue for RAB meetings starting January 2013 – Building 455
   - Update of IRP Site

4. Presentation the BEE Revision – Dan Duh, Shaw Environmental

5. Round table discussion – James Allen

6. Discuss 2013 meeting schedule. – James Allen
   - Thursday, January 10, 2013
   - Thursday, April 4, 2013
   - Thursday, July 11, 2013
   - Thursday, October 3, 2013

*** Please note, RAB meeting announcements will continue to be forward to the media for news release. See website - http://www.pica.army.mil/FtMonmouth/.
The Army will not send personal emails to the public for notification of the meetings.

7. Public comments/questions.
*** Please limit all comments and questions to three (3) minutes per public member.

8. Meeting adjourned.

U.S. ARMY FORT MONMOUTH

INSTALLATION RESTORATION PROGRAM

STATUS

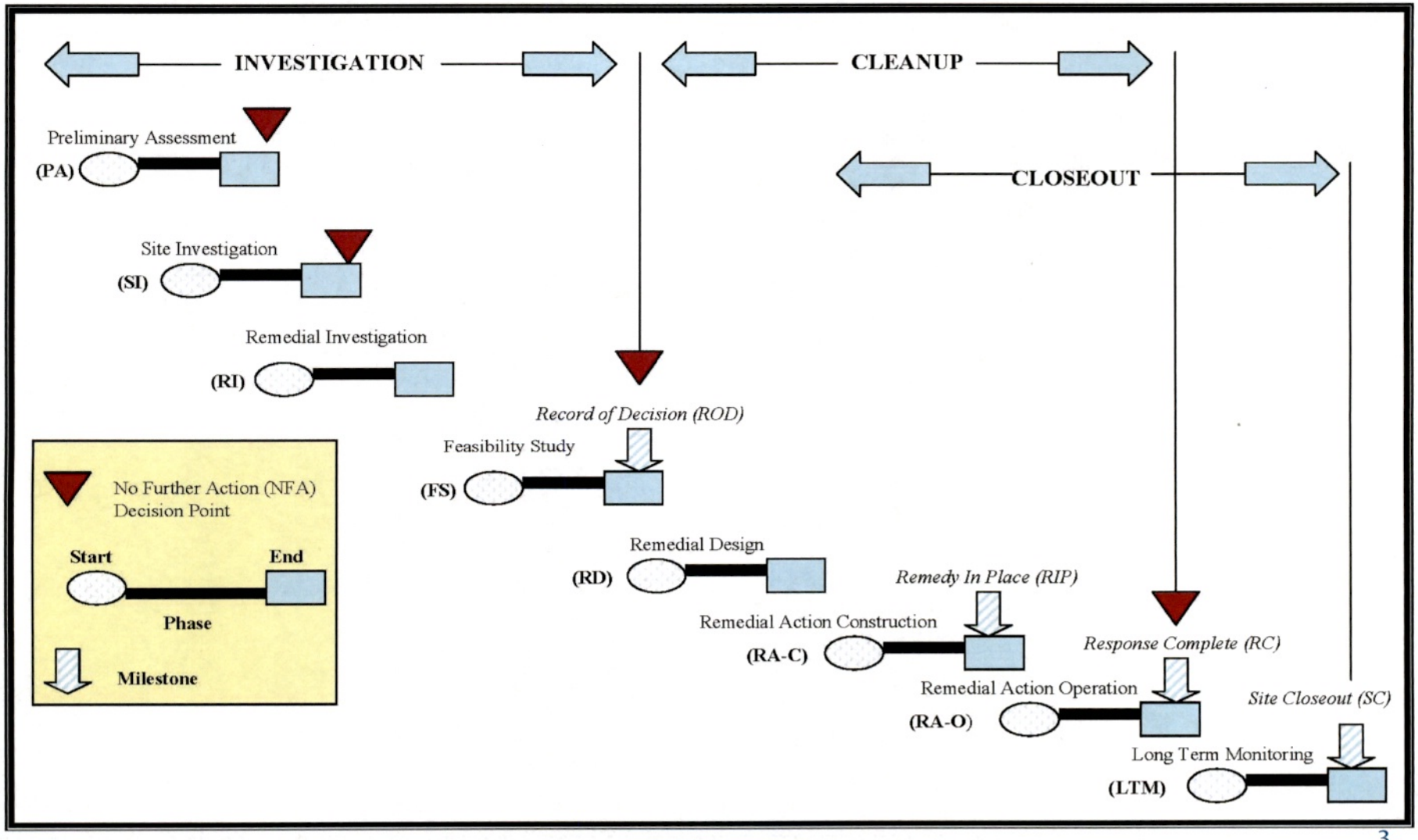
OCTOBER 4, 2012

FORT MONMOUTH IRP HISTORY

- Managed by Army Material Command (AMC)
- Army's Role and Requirements
- NJDEP's Role and Requirements
- Office of the Assistant Chief of Staff for Installation Management's (OACSIM) Role and Requirements

