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Georgia Department of Natural Resources

Environmental Protection Division

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Judson H. Turner, Director
Land Protection Branch
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November 20, 2012

COPY

VIA E-MAIL AND U.S. MAIL
ARAMARK Uniform and Career Apparel, LLC
c/o Mr. Doug Helmstetler
Senior Director of Environmental Compliance and Sustainability
115 North First Street
Burbank, CA 91502

Re: Voluntary Investigation and Remediation Plan (VIRP) and Application, July 26, 2011 and Supplemental Information Dated July 16, 2012: Notice of Deficiencies
ARAMARK Uniform Services, HSI #10704
(Tax Parcel Nos. 14-0020-0001-019-6 and 14-0020-0000-202-4; 670 and 690 DeKalb Avenue, respectively Atlanta, Fulton County, Georgia 30312)

Dear Mr. Helmstetler:

The Georgia Environmental Protection Division (EPD) has reviewed the July 26, 2011 Voluntary Investigation and Remediation Plan (VIRP), and the July 26, 2012 supplemental information submitted pursuant to the Georgia Voluntary Remediation Program Act (the VRP Act) for the subject two property parcels, which are listed or sublisted on the Georgia Hazardous Sites Inventory (HSI) as HSI 10704. Said VIRP and supplemental information was submitted in *lieu* of a Groundwater Monitoring/Progress Report. EPD has the following comments, which must be addressed pursuant to Condition # 2 of the October 30, 2012 VIRP/VRP Application Acceptance Letter issued by EPD for the qualifying properties:

Application

1. **Qualifying Properties:**
   a. **General:** The subject HSI *site*, HSI No. 10704, includes *all* property parcels impacted by soil and/or groundwater contamination at concentrations greater than background concentrations. Said parcels are subject to applicable Georgia Hazardous Site Response Rules (the Rules), Chapter 391-3-19, including corrective action requirements, unless said measures are addressed as qualifying properties pursuant to the VRP Act. Therefore, as the full extent of soil (and possibly groundwater) contamination is delineated at the site, it may become necessary for the participant to either: 1) propose additional non-qualifying properties for acceptance into the VRP and proceed with appropriate corrective measures pursuant to the approved VIRP or 2) submit a Corrective Action Plan (CAP) for contaminated media at impacted non-qualifying properties.
   b. **Gunby Street Property:** The supplemental information letter dated July 16, 2012, indicates the property represented by Gunby Street and the associated public right of way, owned by the City of Atlanta, will be added as a qualifying property in the future upon the participants acquisition of written permission from the City of Atlanta to perform corrective actions. Since the referenced property has been demonstrated to have been impacted by the release(s) at HSI 10704 and has been the subject of past remedial actions, the participant must apply to EPD by no later than May 20, 2013 to include the referenced property as a qualifying property under the Act *or* notify EPD that said property is not included under the Act and submit a Compliance Status Report (CSR) or revised corrective action plan (CAP) pursuant to the Rules as applicable for said property.
   c. **Atlanta BeltLine Property (AOC #2):** EPD acknowledges that soil contamination cleanup on the adjacent property owned by Atlanta BeltLine Inc. and the Atlanta Development Authority immediately west/northwest of the qualifying property is currently being addressed as Area of Concern #2 (AOC #2) for several properties collectively known as Atlanta BeltLine Properties (ABP) by a Prospective Purchaser Corrective Action Plan (PPCAP) and subsequent amendments submitted pursuant to the Georgia Hazardous Site Reuse and

Redevelopment Act (O.C.G.A. 12-8-200; Brownfield Act) and in compliance with the Rules. Therefore, said property is not required to be added as a qualifying property to the VRP application at this time. However, ARAMARK *is* considered to be a potential responsible party for the soil and groundwater contamination (if present) at the adjacent AOC #2 of the ABP and could be held responsible for bringing said property into compliance with applicable cleanup standards as a qualifying property under the Act or pursuant to the Rules should: 1) soil corrective action not be completed by the current property owner in accordance with the PPCAP, and/or 2) the site does not qualify for exemption from corrective action and/or compliance certification for groundwater pursuant to §12-8-107(g)(2) of the Act.

