Rolling Knolls – NJDEP Response to August 2015 Submittals (Sent to EPA via email on 9/11/15)

A. ARCADIS RESPONSE TO EPA COMMENTS

1. It is noted that Arcadis' August 26, 2015 responses to EPA's August 17, 2015 correspondence did not include a discussion in regard to how the issue of Diffuse Anthropogenic Pollutants (DAP) will be addressed (e.g., site-specific background study, assemblage and presentation of existing data, etc.).

2. As was mentioned in previous NJDEP comments, it is our understanding that that any remaining delineation issues that are not addressed during the Data Gap Sampling phase will be addressed during the Pre-Design phase. It is noted that vertical delineation has not yet been conducted in any historic perimeter sample location.

   It is also our understanding that additional sampling than what will be conducted during this phase of the investigation will be necessary to complete the required Ecological Assessment (i.e. BERA).

3. **General Comment 1, Paragraph 1**: Arcadis has proposed to reduce the number of samples at which VOC analysis is run as follows: *Restrict the VOC analysis to the soil samples to be collected within the interior of the landfill (SS-177 through SS-183); and to landfill perimeter samples (SD-61 and SD-62).* *THIS IS ACCEPTABLE.

   Please note that Arcadis has designated perimeter samples SD-61 and SD-62 as sediment samples even though they are located in an area that is not portrayed on the figures as being inundated. We request that the type of boring advancement and sample collection technique (soil vs sediment) for these locations be determined at the time of sample collection.

4. **Comment 5. Section 2. Additional Soil and Sediment Sampling, Paragraph 4**: Arcadis has proposed to modify the number of intervals per boring at which analytical is run for the perimeter sample locations. See the Department's response to this issue, in 5., below.

5. **Comment 6. Section 2. Additional Soil and Sediment Sampling a. Perimeter Locations, Paragraph 4:** Arcadis has proposed to modify the sampling requirements for the following sample locations:

   <u>Perimeter samples</u>: Arcadis has modified the perimeter sampling requirements as follows: *Collect the samples at each perimeter boring location, as required, from the 0-1 foot core interval, but hold the 1 – 2 foot core interval for contingency analysis pending results of the shallower soil sample.*

   *THIS IS <u>NOT</u> ACCEPTABLE. The historic data indicates a level of unpredictability in the distribution of contaminants at the site. In consideration of this unpredictability, more than just the surficial interval should be evaluated at the perimeter sampling locations during this phase of the investigation. This is especially so since only surficial samples have been collected in the low lying areas off of the landfill to date. Data do not exist which would enable an extrapolation of sample quality at 1-2 feet below grade to be made based on data quality in samples collected

immediately above that zone. In consideration of this, the required samples should be collected and analyzed from both the 0 – 1 foot interval and the 1 – 2 foot interval at each boring location.

6. **Comment 6. Section 2. Additional Soil and Sediment Sampling b. Interior Landfill Samples, Paragraph 3:**

   Interior landfill samples: Arcadis has modified the landfill interior sampling requirements as follows: *Collect the samples as required from a 1 foot core immediately below the bottom of the waste material, but hold the deeper 1 foot core (immediately above the clay layer) pending the results of the shallower soil sample.*

   * THIS IS NOT ACCEPTABLE given the indications of increasing contaminant concentrations with depth within the landfill boundaries. The disturbed nature of the filled area over time makes it difficult to assume a consistent vertical contaminant gradient within the boundaries of the landfill. In consideration of this, the required analyses should be run on both the shallower and the deeper 1 foot cored intervals collected from interior landfill boring locations.

B. ADDENDUM 1 TO THE QAPP FOR THE DATA GAP SAPS

1. **QAPP Worksheet #17 - Description of the sampling area (second bullet item)**: It is noted that Arcadis has designated several of the perimeter samples as sediment samples even though they are located in zones that are not portrayed on the figures as being inundated. We request that the type of boring advancement and sample collection technique employed (soil vs sediment) for the perimeter samples be determined at the time of sample collection. This is consistent with Section 2.1.1 of the updated Addendum 1 to the Data Gaps SAP (5th paragraph). Please update the narrative in all documents and the relevant tables/worksheets to reflect this.

   If there is a specific reason for treating these sample locations different from others in the same areas, please provide the reasoning.

