NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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Via E-mail

July 24, 2019

Mr. Kevin Krueger, PE
Unisys Corporation
Corporate Environmental Affairs
3199 Pilot Knob Road
Eagan, NY 55121

Re: Revised Remedial Investigation Work Plan
Former Sperry Remington – North Portion Site #c808022
Elmira, Chemung County

Dear Mr. Krueger:

The New York State Department of Environmental Conservation (NYSDEC), in consultation with New York State Department of Health, has completed its review of the document entitled "Remedial Investigation Work Plan" (RIWP) for the Former Sperry Remington – North Portion Site #808022, dated 7 September 2018, revised 30 January 2019 and last revised 29 May 2019 and approve with the following modifications:

General:
The remedial investigation sampling rationale proposed by Unisys, depicted in Figure 5, RI Sampling Flow Chart is not consistent with DER-10 guidance and is therefore deleted from the approved version. At a minimum, initial RI soil sampling will be conducted on a 60'x60' grid as originally proposed by Unisys (Figure 10, September 2018) and approved by the Department. Where potential release mechanisms are not evident, initial RI shallow and intermediate (glacio-lacustrine silty/clay interface) groundwater sampling will be completed on a 180'x180' grid. The monitoring of contaminated groundwater emanating from the site will commence immediately after functional verification of the off-site monitoring well network and the remedial investigation of Areas of Concern at the western edge of the site will be prioritized.

Workplan Modifications:

1. The following is deleted from the approved version (all references / entire document):

> "As illustrated on Figure 5, for each AOC, the soil investigation results will be used to evaluate the potential for groundwater impacts by reference to the PGW SCO. In an AOC where PGW SCOs are exceeded, a temporary well will be installed at a point determined to be best situated (e.g., closest to the soil sample with

maximum exceedance) to evaluate the soil to groundwater pathway. The temporary well will be sampled for the COPCs that exceed PGW SCOs. If groundwater results exceed TOGs, a temporary well will be installed and sampled at a location downgradient (east northeast) and at the base of the water-bearing unit (approximately 45 feet bgs) to delineate groundwater impacts Figure 5."

2. Section 2.5.8 Nature and Extent of COPCs

   The following clarification is part of the approved version:

   Petroleum is a site COPC (Total Petroleum Hydrocarbons (TPH) analysis)

3. Section 3.2.1 Site Records Assessment

   The following clarification is part of the approved version:

   a) New historic information on the Southport Landfill which received site generated waste and demolition materials is part of site records (attached).

   b) The schedule for completion of these activities and supplemental RI work is not specified therefore, supplemental RI work plans are due within 60 days.

4. Section 3.2.2 Soil Investigation

   The following clarification is part of the approved version:

   a) At a minimum, initial soil sampling will be conducted on a 60'x60' grid and extend to the water table 16-20' bgs.

   b) The schedule for supplemental RI soil sampling under EHS is not specified therefore, supplemental RI work plans are due within 60 days.

5. Section 3.2.2.1 Delineation of COPCs in Soil

   The following clarification is part of the approved version:

   a) Delineation of COPCs is not limited by depth or regard for property lines / site boundary.

   b) Table 2 – Soil Investigation Sampling Plan:
      i) Updated Table will identify/label samples to AOCs
      ii) Associated Figures will include existing data and proposed sampling tables.

6. Section 3.2.2.2 Areas of Concern (AOCs) and Other Areas:

   The following clarification is part of the approved version:

The RI will, at a minimum, collect soil and groundwater data from each AOC in accordance with DER-10. Initial RI sampling will include full suite analyses for soil and groundwater (shallow & intermediate).

7. Section 3.2.2.2 AOC1A Contaminated Sub-slab Vapors:

   The following clarification is part of the approved version:

   Updated Figure 3 will include sampling locations and a table of results.