Conceptual Site Model

2. **Site Description and Setting:** Future submittals must include:
   a. A figure or figures that accurately depict the boundaries of all existing occupied structures on: 1) the subject VRP properties, 2) all abutting non-qualifying properties, and 3) any additional non-qualifying properties impacted by past activities and/or releases of regulated substances at the qualifying properties. Note that the boundaries of the qualifying propertyies and the footprints of the existing structures on the referenced properties are depicted inconsistently on the figures submitted within the VIRP and must be corrected accordingly in future submittals.
   b. A list of the names and mailing addresses of the current owners of the abutting and additional impacted non-qualifying properties.
   c. A figure or figures depicting *all* environmental sampling locations associated with environmental investigations and/or corrective action activities conducted at the *site* (see Comment 1) *regardless of the entity for which said activities were conducted*. Figure 3 (*Historic Sampling Locations*) in the VIRP does not depict *all* historical groundwater sampling locations for which historical groundwater analytical results are summarized on the tables in Attachment D of the VIRP and are referenced in the narratives within the VIRP nor does it include all historic soil or groundwater sampling locations located on AOC #2 of the ABP and must be revised accordingly. For instance, temporary well locations TW-1 through TW-3, *etc.* advanced on the 670 DeKalb Avenue property and abandoned monitoring MW-103D, used to demonstrate vertical delineation of groundwater contamination prior to conducting the soil blending activities in 2010, are not depicted on the referenced figure.
3. **Regulated Substances Released/Constituents of Concern:**
   a. Future submittals under the VRP must include a table(s) summarizing/listing *all* regulated substances *historically* detected in soil and/or groundwater above background concentrations at the site. At least 4 regulated substances (acetone, carbon disulfide, cyclohexane, and 1,1,1-trichloroethane) in addition to the 15 substances listed on the table on page 4-2 of the VIRP have been detected in soil and/or groundwater at the qualifying properties in the past and must be listed on the referenced table. Those substances no longer considered to be constituents of concern (COCs) must be identified with notations regarding the justification for the elimination of said substances as COCs (see Comment 3b below.)
   b. All regulated substances historically detected in soil or groundwater at the site are considered to be constituents of concern (COCs) and subject to delineation and cleanup requirements pursuant to the Act unless it can be demonstrated that specific substances do not contribute to unacceptable exposure to receptors at the site. EPD acknowledges that EPD concurred in a letter dated February 14, 2005 with Brisbane II, LLC's (Brisbane), a previous owner of the qualifying properties, certification that soil was in compliance with Type 1 RRS at the site subsequent to soil excavation activities conducted adjacent to the former dry cleaning facility on the 670 DeKalb Avenue Property in May 2006. However, said letter did not establish groundwater compliance with any RRS *and* analyses of soil samples collected since May 2006 determined soil contamination greater than applicable RRS was still present at the site. Therefore, EPD cannot concur that the additional four regulated substances listed in Comment 3a are not COCs unless soil and groundwater samples collected since May 2006 were analyzed for said substances and those COCs were not detected at concentrations greater than Type 1 RRS. Please establish if that is the case. If not additional soil sampling and analysis will be required at the qualifying

properties to establish that said substances are or are not COCs and if they are in compliance with cleanup standards.

4. **Contaminant Sources:**
   a. *All* known onsite or offsite sources of regulated substances detected in soil and/or groundwater samples collected at the *site* and/or otherwise used to demonstrate achievement of contaminant delineation must be depicted on a figure. For instance, Section 3.4.3 of the VIRP references a former gas station as a source of the petroleum-related aromatic hydrocarbons detected in a groundwater sample collected from temporary well ED-1 on the property north of the qualifying 690 DeKalb Avenue property; however said source is not labeled or shown on any figure provided in the VIRP. In addition, all sources depicted on said figure must be labeled to be consistent with references contained within associated narratives. For instance, four sources/source areas located on the qualifying properties are described and designated as "Source Areas 1 through 4" in Section 3.1 (*Potential Sources and Corrective Actions*) of the VIRP and are thereafter referenced in subsequent narratives by said labels. However, none of the referenced sources are labeled accordingly on any of the figures provided in the VIRP.
   b. Free product, specifically dense non-aqueous phase (DNAPL) in groundwater *and* residual free phase regulated substances in soil that has been *historically* indicated based on groundwater analytical results or direct measurement, referenced in Section 3.1 of the VIRP is considered to be a source of contamination at the qualifying properties. Therefore said areas must be referenced as potential sources and depicted on the required figure referenced above. [Note: EPD considers the detection of a substance at concentrations of 1% or greater than its solubility in water to be indicative of the presence of free product in groundwater. Tetrachloroethylene (PCE) has historically been detected at concentrations greater than 1% of solubility (approximately 2,060 µg/L) in groundwater samples collected from temporary monitoring wells TW-1, TMW-1, TMW-2, TMW-01, and TMW-02 and former permanent monitoring wells MW-101, MW-301, MW-302, MW-303, and MW-408.]
5. **Release, Response, and Remedial Action History (VIRP Sections 1.2 and 2.0):** To expedite EPD review, please include a brief summary in *bulleted* format, by date, of major site operational and environmental investigation and/or remedial actions (*i.e.*, release discovery, source removal activities, *etc.*) conducted at the *site* to date rather than scattering said information throughout the narratives in multiple sections of future submittals. Note that conclusions regarding remedial efforts, such as, "*the permanganate blending successfully remediated the affected soil at these locations,...*" in the second paragraph of page 2-2 of the VIRP should include a short comparison of documented COC concentration ranges to applicable cleanup standards as justification for said conclusions.
6. **Soil Conditions:**
   a. Please note that for the purposes of demonstrating achievement of soil COC delineation and compliance with soil cleanup standards, the definition of soil is limited to materials located above the uppermost groundwater zone within the vadose zone. It appears that based on the reported depths to groundwater in Section 3.4.3 of the VIRP, several of the soil samples for which analytical data was tabulated in the VIRP *may* have been collected beneath the water table and/or within the zone of fluctuation and should be identified as such on tables and figures on which soil sampling locations and/or soil sample analytical results are depicted or summarized and said analytical results should not be considered for the referenced purposes.
   b. Soil conditions must be established for the entire *site* (see Comment 1), including currently non-qualifying properties, regardless of the regulatory program (*i.e.*, the Brownfield Unit of EPD) under which corrective measures will be, or have been, conducted and the entity implementing the corrective measures.
      i. Although corrective measures for impacted soil on the adjacent AOC #2 of the ABP are to be conducted by the current owners of said property, the VRP participant must demonstrate that soil contamination related to the release(s) at HSI 10704 has been delineated and all soil sampling locations and analytical results acquired at the referenced property must be summarized on tables and figures provided in future progress reports. Said information was not provided in the VIRP.
      ii. *All* historical and recent soil analytical results from the time of the *initial* release discovery forward must be summarized in tabular format with appropriate notations regarding the status of the soil represented by the