  - Must follow CERCLA
- Phase Chart

IRP PHASE CHART



Presented by Wanda Green, BEC

ENVIRONMENTAL CONTRACT AWARDED

- Contract with Parson Environmental through U.S. Army Corp of Engineers New York District
- Contractor task includes but limited to:
  - Review historical site reports and documentation
  - Conduct remedial investigation (RI) to determine the nature and extent of contamination
  - Prepare Feasibility Studies in accordance with CERCLA and to the extent possible to meet the requirements of N.J.A.C. 7:26E Technical Requirements for Site Remediation
  - Prepare CERCLA compliant Proposed Plans and Decision Documents
  - Review NJDEP comments to the ECP, complete any required sampling and prepare a report document conclusions and recommendations
  - Performance of groundwater sampling (annually and quarterly)
  - Develop a database of electronic information

LANDFILLS OBJECTIVES

- Landfill Sites: M2, M3, M4, M5, M8, M12, M14, M18 and M25.
- Prepare, submit and gain acceptance of RI/FS for 9 landfills through the final deliverable with NJDEP acceptance.
- Prepare a CERCLA compliant submission
  - with a compilation of previous sampling data and a review of alternatives, and to the extent possible to meet the requirements of N.J.A.C. 7:26 E Technical Requirements for Site Remediation and receive acceptance by the state regulators.
- Prepare, submit and gain regulator acceptance of a Proposed Plan (PP).
- Prepare, submit, gain acceptance and implement Decision Documents.
- Perform a remedy and achieve closure of the 9 landfills.
- Install a soil cap on the 9 landfills.

IRP SITES OBJECTIVES
(NON-LANDFILLS)

- IRP Sites: M22, M28, M53, M54, M55, M56, M57, M58, M59, M61, M64, M66, and M68.
- Review historical records.
- Conduct RI/FS activities and receive acceptance by NJDEP.
- Prepare, submit and gain acceptance of a Proposed Plan (PP).
- Prepare a CERCLA compliant Decision Documents submission and receive acceptance by NJDEP.
- Complete investigations and report findings to address NJDEP comments on ECP Phase II SI report.
- Conduct field sampling activities, prepare reports and receive NJDEP acceptance.
- M68 – Conduct a remedial investigation (RI) in accordance with CERCLA, as amended, characterizing the nature and extent of contamination.

ECP PARCEL OBJECTIVES

- Parcel 28 –Sample former Septic Tank components and groundwater.
- Parcel 38 – Sample former Outdoor Pistol Range groundwater.
- Parcel 39 – Delineate soil to Residential Direct Contact Soil Clean Up Criteria (RDCSCC).
- Parcel 49 – The former Squier Laboratory Complex – delineate PAHs in soils and groundwater.
- Parcel 57 – The former Coal Storage and Railroad Unloading (800 area) – delineate PAHs in soils. Sample soils for PCBs.
- Parcel 61 – Building 1075 – sample soils for PAHs near the door at the southeast corner of the building.
- Parcel 69 – Building 900 former Vehicle Repair/Motor Pool – Soil and sediment sample locations previously sampled shall be resampled and analyzed for PCBs. Groundwater shall be further evaluated.

ELECTRONIC DATABASE OBJECTIVES

- Develop an electronic database of information (in MS Access) which includes all soil, sediment, surface water and groundwater based on previous investigations.

- This database and GIS system will have the capability to run site specific reports, review and print out site specific maps (from M2-M68) with sites specific coverages and be able to compare information (and post data) compared to applicable EPA and NJDEP criteria.

CURRENT STATUS OF IRP SITES

- **M-2:** RAPR (1Q 09 -3Q 10) Final sent to NJDEP for review.
- **M-3:** RAPR (1Q 09 -3Q 10) Will forward Final to NJDEP by 10/19/12.
- **M-4:** RAPR (2Q 01 -3Q 10) Will forward Final to NJDEP by 10/26/12.
- **M-5:** RAPR (1Q 09 -3Q 10) Final sent to NJDEP for review.
- **M-8:** RAPR (1Q 09 -3Q 10) Final sent to NJDEP for review.
- **M-12:** RIRA/RAWP (2Q 01 – 3Q 10) Will forward to Calibre for review by 10/12/12
- **M-14:** RIRA/RAWP (2Q 01 – 3Q 10) Will forward to Calibre for review by 10/12/12