2. **QAPP Worksheet #17 – Sample locations – Soil Samples a.**: It is not apparent that the narrative in this section in regard to the number of samples to be collected matches what is included on Worksheet #18. Please update the narrative in all documents and the relevant tables/worksheets to accurately reflect the Data Gap sampling proposals, including any changes that are necessary to accommodate NJDEP and EPA comments on this submittal.

3. **QAPP Worksheet #17 – Sample locations – Sediment samples b.**: It is not apparent that the narrative in this section in regard to the number of samples to be collected matches what is included on Worksheet #18. Please update the narrative and the relevant tables / worksheets to accurately reflect the proposals, including any changes that are necessary to accommodate NJDEP and EPA comments on this submittal.

4. **QAPP Worksheet #18 - Matrix**: It is noted that Arcadis has designated several of the perimeter samples on this worksheet as sediment samples even though they are located in areas that are not portrayed on the figures as being inundated. We request that the type of boring advancement and sample collection technique employed (soil vs sediment) for the perimeter

samples be determined at the time of sample collection. This is consistent with Section 2.1.1 of the updated Addendum 1 to the Data Gaps SAP (5th paragraph). Please update Worksheet #18 to reflect this.

If there is a specific reason for treating these sample locations different from others in the same areas, please provide the reasoning.

5. **QAPP Worksheet #18**: For Interior Landfill Samples SS-177 through SS-183, it noted that the depth for these samples is TBD. While this is acceptable, it is requested that perhaps a footnote be added to briefly explain how the depths will be determined (i.e. the first foot beneath the waste material at each boring location and a second one foot sample collected directly above the underlying clay layer).

6. **QAPP Worksheet #18**: The depth proposed for samples SD-45 through SD-69 is not consistent with either EPA's August 17, 2015 correspondence, or with the Arcadis's August 26, 2015, responses to EPA. Worksheet #18 does not include the samples required to be collected at the 1- 2 foot interval below grade which were discussed in the referenced correspondences. Please update the worksheet to reflect the correct boring depth and sampled intervals.

   It is also requested that the "type" of sample collection technique listed in the worksheet for SD-45 through SD-69 (Grab Sample) be clarified. The collection techniques mentioned in the August 2015 Addendum 1 to the Data Gaps SAP for these samples include the use of either a dedicated Lexan coring device or stainless steel Macrocore sampler. It is suggested that the "Type" column for these sample locations in the worksheet be updated to be consistent with the sampling technique proposal included in the Data Gaps SAP which references specific coring devices.

C. <u>ADDENDUM 1 TO THE DATA GAPS SAP</u>

1. **Section 2.2.2 – Sediment Sampling Procedures, Paragraph 2:** This section describes how the various sediment samples will be collected from each 1 foot core interval at each boring. The way it is presented in the submittal indicates that the top six inches of each core will be analyzed for non-VOC contaminants and the bottom six inches of each core will be analyzed for VOC contaminants. This will result in alternate depths being analyzed for the non-VOC and the VOC parameters. While this is unavoidable for the 0 - 1 foot cores (due to VOC sample collection protocol) it will play out again in all deeper core samples.

   It is requested that Arcadis clarify if this is consistent with how the historic soil and sediment samples were collected /reported. If so, it would appear that all current surficial non-VOC data are actually from the 0 - 6 inch interval rather than the 0 - 1 foot interval that was reported. This needs to be considered when reporting historic and updated data in future reports. It is currently unknown to the NJDEP as to whether a portion of the VOC-targeted core sections remained available for homogenization with the rest of the core after VOC sample collection was completed.

2. **Section 2.2.2 – Sediment Sampling Procedures, Paragraph 2:** In regard to the proposed intervals to be sampled in each of the borings discussed in this section, there is no mention of sample collection from the 1 – 2 foot interval below grade. This is not consistent with Arcadis's

August 26, 2015 Response to EPA comments where it was indicated that all perimeter sample locations would have samples collected from both the 0 - 1 foot depth interval below grade and the 1 – 2 foot depth interval below grade. It is possible that Arcadis is considering the NJDEP requested perimeter samples separate from its initially proposed data gap sediment samples. Clarification is requested as to the discrepancy between the Response to Comments and the amended Data Gaps SAP in regard to proposed sampled intervals at the perimeter boring locations.