8. Section 3.2.2.2 AOC2 Pre-1979 Combined Industrial Storm Sewer:

   The following clarification is part of the approved version:

   a) 30" diameter Industrial Sewer
      i) Error - No blockage observed north of CB-24
      ii) Error – collapse observed north of CB-3 (perhaps K-Wing construction).
      iii) Camera survey impeded elsewhere due to obstructions/breaches in the pipe.

   b) 36" diameter industrial sewer running north from CB-15
      i) Camera survey completed 395' north of CB-15, obstructed by breach/piezometer sand.
      ii) Historic records document pipe used to collect oil and plating waste from Building 49.

9. Section 3.2.2.2 AOC2 Pre-1979 Combined Industrial Storm Sewer

   The following is deleted from the approved version:

   a) "Sampling at locations adjacent to the sewer line was conducted for the SC."
   b) "that were not previously sampled for COPCs"

10. Section 3.2.2.2 AOC2 Pre-1979 Combined Industrial Storm Sewer

    The following clarification is part of the approved version:

    Referenced Table 3 will be updated to include the initial characterization of potential industrial sewer releases to soil and groundwater will proceed through or directly adjacent to the structure (within 2-ft) in a downgradient direction consistent with the depth of release and lower intervals (DER-10) for a full suite analysis (unless COPCs established). Further delineation of COPCs and VOCs (PID>10ppm) in soil and groundwater (shallow / intermediate) will continue laterally and vertically (grid: soil 30'x30', groundwater 120'x120') until the full nature and extent contamination associated with releases are defined in all directions and media.

11. Section 3.2.2.2 AOC2 Pre-1979 Combined Industrial Storm Sewer

The following clarification is part of the approved version:

a) Referenced Figures 7A and 7B will be updated to include
   i) All sampling locations identified
   ii) Proposed soil and groundwater sample locations as described above
   iii) Existing data & proposed sampling tables

12. Section 3.2.2.2 AOC2 Pre-1979 Combined Industrial Storm Sewer

The following errors and omissions will be corrected in updated figures and tables:

a) Figure 7A

   i) Proposed Soil Sample B3002 (near collapse/breach)
      (1) Omission – no groundwater sampling proposed, or existing MW assigned

      (2) Conceptual Site Model (CSM) - Estimated depth of collapse/breach 7’ bgs. COPCs in CB-3/15 are PCBs, Metals, PAHs. Upgradient of MW-8, B575, B510 / VOCs, SVOCs, PCBs in GW.

         (a) Error – Table 2
            (i) 6-8’ bgs Metals only
            (ii) 8-12’ bgs Metals and PCBs only

   ii) Omission – no soil or groundwater sampling proposed west / upgradient of CB-3 (sewer disconnect)

   iii) Omission – no Test Pit + Camera south of CB-3 / by-pass. No soil, groundwater or sludge sampling proposed.

b) Figure 7B
   i) Omission – no Camera survey specified
   ii) Proposed Soil Sample B3000 (near collapse/breach)
      (1) Omission – no groundwater sampling proposed, or existing MW assigned
      (2) CSM - Estimated depth of collapse/breach 7’ bgs. COPCs in CB-1/24 are PCBs (TSCA), Metals. Cross gradient of MW-10 (PCBs nd / VOCs < TOGs), MW-32 (VOC< TOGs). **No Metals GW data**
         (a) Error – Table 2
            (i) 6-12’ bgs Metals only
            (ii) 12-14’ bgs Metals and VOCs only

   iii) Proposed Soil Sample B3043 (near collapse/breach)
      (1) Omission – no groundwater sampling proposed
      (2) Omission – Estimated depth of breach

(3) CSM – COPCs in CB-1 are PCBs (TSCA), Metals. **No GW Data**
(a) Error – Table 2
(i) 4-6' bgs Metals only

iv) Proposed Soil Sample B3001 (near collapse/breach)
(1) Omission – no groundwater sampling proposed, or existing MW assigned

(2) Omission – Estimated depth of breach

(3) CSM - Estimated depth of collapse/breach 7' bgs. COPCs in CB-1/3 are PCBs (TSCA), Metals, PAHs. Down gradient of MW-31 (VOCs < TOGs, MW-32 VOC< TOGs. **No Metals, PCBs GW data**