samples (*i.e.*, excavated soil, sample collected below the water table, *etc.*). It appears that the soil analytical summary tables in Attachment C did not include *all* soil samples collected at the site.

iii. A figure summarizing current soil conditions at the *site* must be provided in future progress reports and the final Compliance Status Report (CSR) submitted for the qualifying properties. The delineated extent of contamination must be depicted using isoconcentration contour lines representative of delineation standards and analytical results for all soil remaining *in-situ* must be tabulated adjacent to sample locations on said figure.

c. The origin of the fill material piled on the 690 DeKalb Avenue property (Parcel 14-0020-0000-202-4), and potentially on the non-qualifying property at 684 DeKalb Avenue property (Parcel 14-0020-0002-001-3), referenced in Section 1.2 of the VIRP, must be identified and characterized based on the source (if known) and/or composition (*i.e.*, observed potential contaminant sources, *etc.*) of the fill. The location and approximate thickness of said pile, and sampling locations if any, of fill must be depicted on a site map, and cross-sections, relative to current or past site features.

7. **Groundwater Conditions:**

a. **Monitoring Well Construction Details:**

i. Tables summarizing well construction details (Table 1 of the VIRP) must include *all* monitoring wells, including temporary wells and direct push sampling locations, installed to date in response to the release at the qualifying properties, and adjacent impacted properties (*i.e.*, AOC #2 of the ABP, *etc.*), along with dates of installation and abandonment or destruction, as appropriate. Abandoned or destroyed monitoring wells must also be clearly identified on figures depicting monitoring well locations. It appears that older, abandoned/destroyed monitoring wells are not included on Table 1 (*Monitoring Well Construction Details*), nor are dates of well installation included for existing monitoring wells.

ii. The aquifer zone monitored by each well must be indicated on the above referenced tables and tables or figures summarizing groundwater analytical results. In past submittals for the qualifying properties, groundwater has been separated into "shallow" and "deeper" aquifer zones.

b. **Groundwater Elevations, Groundwater Flow, and Potentiometric Surface Map:**

i. A table summarizing historical and current depths to groundwater and groundwater elevations must be provided as part of the conceptual site model (CSM) in the VIRP. It is also preferred that well screen interval depths and/or elevations be included on said table.

ii. The CSM must include, at a minimum, a potentiometric surface map that represents the water table surface during the *most recent* groundwater sampling event. Additional potentiometric surface maps may be provided as deemed necessary by the groundwater scientist in charge of the project. The potentiometric surface map provided in the VIRP (Figure 7) was constructed using data acquired on June 14, 2008, approximately three years prior to the most recent groundwater sampling event conducted in June 2011. An arrow(s) indicating groundwater flow direction(s) must also be shown on the potentiometric surface map.

c. **Field Procedures:**

i. **Groundwater Purging/Sampling:** Section 2.2.2 of the VIRP describes the groundwater purging and sampling procedures used during the most recent groundwater sampling events conducted at the qualifying properties. However, field groundwater purging/sampling records were not provided in the VIRP and as such, EPD is not able to determine if said procedures were conducted in accordance with EPA Region 4 Science and Ecosystem Support System (SESD) Groundwater Sampling Operating Procedures (*SESDPROC-301-R1*; November 1, 2007) in effect at the time. Future submittals must include copies of said records for the most recent groundwater sampling event documented within them.

ii. **Equipment Decontamination:** Field equipment decontamination procedures must be in accordance with current SESD *Operating Procedures for Field Equipment Cleaning and Decontamination* (*SESDPROC-205-R1*, November 1, 2007) or justification must be provided for deviations from said procedures. Section 2.2.2 of the VIRP indicates distilled water was used as a final rinse in decontamination of the electronic water-level gauge used for water level measurements. Since decontamination procedures for reusable groundwater sampling equipment was not discussed in the VIRP, it is assumed that distilled water may have been used as

a final rinse for said equipment. Please note that said procedure is not consistent with the current SESD *Operating Procedures for Field Equipment Cleaning and Decontamination (SESDPROC-205-R1;* November 1, 2007) when sampling for trace organic compounds. Said procedures require the use of *organic-free de-ionized* water as a final rinse since traces of regulated substances may be present in distilled water.

d. **Analytical Summary Tables and Figures:**
   i. It does not appear that the groundwater analytical summary tables in Attachment D include *all* historical groundwater analytical data, including direct push technology sampling locations, available for the *site* (see Comment 1). Please review and revise the referenced tables as necessary to include any missing historical groundwater analytical data for the *site*.
   ii. Past submittals for the site have indicated there are multiple zones within the shallow unconsolidated aquifer that have been historically monitored by monitoring wells installed at the site. Figure 8 [*Groundwater Sampling Results and Extent of PCE in Groundwater (June 2011)*] appears to summarize groundwater analytical results for PCE from monitoring wells screened across both the water table *and* those with screens submerged below the water table. Please summarize groundwater analytical results for groundwater monitoring wells screened across the water table and those monitoring wells with deeper (submerged) screened intervals on separate figures. The extent of each COC greater than applicable delineation standards must be depicted using isoconcentration contour lines representative of the specific COC delineation standards on the referenced figure.