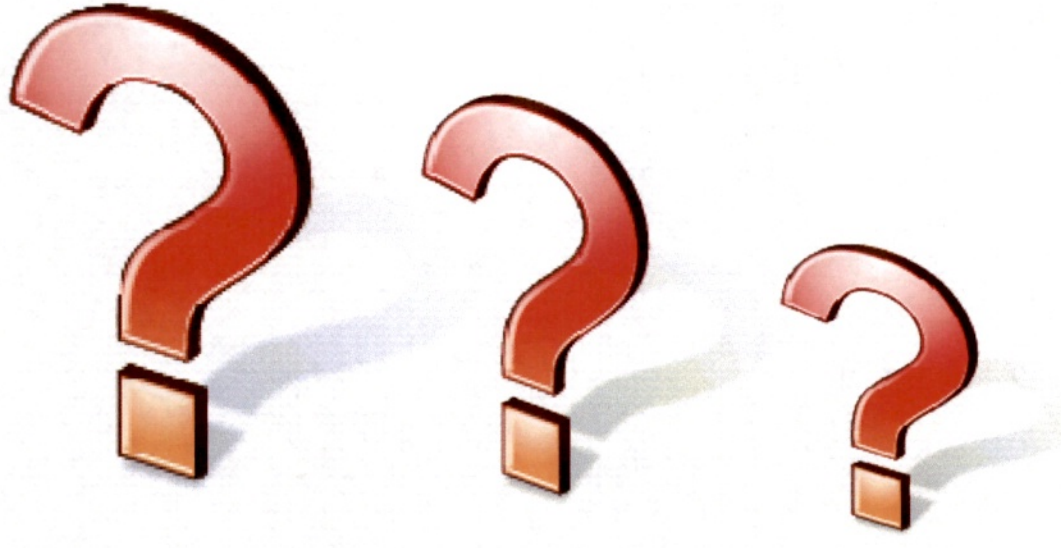
CURRENT STATUS OF IRP SITES

- **M-18:** RIRA/RAWP (2Q 01 – 3Q 10) Will forward to Calibre for review by 10/12/12
- **M-22:** RAPR (1Q 09 -3Q 10) Final sent to NJDEP for review.
- **M-25:** RIRA/RAWP (2Q 01 – 3Q 10) Being revised by Calibre.
- **M-28:** RIRA/RAWP (2Q 01 – 3Q 10) Final sent to NJDEP for review.
- **M-53:** RAPR (1Q 09 – 3Q 10) Will forward to Calibre for review by 12/1/12
- **M-54:** RIRA/RAWP (4Q 00 – 3Q 10) Will forward to Calibre for review by 11/17/12
- **M-55:** RIRA/RAWP (1Q 94 – 3Q 10) Will forward to Calibre for review by 11/24/12

CURRENT STATUS OF IRP SITES

- M-56: RIRA/RAWP (2Q 01 – 3Q 10) Will forward to Calibre for review by 12/1/12
- M-57: RIRA/RAWP (2Q 01 – 3Q 10) Will forward to Calibre for review by 12/15/12
- M-58: RAPR (1Q 09 -3Q 10) Final sent to NJDEP for review.
- M-59: RAPR (1Q 09 -3Q 10) Will forward Final to NJDEP by 10/19/12.
- M-61: RAPR (1Q 09 -3Q 10) Draft being reviewed by Calibre.
- M-64: RAPR (1Q 09 -3Q 10) Draft being reviewed by Calibre.
- M-66: RAPR (1Q 09 -3Q 10) Draft being reviewed by Calibre.
- M-68: RI/FS to be performed by PARSONS

QUESTIONS



2005 BRAC

Fort Monmouth

Baseline Ecological Evaluations

Results Update

October 4, 2012

Tracking Number

Shaw® Shaw Environmental & Infrastructure, Inc.

Overview

- Summary of Previous BEE Findings
- Evaluation of Wildlife Risks
- Revised BEE Report Findings and Recommendations
- NJDEP Review

Tracking Number

Summary of BEE Results

- **Soil and Groundwater**
  - No or infrequent direct ecological exposure
  - Many organic COPECs in soil and groundwater not identified as COPECs in surface and sediment
    - Indicating limited migration to sensitive ecological receptors