(a) Error – Table 2
(i) 2-12' bgs no sampling

13. Section 3.2.2.2 AOC2 Pre-1979 Combined Industrial Storm Sewer

The following errors and omissions will be corrected in updated narrative and reports:

a) Camera inspection between CB-2 and CB-3
i) Error – previous camera inspection and video document
(1) Westerly lateral from CB-2 connects at 90 degrees to assumed CB-1 / CB-3 segment.
(2) Further camera inspection from CB-2 not feasible
(3) Access through top of pipe for camera inspection / video of CB-1 / CB-3 segment will be necessary.
(4) The following is deleted from the approved version:
"To further evaluate the extent (i.e., orientation and length) of the former industrial sewer, the former industrial sewer will be accessed at CB-2 and a camera inspection will be made of the segment between CB-2 and CB-3, to the extent practicable. This will include inspection of connections to the west of the CB2-CB3 segment (**Figure 6**), if practicable.

b) Characterization of industrial sewer north of CB-15
i) Error – Referenced test pits (3) not illustrated on Figure 6
ii) Error – Test pit depth (7') not consistent with depth of sewer at CB-15 (invert 13-14')

c) Test pits to access pipes for camera survey
i) Omission - Means and methods to access and restore industrial sewer pipes for survey
ii) The following is deleted from the approved version:
"to attempt" and "If practicable"

14. Section 3.2.2.2 AOC2A, 2B – 18-in Clay Pipe (2A), Drywell and 5-foot Box Culvert at SE Property Corner

The following is deleted from the approved version:

> "and were previously addressed in part by sampling for IRM #2 PDI (Geosyntec, 2018b) and an IRM PDI for the Former Sperry Remington Site (NYSDEC #808043).

15. Section 3.2.2.2 AOC2A, 2B – 18-in Clay Pipe (2A), Drywell and 5-foot Box Culvert at SE Property Corner

The following clarification of errors and omissions is part of the approved version:

a) Summary of previous findings:

i) Error – 2nd bullet: "a clay tile pipe connection to CB-15 from the northwest"
(1) The following clarification/correction is part of the approved version: A 36" diameter clay tile lined pipe connection to CB-15 from the northwest…

(2) The following is deleted from the approved version: "The compromised structural integrity of this industrial sewer line suggests that it is currently impassable to flow."

(3) The following clarification/omission is part of the approved version: Historic records indicate pipe received/conveyed oil and plating waste from Building 49.

ii) Error – 3rd bullet "CB-15 is connected to a 5-ft box culvert"
(1) The following clarification/correction is part of the approved version: CB-15, a round, brick and concrete, bottomless manhole, connects to the 5-ft box culvert via an uncharacterized concrete chamber to the southeast. The concrete chamber was wet…

(2) The following is deleted from the approved version: "Because of the connections to the 5-ft box culvert downstream of CB-6 and upstream of CB-15 noted above are no longer active, the 5-ft box culvert inlet to the former oil skimmer is considered to be inactive."

(3) The following clarification/omission is part of the approved version: the bottom less invert of CB-15 is approximately 13-14' below ground surface.

iii) Omission - 4th bullet
(1) The following clarification is part of the approved version: An 18-in clay pipe (AOC-2A), shown on historic figures directly connecting CB-15 to the off-site drainage culvert (bypassing Oil Skimmer #2) was not observed in CB-

15 however an uncharacterized and bulk headed chamber to the northeast was found.

iv) Omission - 5th bullet
(1) The following clarification is part of the approved version: The integrity of CB-15 bottom (AOC-2B, Drywell) was tested and determined to be open to underlying soils (bottomless). Visual and olfactory evidence of impacts were observed, and soil samples collected found elevated levels of COPCs consistent with historic records of industrial wastes.

v) Omission – "Sampling along the eastern Site boundary for the SC characterized COPCs in soil near the Former Combined Sewer in this area"