8. **Cross-Sections:** The following comments are specific to the two cross-sections provided as Figures 4 and 5 in the VIRP:
   a. Although the legend and the cross-section inset maps identify property parcel boundaries, limits of corrective action (*i.e.,* the Brisbane II soil excavation area, soil blending area, etc.) and other features (past surface drainage features, *etc.*) that may have acted as contaminant source areas, preferential migration pathways, and/or points of exposure are not depicted on the cross-sections. In addition, features that are known or suspected to inhibit or prevent migration (*i.e.,* aquitards, *etc.*) of contaminants should also be depicted on the cross-sections.
   b. All soil sampling locations, including depths, must be clearly identified on the cross sections. In addition, analytical results for *all* soil sample locations lying within the plane of a cross section *must* be summarized on the applicable cross sections. Soil analytical data no longer considered representative of current subsurface conditions, such as those sampling locations that have been excavated and/or were within those soils disturbed by the soil blending activities, should be clearly identified through the use of symbols or colors that are clearly defined in the figure legends.
   c. At a minimum, analytical results for groundwater samples collected within the plane of a cross section during the most recent sampling event must be summarized on the applicable cross section(s).
   d. The extent of soil and groundwater contamination exceeding delineation standards and target cleanup standards (if applicable) must be shown on all cross sections using isoconcentration contour lines representative of the referenced values.
   e. The water table as determined for the *most recent* groundwater sampling event must be shown on *all* cross sections. The water table shown on Cross Section A-A' (Figure 4) is for May 7, 2003, which was several years prior to the most recent sampling event conducted in June 2011, and the water table is absent on Cross Section B-B' (Figure 5).
   f. Cross-section A-A' must be extended to include additional soil and/or groundwater sample locations on the adjacent AOC #2 of the Atlanta BeltLine Properties [*i.e.*, GP-24, GP-36, GP-37, and TW-35, *etc.*]. In addition, both cross-sections must be revised to include all data points that lie within or immediately adjacent to the current planes of cross-sections. For instance, Cross-Section B-B' does not include the SVE-3 locations between GP-1 and DP-106 location nor the TW-1, DS24, and AEM-GP-8 locations between the MW-301 and MW-103/303 locations, *etc.*
   g. Cross-section B-B' indicates the CL/ML layer of residual soil beneath surface "fill" material is discontinuous between boring GP-1 and monitoring well MW-301. Please clarify how this was determined since there do not

appear to be borings and/or monitoring wells depicted on the cross-section which have boring logs with stratigraphic descriptions supporting the presence of said discontinuity.

h. The composition of the "Fill" material shown on the two cross-sections must be depicted on the cross-sections based on visual observations and/or geotechnical test results. Soil *types/texture* (i.e., silt, clay, *etc.*) within the fill should be provided using standard descriptive terms [*i.e.*, the Unified Soil Classification System (USCS), *etc.*] based on visual observations and/or geotechnical test results. Note that the term "Fill", indicates an origin and does not indicate the composition of the fill material.

i. The conceptual Block Diagram presented as Figure 6 of the VIRP depicts depths to bedrock beneath residual soils and fill at the site. If bedrock was encountered in any boring advanced at the site, it must be depicted on at least one cross-section. In addition, the updated CSM in future progress reports must include a discussion regarding: 1) a description of bedrock based on field observations, 2) depths to bedrock, and 3) relationship of contaminated media and migration pathways in relation to bedrock as applicable.

Cross-sections *must* be revised in future submittals to address the above comments and include additional information acquired since the previous submittal as part of the updated CSM *required* in every future VRP progress report.

9. **Contamination Delineation:**
   a. **Soil:** EPD will defer an evaluation regarding the completeness of soil/sediment contamination delineation efforts until comments regarding: 1) regulated substances *released* and *COCs*, 2) proposed delineation and cleanup standards, and 3) revised figures and tables summarizing soil analytical results for the *site (HSI 10704)* have been adequately addressed.
   b. **Groundwater:** The following are *initial* comments regarding groundwater contaminant delineation efforts conducted at the *site* to date:
      i. **Lateral:**
      - EPD concurs that the lateral extent of the groundwater contaminant plume remains undefined to the north of the 670 DeKalb Avenue property.
      - EPD cannot concur that regulated VOCs in groundwater have been delineated to the north of monitoring well MW-403 on the 690 DeKalb Avenue property based on groundwater analytical results acquired from temporary monitoring wells ED-1 through ED-5 in 2005 as stated in Section 3.4.3 of the VRP. Analytical data for groundwater samples collected from temporary sampling locations, including direct push technology (DPT) borings, is not acceptable for use in establishing the extent of groundwater contamination, or compliance with applicable RRS, since said locations cannot be re-sampled for confirmation of past results and/or determination of current groundwater conditions.
      - The lateral extent of each impacted aquifer zone (see Comment 7aii) must be evaluated separately and analytical results from the most recent monitoring event summarized by aquifer zone in tabular format and on a site map. The lateral extent of each regulated substance detected in groundwater must be depicted using isoconcentration contour lines on said figures in future submittals.