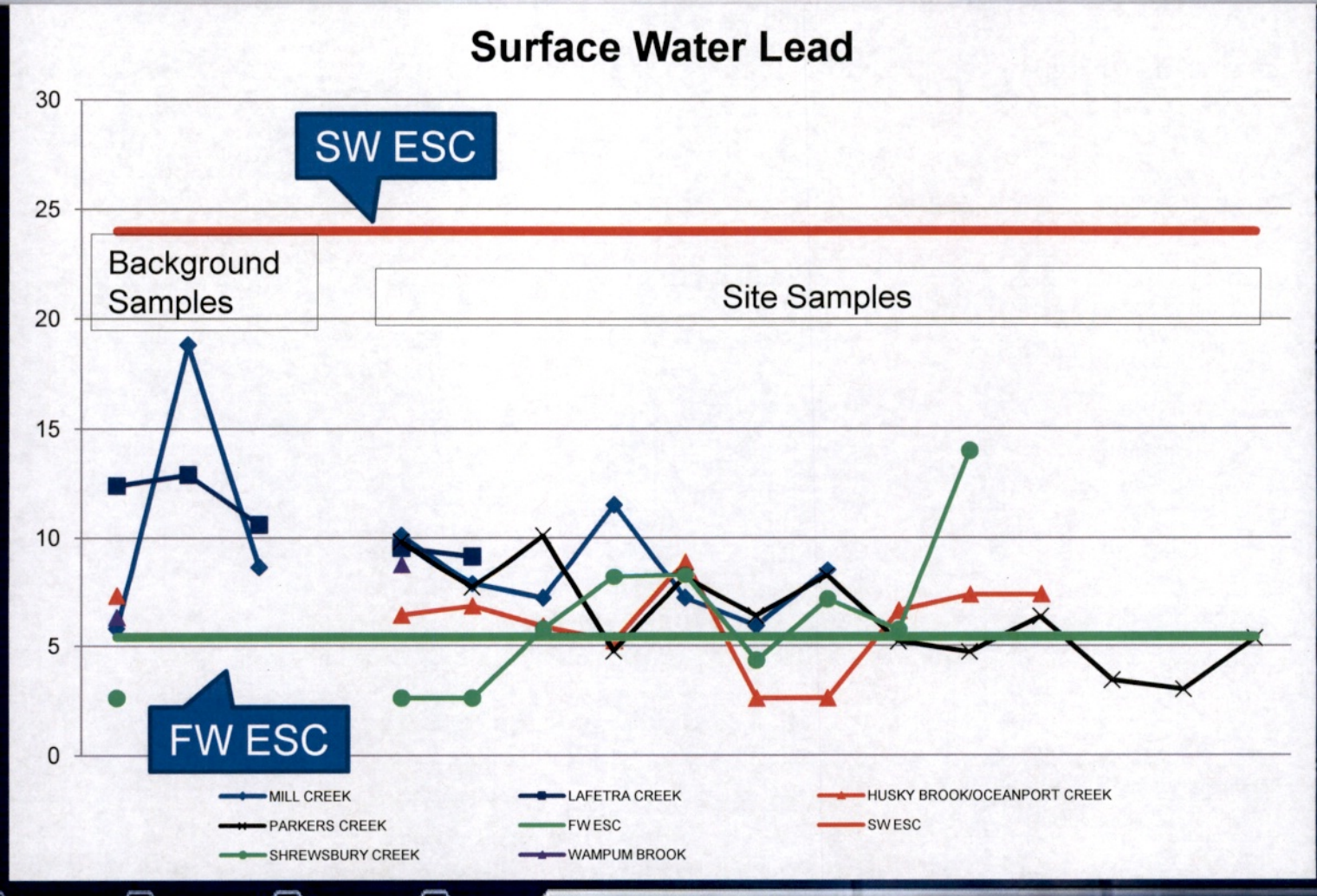
Tracking Number

Summary of BEE Results

- **Surface Water**
  - Organic COPECs (PAHs and PCBs) infrequently detected and similar to background and/or at locations indicative of other sources
  - Metal COPECs infrequently detected above ESCs and/or similar to background

Tracking Number

Lead in Surface Water



Tracking Number

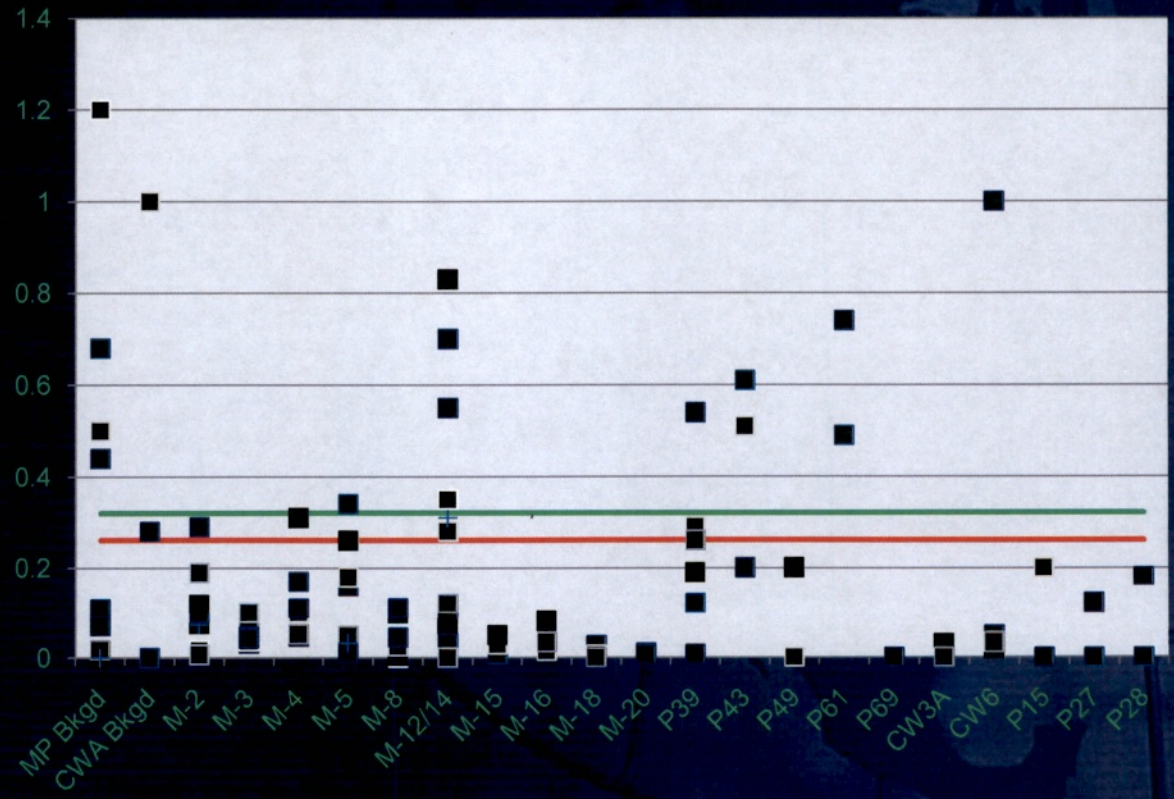
Shaw® Shaw Environmental & Infrastructure, Inc.