(1) The following clarification/omission is part of the approved version: Shallow soil sampling collected as part of site characterization or other investigations near the combined industrial sewer have found elevated levels of COPCs however did not extend to depths or locations to appropriately characterize or delineate potential impacts to the environment from the former industrial sewer.

vi) Omission – "Sampling of fine-grained material in the former industrial sewer has been conducted"
(1) The following clarification/omission is part of the approved version: Sampling of fine-grained material collected from catch basins and manholes along the former industrial sewer found elevated of COPCs consistent with historic records of industrial wastes. Fine-grained and sludge materials observed in the former industrial sewer pipes have not been sampled.

vii) Omission – "Soil sampling near an eighteen (18) inch clay pipe (AOC-2A) and CB-15 at the southeastern property corner (AOC-2B) was conducted for the IRM #2 PDI (Geosyntec, 2018b) (Appendix A)."

(1) The following clarification/omission is part of the approved version: Shallow soil sampling collected as part of site characterization or other investigations near the combined industrial sewer have found elevated levels of COPCs however did not extend to depths or locations to appropriately characterize or delineate potential impacts to the environment from the former industrial sewer.

viii) Omission – Referenced Figure 9 – Depth of sewer near CB-15

(1) The following clarification/omission is part of the approved version: The invert depth of the former industrial sewer near CB-15 is estimated to be 13 to 14-ft below ground surface.

ix) The following clarification/omission is part of the approved version: Chambers connecting with CB-15 and the 5-ft box culvert, accessible through confined space entry, will be characterized for dimension and integrity (solid or bottomless) in addition to depth and chemical quality of contents.

(1) Error – “Soil sampling plan to the east is limited by the adjacent steep railroad embankment and subsurface utilities”
(a) The following clarification/correction is part of the approved version: Sloping terrain leading to the railroad embankment and subsurface gas main (located west of CB15, Nov 2017) will not limit remedial investigation to the east and down-gradient from CB-15.

b) Error – “In accordance with DER-10, soil samples will be collected within two (2) feet of the eighteen (18)-inch Clay Pipe and CB-15 and at a depth corresponding to the depth of the CB-15 invert Figure 9. A soil boring will be placed at the location of the five (5)-foot box culvert and at a depth corresponding to the invert depth of the culvert (Figure 9).”

i) The following clarification/correction is part of the approved version: The delineation of elevated levels of COPCs will continue vertically through CB-15 in accordance with DER-10 (if feasible). The delineation of COPCs and VOCs (PID>10ppm) in soil and groundwater will initially continue in a downgradient direction (laterally and vertically) from CB-15 (grid: soil 30’x30’, gw 120’x120’) until the full nature and extent of contamination associated with releases from CB-15 is defined in all directions and media.

(1) The 18” Clay Pipe near CB-15 has not been located or characterized. If, during further characterization of adjacent chambers, the 5-ft box culvert or test pitting to find the 18-in Clay Pipe potential release is evident, then initial characterization of potential impacts to soil and groundwater will proceed through or directly adjacent to the structure in a downgradient direction consistent with the depth of release and lower intervals (DER-10). Further delineation of COPCs and VOCs (PID>10ppm) in soil and groundwater will continue laterally and vertically (grid: soil 30’x30’, gw 120’x120’) until the full nature and extent contamination associated with releases are defined in all directions and media.

ii) Error – Table 2 – Proposed Soil Samples B3003 & B3053 (CB-15) limited to 14” bgs and PCBs, Metals and VOCs.

(1) The following clarification/correction is part of the approved version: Soil samples to delineate impacts from CB-15 will be collected at 14-16’ and 16-18’ bgs consistent with the invert depth of CB-15 and lower interval and will be analyzed for PCBs, SVOCs, Metals, VOCs (PID>10 ppm) consistent with COPCs at CB-15.