      ii. **Vertical:** The groundwater contaminant plume(s) must be delineated *both laterally and vertically*. Section 3.4.1 of the VIRP states that *discontinuous* clay layers present in the saprolite at the site appear to restrict the vertical migration of water. However, the narrative does not indicate the groundwater sampling location and associated analytical results that were used to demonstrate that vertical delineation of groundwater contamination has been achieved nor was the vertical extent of the groundwater contaminant plume depicted, using isoconcentration contour lines representative of delineation standards, on the cross-sections provided as Figures 4 and 5. In addition, If there is a hydraulic barrier inhibiting vertical migration of contaminated groundwater at the site, said barrier must be depicted on cross-sections and it must be demonstrated that said barrier was not breeched during the recent soil blending efforts or the vertical extent of groundwater contamination subsequent to said remedial efforts must be established.

10. **Potential Receptors/Exposure Pathways/Exposure Domains :**
    a. Figures 3 and 9 and narratives in Section 3.5 and Attachment F of the VIRP are not sufficiently specific enough to depict or clearly identify proposed potential receptors, specific exposure pathways, specific points of

exposure, and specific exposure domains for contamination at the site. At a minimum each pathway must be identified by: 1) the impacted media, 2) the transport mechanism, 3) the exposure route, 4) the specific receptors for *each* pathway, and 5) *justification for decisions regarding the completeness of each pathway*. EPD suggests that potential exposure pathways be depicted on a figure as a "flow-chart" that includes the above information.

b. Points of exposure/exposure domains for *all current and/or future* contaminant exposure pathways evaluated by the VIRP *must* be superimposed on figures depicting:
   i. Current (and most likely future) *site* features/structures on qualifying and non-qualifying property boundaries that may act as receptors for vapor intrusion,
   ii. Current concentrations and delineated boundaries of COCs in soil and/or groundwater, as appropriate, based on the receptor and exposure pathway, including human exposure to indoor contaminant vapor accumulation due to the presence of contaminated soil and/or groundwater.
   iii. Projected maximum concentrations and extent of groundwater contaminants if the groundwater plume has not stabilized for evaluation of the future indoor human exposure to COC vapors pathway.

c. Although the participant may not be required to perform corrective action or to certify compliance for groundwater at the site, site-specific cleanup standards for soil, if applied, at the qualifying properties must be protective of groundwater standards at an *established point of exposure for groundwater* (the soil to groundwater exposure pathway) as defined in §12-8-102(11) of the Act. This will require that said pathway be evaluated based on a POE for groundwater exposure no more than 1,000 ft downgradient of the delineated leading edge of the groundwater contaminant plume. Said POE must be shown on the figures referenced in Comment 10b. [Note: Type 1 through 4 RRS assume a groundwater POE for the referenced pathway located directly beneath the source area.]

d. Definition of exposure domains is critical for the calculation of site-specific cleanup levels and/or representative contaminant concentrations if determined to be necessary at the qualifying property. Pursuant to §12-8-102(b)(6) of the Act, exposure domains are defined as the "*contaminated geographical area or areas of the site that can result in exposure to a specific receptor(s) via a specific exposure pathway" and soil exposure domains for specific receptors are defined for comparison to site-specific cleanup standards in* §12-8-108(5) of the Act. Exposure domains must be defined separately for *each* specific COC and complete pathway, current and future, depicted accordingly on figures referenced in Comment 10a above. *Said domains may not necessarily coincide with each other.* Figures and narratives in future submittals depicting and describing must be revised accordingly in future submittals. Note:
   i. Exposure domains represent *contaminated* areas and the aerial extent of an exposure domain for a specific COC, receptor, and pathway should not extend beyond the *delineated* extent of the specific COC evaluated, based on approved delineation standards, in the affected media evaluated for said receptor and pathway,
   ii. Although remediation of soil contamination in AOC #2 of the ABP is the current responsibility of the current property owner, said contamination must be evaluated to determine if it is contributing to exposures on the qualifying properties (*e.g.*, source area for the soil-to-groundwater pathway) and included within established exposure domains for calculation of representative COC concentrations in soil as appropriate.
   iii. Pursuant to §12-8-102(b)(6) of the Act, the exposure domain for exposure of construction workers or underground utility workers is the impacted area of site soils from the ground surface down to the depth of construction. The participant must justify the use of a maximum depth of 4 ft for the exposure domain for onsite and offsite utility and construction workers to impacted soil. It has been EPD's experience that utilities can be buried at, and construction activities extend to, depths greater than 4 ft in the City of Atlanta.

e. The criteria for defining the groundwater COC "hot spots", referenced in the last bulleted item on page 3-8 of the VIRP describing the potentially complete indoor human exposure to COC vapors due to the presence of contaminated groundwater, must be proposed by the participant based on current EPA and industry standards (*i.e.*, specific COC concentration threshold values, *etc.*). The current and projected maximum extent of the groundwater plume exceeding said criteria must be used in establishing current and projected future exposure domains for said pathways.