Summary of BEE Results

- **Sediment**
  - Organic COPECs
    - PAHs ubiquitous, similar to background, and highest concentrations not indicative of Landfill sources
    - Pesticides and PCBs infrequently detected, relatively low concentrations
    - Metal COPECs detected above ESCs at some sites that may pose risks in limited areas; may be related to native geology or other anthropogenic sources

Tracking Number

Benzo(a)anthracene in Sediment



Tracking Number

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DDT in Sediment

Tracking Number

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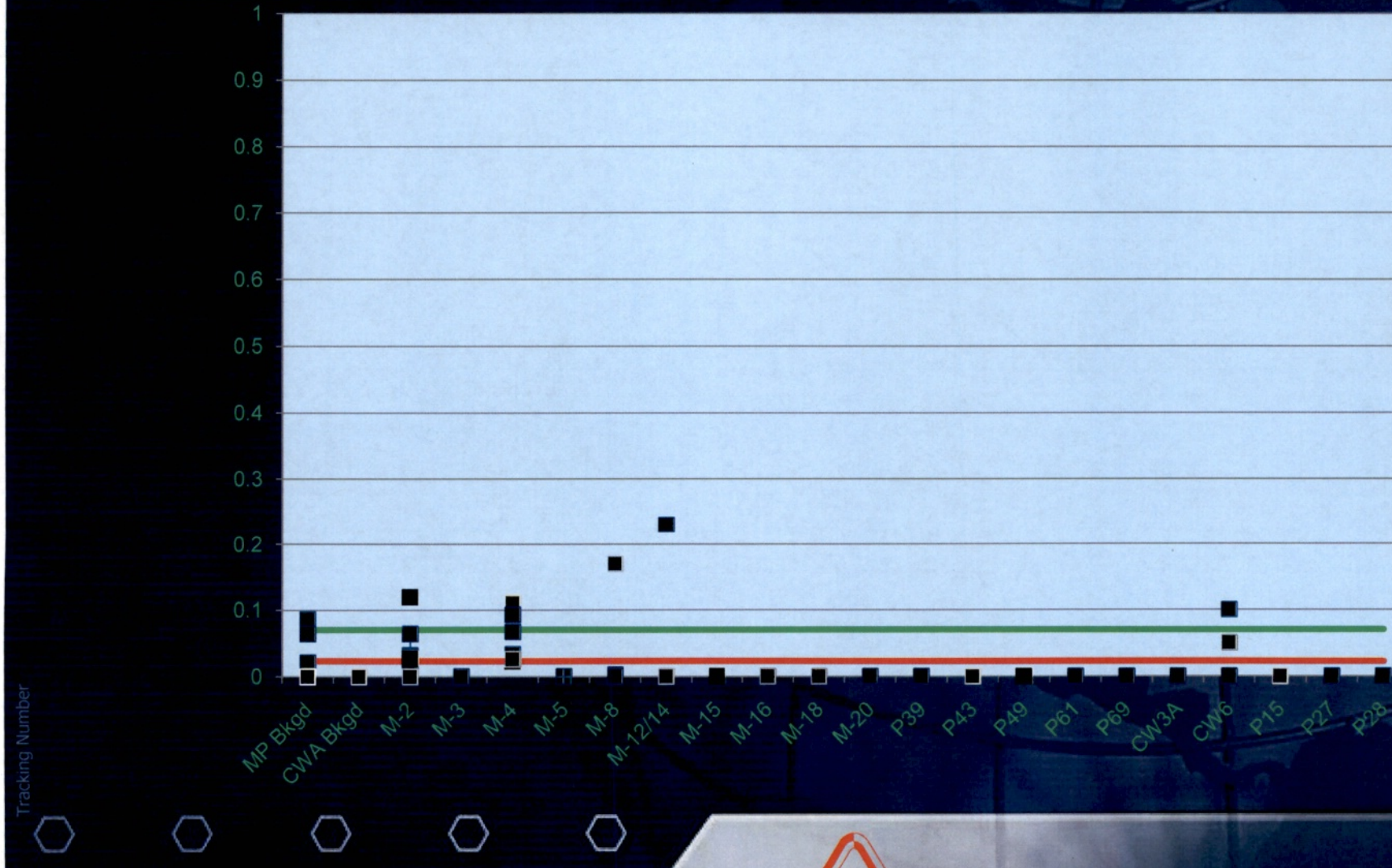
PCBs in Sediment