16. Section 3.2.2.2 AOC2C Drywell Near Building 49

    a) The following clarification/omission is part of the approved version:
        i) Omission - Historic records indicate that oil and plating waste was generated in Building 49.

        ii) Omission – The initial characterization of potential releases to soil and groundwater will proceed through or directly adjacent to the structure (within 2-ft) in a downgradient direction consistent with the depth of release and lower intervals (DER-10) for a full suite analysis (unless COPCs established). Further delineation of COPCs and VOCs (PID>10ppm) in soil and groundwater will continue laterally and vertically (grid: soil 30'x30', gw 120'x120') until the full nature and extent contamination associated with releases are defined in all directions and media.

17. Section 3.2.2.2 AOC2E Waste Pit near Building 44

    a) The following clarification/omission is part of the approved version:
        i) Omission - Historic records indicate the waste pit was used for acids. The structure has not been located or characterized for integrity. If, during further investigation release from the former structure is evident, then the initial characterization of potential impacts to soil and groundwater will proceed through or directly adjacent to the structure in a downgradient direction consistent with the depth of release and lower intervals (DER-10). Further delineation of COPCs, Acids and VOCs (PID>10ppm) in soil and groundwater will continue laterally and vertically (grid: soil 30'x30', gw 120'x120') until the full nature and extent contamination associated with releases are defined in all directions and media.

18. Section 3.2.2.2 AOC3 – 1979 Storm Sewer

    a) The following is deleted from the approved version: As illustrated on Figure 5, in an AOC where PGW SCOs are exceeded, a temporary well will be installed at a point determined to be best situated (e.g., closest to the soil sample with maximum exceedance) to evaluate the soil to groundwater pathway. The temporary well will be sampled for the COPCs that exceed PGW SCOs. If groundwater results exceed TOGs, a temporary well will be installed and sampled at a location downgradient (east northeast) and at the base of the waterbearing unit (approximately 45 feet bgs) to delineate groundwater impacts. The ground water sampling plan is described further in Section 3.2.3.

19. Section 3.2.2.2 AOC3A – 1979 Drywell Field

    a) The following clarification/omission is part of the approved version:
        i) Historic records indicate these structures were designed to collect surface stormwater runoff after industrial operation of the site. These structures have

not been located or characterized for integrity and chemical quality of contents. If, during further investigation, impacts are documented in structure contents, then the initial characterization of potential impacts to soil and groundwater will proceed through or directly adjacent to the structure in a downgradient direction consistent with the depth of release and lower intervals (DER-10). Further delineation of COPCs, and VOCs (PID>10ppm) in soil and groundwater will continue laterally and vertically (grid: soil 30'x30', gw 120'x120') until the full nature and extent contamination associated with releases are defined in all directions and media.

b) Error - Figures 10A-F and 11B, Table 2 and 3
   i) The following clarification/correction is part of the approved version: Figures and Tables will be corrected based on the above sampling rationale.

20. Section 3.2.2.2 AOC4 Earthen Waste Pit near EHS Gym & Pool

a) The following clarification/omission is part of the approved version:
   i) Omission - Historic records indicate the waste pit structure was earthen / open to direct release to soils and groundwater below. Further, historic records have documented oil impacts in soils below the groundwater table, therefore the initial characterization of potential impacts to soil and groundwater will proceed through or directly adjacent to the structure in a downgradient direction consistent with the depth of release and lower intervals (DER-10). Further delineation of COPCs, Petroleum (TPH) and VOCs (PID>10ppm) in soil and groundwater will continue laterally and vertically (grid: soil 30'x30', gw 120'x120') until the full nature and extent contamination associated with releases are defined in all directions and media.

b) The following errors and omissions will be corrected in updated figures:

   i) Figure 13 and 14 – Cross Section / Data / CSM
      (1) The following clarification/omission is part of the approved version: Data from 1977 documenting the depth/elevation/slope of the restrictive silty clay formation (transport pathway), impacted soils and other historic data documenting elevations of structures (release mechanisms) must be depicted.