EPD will defer further evaluation of the completeness of the referenced exposure pathways and domains until: 1) the current extent and projected extent (if necessary) of the groundwater contaminant plume have been established and 2) the results of the vapor intrusion assessment required by Comment 14cii have been submitted.

Investigation and Remediation Plan

11. **Delineation Criteria**:
    a. **Soil:** EPD concurs with the use of default, residential cleanup standards (Type 1 Risk Reduction Standards, Type 1 RRS) as the delineation criteria for contaminants detected in soil. The table on page 4-2 of the VIRP summarizes the specific delineation standards for 15 regulated substances detected in soil at the site, which are acceptable to EPD as they are consistent with the soil Type 1 *and* 3 RRS previously approved for said substances at the qualifying properties by EPD in letters, dated February 14, 2005 (addressed to ARAMARK) and July 28, 2006 (addressed to Brisbane II, LLC). However:
        i. An additional four regulated substances (acetone, carbon disulfide, cyclohexane, and 1,1,1,-trichloroethane) were detected in soil and/or groundwater at the site during investigations conducted on behalf of Brisbane II for which EPD approved soil Type 1 and 3 RRS in the July 28, 2006 EPD letter. The referenced table must be revised to include delineation standards for *all* historically detected regulated substances in soil and groundwater with appropriate notations regarding delineation and/or compliance status of each of the regulated substances released.
        ii. EPD *did not* evaluate the spreadsheets recalculating soil Type I RRS for 15 regulated substances provided in Attachment E of the VIRP since the final proposed Type 1 RRS listed on the above-referenced table are consistent with the Type 1 soil RRS previously approved by EPD for the *site*. EPD's concurrence with the Type 1 RRS values for soil listed on the referenced VIRP table should not be interpreted as concurrence with the recalculated risk-based human exposure values presented in the referenced calculation spreadsheets, several of which appear to be based on outdated toxicity factors and/or chemical specific physical parameter values.
    a. **Groundwater:**
        i. The VIRP does not state which of the groundwater delineation criteria the participant wishes to apply to the qualifying properties pursuant to §12-8-108(1)(A) through (E) of the Act. The concentrations listed for 15 regulated substances in the table presented on page 4-2 of the VIRP are consistent with default, residential cleanup standards (Type 1 RRS) previously approved for the site and are acceptable delineation criteria pursuant to §12-8-108(1)(E) of the Act. The participant must confirm it is their intent to apply said criteria and standards for groundwater delineation at the site. In addition, historical groundwater analytical results must be reviewed to ensure that proposed groundwater delineation standards are included on the referenced table for all historically detected regulated substances (see Comment 3).
        ii. Site delineation standards must be represented by *specific concentration* values. The delineation standards summary table page 4-2 of the VIRP must be revised to specify the concentration values representing the detection limits (DLs) for chloroethane and cumene in groundwater. Please see the definition for detection limits pursuant to §391-3-19-.02(2)(d) of the Rules. Analytical practical quantitation limits greater than the standard limits for the analytical methods used are not acceptable as delineation standards.

12. **Cleanup Criteria/Standards:**
    i. **Soil:**
        i. Section 4.2.1 of the VIRP proposes the Type 1 RRS as the cleanup criteria for soil at the site which is acceptable to EPD since they are deemed to be conservative and protective of all potential receptors for all potentially complete exposure pathways for soil contamination at the site. Please see Comments 3 and 11 for specific discussions regarding additional regulated substances released and associated Type 1 RRS not listed on the table on page 4-2 of the VIRP.
        ii. Section 4.2.1 of the VIRP references representative concentrations of COCs in soil for comparison to and determination of compliance with soil Type 1 RRS. Pursuant to §12-8-108(3) representative exposure concentrations are to be compared to *site-specific* cleanup standards. Since Type 1 (and Type 3) RRS are

"default" standards and not "site-specific" standards, representative exposure concentrations for COCs based on area averaging of soil contamination *cannot* be used to demonstrate compliance with said standards. The use of Type 1 RRS as site cleanup standards require that soil at any point above the water table across the qualifying properties must be brought into compliance with said standards and proposed remedial actions must be revised accordingly. Alternatively, representative exposure concentrations *may* be used to demonstrate compliance with site-specific cleanup standards (Type 2, Type 4, or Type 5 RRS) for impacted soil at the qualifying properties. Exposure domains used in calculating representative soil contaminant concentrations must be described and established in a restrictive environmental covenant for those properties where representative concentrations are used to establish compliance with cleanup standards. EPD will defer further comments regarding the specific methodology for calculation of representative soil contaminant concentrations until the participant determines that site-specific soil cleanup standards are to be applied at the qualifying properties and calculation of representative concentrations are necessary. To expedite remedial efforts, EPD recommends that the environmental professional overseeing the implementation of the VIRP contact the EPD site compliance officer to discuss specific requirements prior to proceeding with calculation of representative soil contaminant concentrations should they determine that they are necessary to demonstrate compliance with cleanup standards at the qualifying properties.

b. **Groundwater:** EPD will defer comments regarding the need or requirement for groundwater cleanup until the contaminant plume has been delineated and the results of an updated receptor survey have been submitted.
c. **Other Source Material (DNAPL):** Although the site *may* be eligible for removal from the HSI without performing corrective action or certifying compliance for groundwater, source material consisting of DNAPL beneath the water table must be investigated/remediated (see Comments 4b and14ci). The participant must propose the criteria by which compliance with this requirement will be demonstrated.