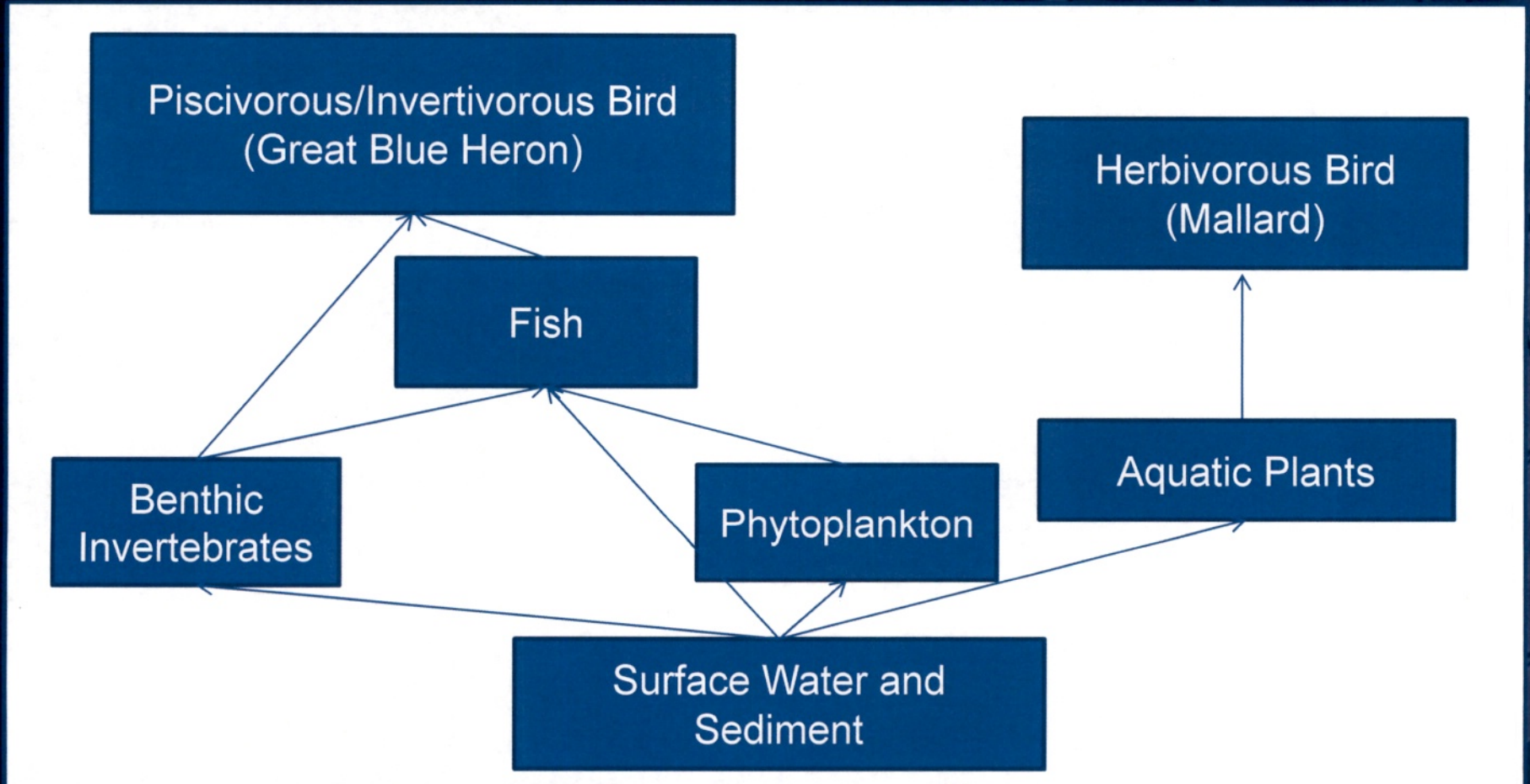
Shaw® Shaw Environmental & Infrastructure, Inc.

Summary of BEE Results

- **NJDEP Review**
  - Evaluate Wildlife Risks through Food Chain Modeling where sediment COPECs exceed ESCs

Tracking Number

Food Chain Modeling



Tracking Number

Food Chain Modeling

- Contaminants in Sediment
- Uptake by aquatic plants
- Uptake by benthic organisms and fish
- Dietary exposures to Mallard (herbivore) and Great Blue Heron (Piscivore/Invertivore)

Tracking Number

Food Chain Modeling

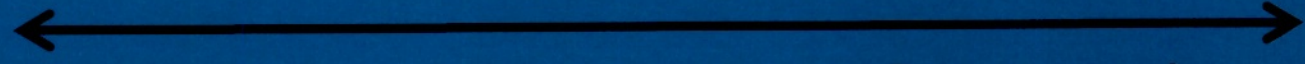
$$\text{Hazard Quotient} = \frac{\text{Daily Dose}}{\text{Toxicity Reference Value}}$$

$$DD = \frac{\left(C_{sed} \times IR_{sed}\right) + \left(C_{sed} \times BCF \times IR_{food}\right) + \left(C_{water} \times IR_{water}\right)}{BW} \times AUF$$