21. Section 3.2.2.2 AOC5 Sludge Tanks/Beds/Brick Pits near Building 64

a) The following clarification/omission is part of the approved version:

   i) Omission – Supplemental sampling program under EHS schedule
      (1) Proposed supplemental sampling work plans are due within 60 days.

   ii) Omission - Historic records identify industrial process and waste structures assumed to be open to underlying soils to direct release to soils and

groundwater below. Further records indicate oil impacts to soils and confirmation of remaining structures and plating waste below ground, therefore the initial characterization of potential impacts to soil and groundwater will proceed through or directly adjacent to the structure in a downgradient direction consistent with the depth of release and lower intervals (DER-10). Further delineation of COPCs, Petroleum (TPH) and VOCs (PID>10ppm) in soil and groundwater will continue laterally and vertically (grid: soil 30'x30', gw 120'x120') until the full nature and extent contamination associated with releases are defined in all directions and media.

22. Section 3.2.2.2 AOC6 Concrete Vaults

a) The following clarification/omission is part of the approved version:

i) Error – Referenced Figure 13 sampling area
(1) Figure 13 represents a cross-sectional interpretation of soils and subsurface conditions and not a sampling area.

ii) Omission - The following clarification/omission is part of the approved version: The structure has not been located or characterized for integrity and chemical quality of contents. If, during further investigation release from the former structure is evident, then the initial characterization of potential impacts to soil and groundwater will proceed through or directly adjacent to the structure in a downgradient direction consistent with the depth of release and lower intervals (DER-10). Further delineation of COPCs, Oils and VOCs (PID>10ppm) in soil and groundwater will continue laterally and vertically (grid: soil 30'x30', gw 120'x120') until the full nature and extent contamination associated with releases are defined in all directions and media.

23. Section 3.2.2.2 AOC7 Drywell Structures

a) The following clarification/omission is part of the approved version:
i) Omission - Historic records indicate the presence of a drywell structure during industrial operations at the site. This structure has not been located or characterized for integrity and chemical quality of contents. Drywells are assumed open for direct release to soils and groundwater below, therefore the initial characterization of potential impacts to soil and groundwater will proceed through or directly adjacent to the structure in a downgradient direction consistent with the depth of release and lower intervals (DER-10). Further delineation of COPCs, Petroleum (TPH) and VOCs (PID>10ppm) in soil and groundwater will continue laterally and vertically (grid: soil 30'x30', groundwater 120'x120') until the full nature and extent contamination associated with releases are defined in all directions and media.

24. Section 3.2.2.2 AOC9 Oil Storage and Handling

a) The following clarification/omission is part of the approved version:

i) Omission – Supplemental sampling program under EHS schedule
(1) Proposed supplemental sampling work plans will be due within 60 days.

ii) Omission - Historic records document oil impacts in soils below the groundwater table under EHS, therefore the initial characterization of potential impacts to soil and groundwater will proceed through or directly adjacent to the structure in a downgradient direction consistent with the depth of release and lower intervals (DER-10). Further delineation of COPCs, Petroleum (TPH) and VOCs (PID>10ppm) in soil and groundwater will continue laterally and vertically (grid: soil 30'x30', gw 120'x120') until the full nature and extent contamination associated with releases are defined in all directions and media.

25. Section 3.2.2.2 AOC10 Subsurface Soils Exceeding SCOs

a) The following clarification/omission is part of the approved version:

i) Omission - Historic records document oil impacts in soils below the groundwater table under EHS, site characterization of these impacts and delineation of the full nature and extent of these impacts, in all direction and media will be completed in a supplemental work plan.

ii) Omission – Supplemental sampling program under EHS schedule
(1) Proposed supplemental sampling work plans will be due within 60 days.

iii) Omission – South east corner outside IRM#2 limits and vertically above AOC2.
(1) RI delineation of impacted overburden soils (Site #808043 OS2 PDI) exceeding SCOs and TSCA. Proposed supplemental sampling work plans will be due within 60 days.