13. **Contaminant Delineation Investigation:**
    a. **Soil:** The VIRP concludes that further delineation of soil contamination is not required or planned. EPD cannot concur with said conclusion at this time, please see Comment 11 above.
    b. **Groundwater:** EPD agrees that additional dissolved-phase groundwater contaminant plume delineation must be conducted. However, Section 4.1 of the VIRP does not indicate the specific property parcels on which monitoring wells will be installed and groundwater sampled for said purpose. *At a minimum*, delineation investigations must be conducted on non-qualifying properties to the north/northwest of the 670 DeKalb Avenue Property and to the north/northeast of monitoring well MW-403 on the DeKalb Avenue Property.
14. **Corrective Action:**
    a. **Soil:** Section 4.2.3 of the VIRP indicates that corrective action for those areas of soil containing regulated substances at concentrations greater than Type 1 RRS on the qualifying properties may consist of: 1) treatment or excavation of soil to comply with Type 1 RRS or 2) the application of Type 5 RRS as cleanup standards *via* the use of engineering controls, to prevent unacceptable exposure to contaminants for potential future human receptors. If the second option is implemented, a draft of the restrictive covenant required pursuant to §391-3-9-.08(7) of the Rules must be submitted prior to or with submittal of the final CSR for the qualifying properties for EPD approval.[1]
    b. **Groundwater:**
        i. The participant must verify that groundwater is not currently being used as a drinking water source within 3 *miles*, not the *2 miles* referenced in Section 4.1 of the VIRP, of the *contaminant plume boundaries*, which have not been fully delineated, by completing an updated well survey before EPD can concur with the participant's conclusion that neither certification of compliance with applicable RRS or corrective action is

[1] EPD has established a model environmental covenant which may be accessed on the worldwide web at: http://www.gaepd.org/Files_DOC/forms/hwb/modelcovenant.doc. While the model environmental covenant may be modified to address site-specific information, the certain criteria may not be revised without EPD approval. Therefore, proposed revisions of the boilerplate language should be submitted to EPD for review and approval. Please also note that the state of Georgia will sign the environmental covenant as a "Grantee/Entity with express power to enforce" but not as a Grantee/Holder". The participant must identify and make arrangements for another party to be the holder of the environmental covenant.

required for groundwater pursuant to §12-8-107(g)(2)(g) of the Act. Hydraulic gradient should not be taken into account during the survey due to the assumed historical presence of DNAPL below the water table at the qualifying properties.

ii. EPD will require the groundwater contaminant plume at the site to be monitored for a period of up to five years subsequent to completion of dissolved contaminant delineation investigations to determine if the plume is stable. Further investigative actions, which could include groundwater contaminant fate and transport modeling (see Comment 14d below), and implementation of appropriate engineering or institutional controls as necessary, will be required should it be determined that the contaminant plume is continuing to migrate resulting in an unacceptable risk to human receptors due to contaminant indoor vapor accumulation in the future. Upon demonstration of the delineation of groundwater contaminant plume, a specific monitoring schedule and monitoring network must be proposed by the participant for EPD review.

c. **Other:** Although groundwater remediation or demonstration of groundwater compliance *may* not be required at the qualifying properties pursuant to §12-8-107(g)(2)(g) of the Act, corrective action *must:*

i. ***Provide for the removal of free product (DNAPL) to the extent practicable* pursuant to §391-3-19-.07(4)(a) of the Rules:** It must be determined if DNAPL is currently present beneath the water table and acting as a source of contamination at the qualifying properties and corrective measure implemented if necessary. Monitoring wells must be installed, and groundwater sampled and analyzed for COCs, in the area where PCE concentrations indicative of DNAPL (free product) have historically been detected in groundwater (see Comment 4b) and east of monitoring well MW-306 in or along the western edge of Gunby Street. EPD recognizes that corrective measures (soil blending) conducted in 2010 may have assisted in reducing PCE concentrations in groundwater at the referenced locations. However, groundwater conditions have not been verified in said areas subsequent to the referenced corrective measures.

ii. ***Prevent or mitigate/abate potential unacceptable risk to humans due to current and/or potential future accumulation of contaminant vapors in buildings or other structures pursuant to §391-3-19-.07(4)(c) of the Rules*:** Corrective measures, which may consist of engineering and/or institutional controls, must be proposed to ensure that current and/or future human receptors are not exposed to unacceptable risks due to the accumulation of contaminant <u>vapors</u> resulting from the presence of contaminated groundwater.