Tracking Number

Modeling Daily Dose

AUF	Site Proportion	AUF = 1	AUF = 1
Concentration	Average	Average	Maximum



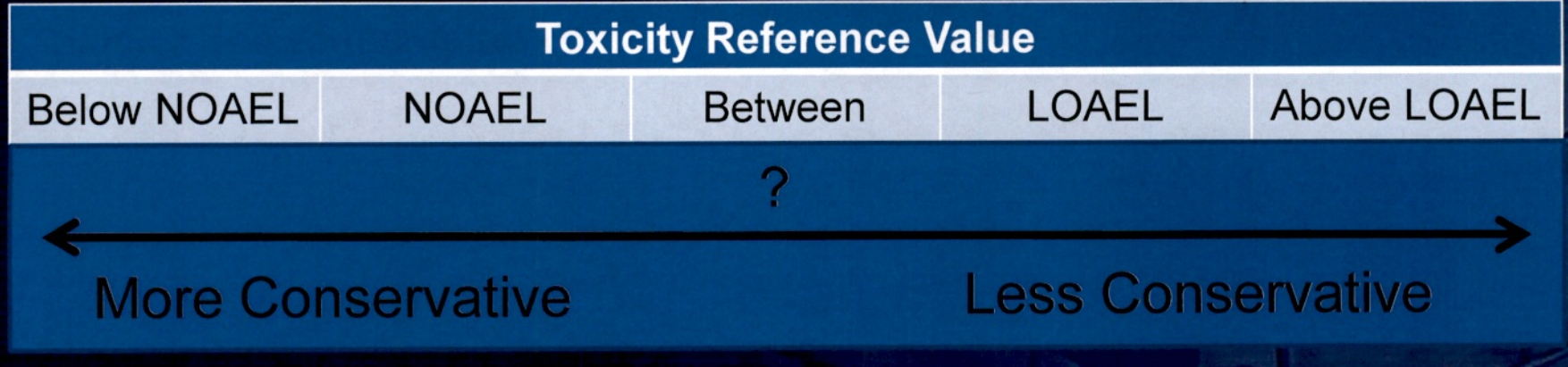
Realistic

Conservative

Tracking Number

Toxicity Reference Values

- **NOAEL – No Observable Adverse Effects Level**
  - Level below which adverse effects are unlikely
- **LOAEL – Lowest Observable Adverse Effects Level**
  - Level above which adverse effects are possible



Tracking Number

Other HQ Considerations

- Concentrations based on bias sampling
- Conservative Bioconcentration Factors
- Bioavailability of contaminants in lab assumed same as in field