26. Section 3.2.2.2 AOC12 Plating, Heat Treatment and Tumbling Areas

a) The following clarification/omission is part of the approved version:

i) Omission - Historic records identify industrial process and waste structures assumed to be open to underlying soils to direct release to soils and groundwater below. Further records indicate oil impacts to soils and confirmation of remaining structures and plating waste below ground, therefore the initial characterization of potential impacts to soil and groundwater will proceed through or directly adjacent to the structure in a downgradient direction consistent with the depth of release and lower intervals (DER-10). Further delineation of COPCs, Petroleum (TPH) and VOCs (PID>10ppm) in soil and groundwater will continue laterally and vertically (grid: soil 30'x30', gw

120'x120') until the full nature and extent contamination associated with releases are defined in all directions and media.

ii) Omission – Supplemental sampling program under EHS schedule
(1) : Proposed supplemental sampling work plans will be due within 60 days.

27. Section 3.2.2.2 AOC13 – Metals Cleaning, Vapor Degreaser and solvent still

a) The following clarification/omission is part of the approved version:
i) Omission - Historic records identify industrial process and waste structures assumed to have released constituents to soils and groundwater below. Further records indicate oil impacts to soils and VOC impacts to soil vapor below EHS, therefore the initial characterization of potential impacts to soil and groundwater will proceed through or directly adjacent to the structure in a downgradient direction consistent with the depth of release and lower intervals (DER-10). Further delineation of COPCs, Petroleum (TPH) and VOCs (PID>10ppm) in soil and groundwater will continue laterally and vertically (grid: soil 30'x30', gw 120'x120') until the full nature and extent contamination associated with releases are defined in all directions and media.

ii) Omission – Supplemental sampling program under EHS schedule
(1) Proposed supplemental sampling work plans will be due within 60 days.

iii) Omission - TCE impacts above SCGs in soil and shallow groundwater adjacent to EHS were documented during the site characterization. Lateral delineation of soil impacts will proceed on a 30'x30' grid to a depth of 16'. Vertical delineation of groundwater impacts will proceed in the intermediate zone (silty clay interface) and laterally on a 120'x120' grid until the nature and extent of contamination is defined.

iv) Omission – Figure 13 and 14 – Cross Section / Data / CSM

(1) Data from 1977 documenting the depth/elevation/slope of the restrictive silty clay formation and a west/southwest TCE (sg>1) transport model have been omitted.

v) Initial shallow and intermediate (silty clay interface) groundwater characterization along the western edge of the site will proceed adjacent to the former sanitary ejector (AOC 18) with 3 additional locations south and 1 north on a 120' spacing.

28. Section 3.2.2.2 AOC14 Power Washer, Rust Preventative Dip Operation

a) The following clarification/omission is part of the approved version:
i) Omission – Two areas will be sampled for SVOCs and Metals

(1) Proposed AOC14 sampling is not identified in this work plan, supplemental sampling work plans will be due within 60 days.

29. Section 3.2.2.2 AOC15 Wire Pickling Area

a) The following clarification/omission is part of the approved version:
   i) Omission – Supplemental sampling program under EHS schedule
      (1) Proposed supplemental sampling work plans will be due within 60 days.

30. Section 3.2.2.2 AOC16 Machine Shop Area

a) The following is deleted from the approved version: To investigate potential COPC-impacted soil, sampling is planned at fourteen (14) locations in this area (Figures10A, B, G, H and 11 A).

   i) The following clarification is part of the approved version: Initial RI soil sampling and delineation of COPCs north of the FFC will be conducted on a 60'x60' grid in data gap areas as previously proposed by Unisys and approved by the Department (Figure 10, September 2018). Initial RI groundwater sampling will be conducted on a 120' x 120' grid for shallow and intermediate (silty clay interface) zones. Delineation of impacted soils north of IRM#1 will proceed laterally and vertically on a 30'x30' grid.

   ii) The following is deleted from the approved version: To investigate this potential source, two (2) temporary wells are planned in the area of the PCB impacted soil. Because groundwater has not been investigated in this area previously, groundwater samples will be analyzed for TAL metals in addition to PCBs at these locations.

   iii) TCE Investigation Soil Area

      (1) The following clarification is part of the approved version: The TCE impacted soil area and sanitary sewer/ejector is here forth identified as AOC 18 - TCE Impacted Soil, Sanitary Sewer and Ejector

      (2) The following is deleted from the approved version: This is the area where TCE was detected by ECSD contractors in grab soil samples at concentrations of up to 10,000 µg/kg (Appendix G) during the EHS stormwater sewer installation (Figure 12A and 12B).