- **Qualifying Properties:** An environmental covenant will be required for those qualifying properties where soil and/or groundwater contamination not in compliance with Type 1/3 RRS will remain *in-situ* which will: 1) limit future property usage and/or 2) require a vapor intrusion assessment and implementation of appropriate engineering controls as necessary as the site is developed in the future.
- **Non-Qualifying Properties:**
  - **Current:** At a minimum, a vapor intrusion assessment for the residential apartment building located on the adjacent non-qualifying property to the north of the 690 DeKalb Avenue property must be conducted immediately due to the presence of elevated groundwater contamination at monitoring well MW-403 and appropriate mitigation and/or abatement actions implemented if necessary. Additional vapor intrusion assessments on downgradient non-qualifying properties may become necessary if additional contaminant delineation efforts indicate the presence of occupied buildings located above soil and/or groundwater contamination not in compliance with Type 1 or 3 RRS.
  - **Future:** Should monitoring of the delineated groundwater contaminant plume indicate it is not stable and continues to migrate, appropriate actions must be implemented to assess the potential for future human exposure to COCs due to indoor accumulation of vapors due to the migration of contaminated groundwater onto downgradient non-qualifying properties and ensure said exposure pathway does not become complete in the future.

Miscellaneous Comments

15. **Environmental Sample Analytical Data Reports:** It appears that laboratory analytical reports documenting analytical results for soil and groundwater samples acquired after November 2008 and December 2009, respectively, and summarized in Attachments C and D of the VIRP have not been submitted to EPD. Analytical results for

environmental samples used to support conclusions set forth in the VIRP, and subsequent submittals, must be documented through submittal of the associated laboratory data reports for EPD review. Further note that pursuant to §391-3-26 of the Rules for Commercial Environmental Laboratories, analytical data submitted for regulatory purposes will only be accepted by EPD if laboratory certification documentation is provided to EPD. Note that the required laboratory certification documentation has not always been provided for analytical results submitted for this site. Required documentation *must* include: 1) name of accrediting agency, 2) scope of accreditation relevant to the data submitted, 3) accreditation number or identifier, 4) effective date of accreditation, and 5) expiration date of accreditation.

16. **Figures and Tables:**
    a. *All* symbols and abbreviations/acronyms, including laboratory qualifiers, used on each figure and/or table provided in future submittals must be defined within the legend or notes of each applicable figure or table. *For instance*, symbols used to denote "sampling locations" on Figure 3 and several notations on the table in Attachment D of the VIRP were not defined in the figure legend or table end notes, respectively.
    b. Titles for figures and tables in future submittals must be specific enough to clearly identify the purpose of said figures and tables. For instance, Figure 3 of the VIRP is entitled "*Historic Sampling Locations*"; however, there is no indication of the media sampled (*e.g.,* soil, sediment, groundwater, *etc.*) at said locations on the figure.
    c. The current status of the sampling locations [*i.e.*, abandoned or destroyed permanent or temporary (including direct push technology sampling points) groundwater monitoring wells and/or excavated soil sampling locations, *etc.*] must be clearly identified on Figure 3 of the VIRP features. In addition, all symbols used to denote the type or status sampling locations and/or media sampled must be defined in the legend of the required figure. To retain legibility, separate figures depicting sampling locations for *each* of the sampled media rather than the combined figure as provided may be warranted.
17. **Discrepancies, Inconsistencies, Errors, and Omissions:** EPD noted several apparent discrepancies, errors, inconsistencies, and/or omissions within the subject submittals in addition to those mentioned in comments above. *Some* examples are listed below:
    a. The narrative in Section 3.4.3 of the VIRP indicates VOCs were not detected in groundwater at MW-208P during the most recent groundwater monitoring event conducted in June 2011. The groundwater analytical summary table in Attachment D also indicates the well may have been sampled in June 2011; however, Figure 8 of the VIRP indicated monitoring well MW-208P *was not* sampled during the June 2011 monitoring event.
    b. The first sentence in Section 4.1 of the VIRP states, "the results of the recent (June 1 and 2, 2011) groundwater sampling are provided in Table 1. However, the referenced table summarizes *monitoring well construction details* not the referenced groundwater analytical results. Table 2 summarizes the referenced groundwater analytical data.
    c. Figure 3 depicts the location of a monitoring well MW-103 to the *southwest* of MW-103 and monitoring well MW-103D is missing; however,
        i. Groundwater analytical summary tables provided as Attachment D summarize data for both a monitoring well MW-103D and a monitoring well MW-103 (with data for MW-303).
        ii. Figure 4 (*Cross-Section A-A'*) depicts monitoring wells MW-103 and MW-303 at the same location and monitoring well MW-103D as a separate location to the *north* of MW-303.

        All figures, tables, and narratives must be consistent in referencing sampling location IDs and depicting monitoring well locations.
    d. Soil sampling locations GP-9 and GP-9D shown on Figure 3 of the VIRP are not consistent with their respective locations shown on Figure 2 of the May 31, 2006 Supplement to March 15, 2006 Corridor Edgewood Beltline Soil Assessment Report.

Please respond to the above comments in a *response-to-comment* format with the submittal of the first semi-annual VRP progress report due no later than May 20, 2013. If you have any questions, please contact Carolyn L. Daniels, P.G. of the Response and Remediation Program at (404) 657-8600.

Sincerely,

Charles D. Williams
Program Manager
Response and Remediation Program

File: HSI No. 10704

c: Stephanie Walters, Counsel, ARAMARK
Steven Hart, Atlanta Environmental Management, Inc.
Michael Brock, Atlanta Environmental Management, Inc. (*via* email only)
Becky Armbruster, The Wetlands Company
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