Tracking Number

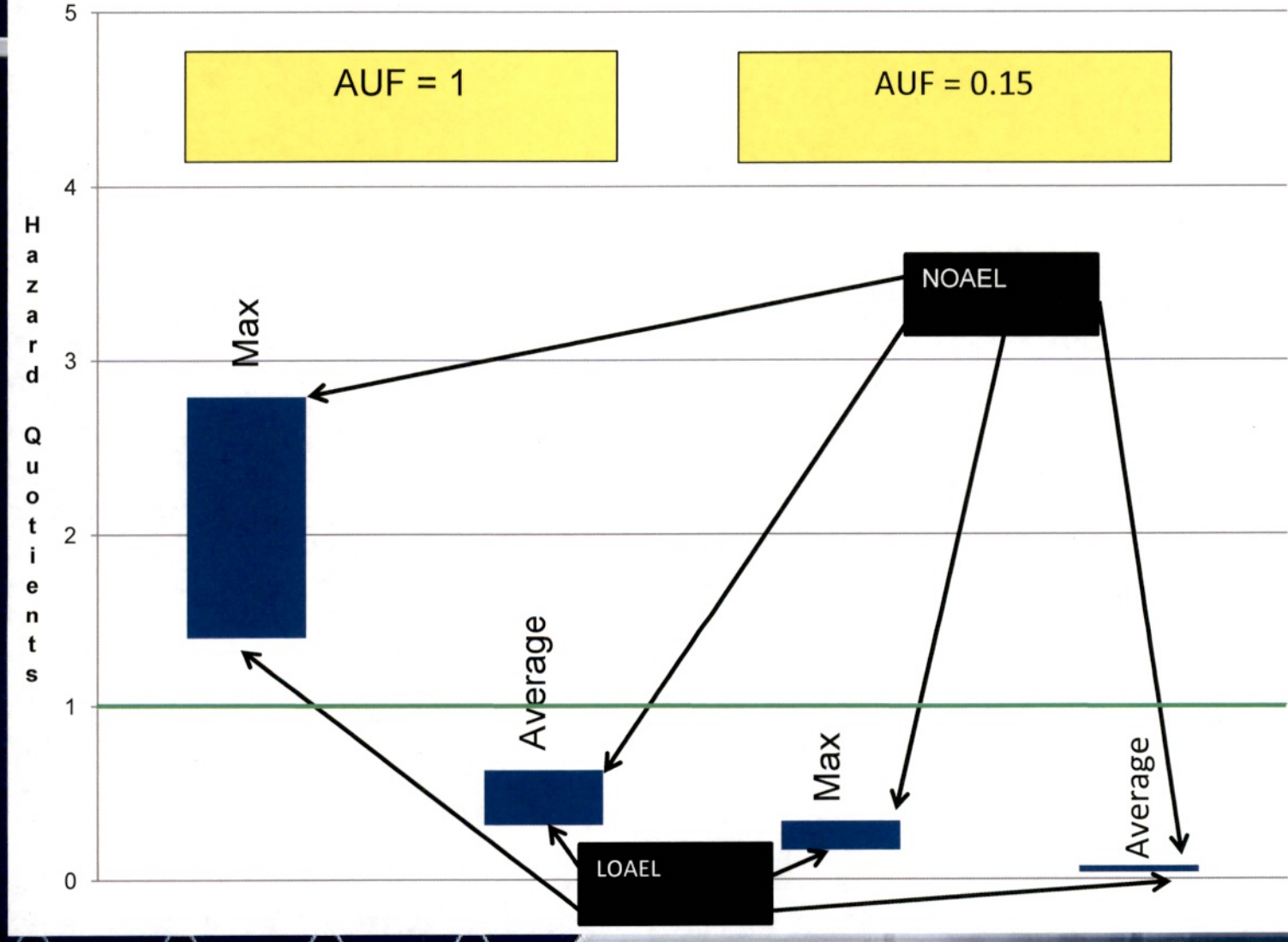
Landfill 2

NOAEL-Based Hazard Index (AUF = 1)								
	Concentrations				Mallard		Great Blue Heron	
	Sediment (mg/kg)		Surface Water (mg/L)					
	Max	Ave	Max	Ave	Max	Ave	Max	Ave
Aroclor 1242	0.12	0.0289	ND	ND	0.00	0.00	0.06	0.02
Aroclor 1254	0.064	0.0282	ND	ND	0.00	0.00	0.03	0.02
Aroclor 1260	0.04	0.0123	ND	ND	0.00	0.00	0.02	0.01
Dibenzo(a,h)anthracene	0.1	0.03	ND	ND	0.00	0.00	0.01	0.00
2,4-Dinitrophenol	1.1	0.17	ND	ND	0.15	0.02	0.89	0.14
Barium	356	80.2	62.2	61.7	0.20	0.04	**2.79**	0.63

Landfill 2

NOAEL-Based Hazard Index (AUF = 1)			
	Concentrations	Mallard	Great Blue Heron
			Max / Ave
Barium	NOAEL-Based (AUF = 1)		**2.79** / 0.63
Barium	NOAEL-Based (AUF = 0.12)		0.33 / 0.08
Barium	LOAEL-Based (AUF = 1)		**1.40** / 0.32
Barium	LOAEL-Based (AUF = 0.12)		0.17 / 0.04

Landfill 2 - Chromium - Great Blue Heron



Summary of Screening HQs

Site	COPECs													
	Barium	Cobalt	Copper	Chromium	Nickel	Zinc	Pyrene		Copper		Chromium	Mercury	Silver	DDT
	Great Blue Heron HQs								Mallard HQs		Robin HQs			
Main Post														
Landfill 2 (FTMM-2)	2.8													
Landfill 3 (FTMM-3)			5.0						2.6					
Landfill 4 (FTMM-4)														
Landfill 5 (FTMM-5)														
Landfill 8 (FTMM-8)		2.5		3.5	1.5									
Landfill 12 (FTMM-12)														
Landfill 14 (FTMM-14)														
Site FTMM-16				3.8										
Site FTMM-18		1.2		3.5										
Site FTMM-20														
Building 1122, Site FTMM-59, Parcel 43				4.3										
Building 1150, Parcel 39				3.5										
Buildings 283 (FTMM-61), 288, 291, 293, 295, Parcel 49				9.4	1.7	3.2								
Building 1075, Parcel 61														
Building 900, Parcel 69			2.7	9.2					1.5					
Charles Wood Area														
Landfill CW-3A (FTMM-25)				3.1			1.8							
Site CW-6 (FTMM-28)											3.4	3.7	1.9	1.7
Building 2700, Parcel 15														
Building 2704, Parcel 27			2.5	1.3					1.3					
Building 2525, Parcel 28														

Tracking Number

Summary of Site-Specific HQs

Site	COPECs													
	Barium	Cobalt	Copper	Chromium	Nickel	Zinc	Pyrene		Copper		Chromium	Mercury	Silver	DDT
	Great Blue Heron HQs								Mallard HQs		Robin HQs			
Main Post														
Landfill 2 (FTMM-2)														
Landfill 3 (FTMM-3)														
Landfill 4 (FTMM-4)														
Landfill 5 (FTMM-5)														
Landfill 8 (FTMM-8)														
Landfill 12 (FTMM-12)														
Landfill 14 (FTMM-14)														
Site FTMM-16														
Site FTMM-18														
Site FTMM-20														
Building 1122, Site FTMM-59, Parcel 43														
Building 1150, Parcel 39														
Buildings 283 (FTMM-61), 288, 291, 293, 295, Parcel 49				1.2										
Building 1075, Parcel 61														
Building 900, Parcel 69				1.1										
Charles Wood Area														
Landfill CW-3A (FTMM-25)														
Site CW-6 (FTMM-28)														
Building 2700, Parcel 15														
Building 2704, Parcel 27														
Building 2525, Parcel 28														

Tracking Number

Summary of BEE Results

- COPECs mostly similar to background
- No definitive spatial distribution indicating Site sources
- General anthropogenic sources as well as NPL, SHWS and LUST sites in area
- Metals may be related to native geology (e.g. glauconitic soils)
- Unlikely to have adverse effects on sensitive ecological receptors or habitats
- No further ecological evaluations recommended

Tracking Number

NJDEP Review

- All exceedances have been sufficiently evaluated and addressed for ecological receptor considerations
- No additional ecological evaluation or assessment is necessary for Main Post or Charles Wood Area

Tracking Number