         (a) The following clarification is part of the approved version: TCE was detected at concentrations up to 10 mg/kg in stockpiled soils (Appendix G) generated from storm sewer trench excavation during the 2017 ECSD Capital Project (Fig 12A and 12B).

(3) The following is deleted from the approved version: Sampling will be conducted at eight (8) locations in this area to further assess the extent of TCE impacted soil and the potential for migration to groundwater.

(a) The following clarification is part of the approved version: TCE concentrations found in stockpiled soils exceed soil cleanup and protection of groundwater SCGs, therefore the initial characterization of potential impacts to soil and groundwater will proceed every 30 linear feet along the 2017 storm sewer alignment in undisturbed soils adjacent to and below (16' bgs) the excavated trench. VOC analysis will be completed for all 2' sampling intervals. Full suite analyses (VOCs, SVOCs, PCBs, Metals, TPH) will be conducted at 20% of samples or where visual or olfactory evidence of impacted soils are observed. Further delineation of impacted soils will proceed on a 30' x 30' grid. Initial groundwater characterization of shallow and intermediate (silty clay interface) zones will be centrally located between branches of the storm sewer alignment and further delineation of impacted groundwater will proceed along established transport pathways or on a 120'x120' grid.

(b) The following clarification is part of the approved version: Historic records document waste disposal, potentially including solvents to the former sanitary sewer. The location of the former sanitary sewer and ejector (lift station) is documented in historic records to extend from industrial waste processes on-site to the western edge of the site and north along Main Street then back east across the site and north along the rail road siding to East Miller Street and points east and north from there. Initial characterization of soils will proceed through or adjacent to and below (16') the sanitary ejector and along the former sanitary sewer alignment as described above. Further delineation of impacted soils will proceed on a 30' x 30' grid. Initial groundwater characterization of shallow and intermediate (silty clay interface) zones will be located adjacent to the former sanitary ejector and 3 additional locations south and 1 north along the western edge of the site at 120' spacing. Further delineation of impacted groundwater will proceed along established transport pathways or on a 120'x120' grid. VOC impacts in soil or groundwater will require characterization along vapor transport pathways.

(4) The following is deleted from the approved version: Soil sampling for this area will start at a point outside the EHS building, near Room 127 (Figure 12B), to delineate the lateral and vertical extent of COPCs. Groundwater sampling will be based on soil sampling results exceeding PGW SCOs (Figure 5). Table 2 provides a list of sample depths planned for each location and the analytical program for each sample.

Sampling locations may be relocated based on the Site records assessment and findings from the test pit west of the building as described for AOC2. Results, including comparison to PGW SCOs, will be used to evaluate potential infrastructure(s) (such as stormwater sewer system) as a potential TCE soil vapor source in Room 148 and update the CSM.

31. Section 3.2.2.2 AOC16 Other Areas

a) The following is deleted from the approved version: The area west of the rear parking lot was the former location of building 66, used for storage. There is no indication of these areas having been used in a manner that suggests potential for release of COPCs to the environment. Thus, sample locations are not targeted to a specific location but are spread across the areas. Results will feed the soil and groundwater sampling decision flowchart (Figure 5).

   i) The following clarification is part of the approved version: Historic ECSD demolition records (D2A, 24 April 78) document that portions of former Building 66 such as slabs, foundations, cellars, depressions, tunnels, and trenches were left in-place and is currently referred to as “The Mound” located south of the EHS Cafeteria court yard. The industrial purpose of the cellars, depressions, tunnels and trenches is unknown as historic records indicate shipping and receiving building use. The remedial investigation will document the extent of remaining industrial artifacts (lateral / vertical) and contents of abandoned cellars and tunnels in addition to environmental investigation of soil and groundwater adjacent to and below the foundation.

b) The following clarification is part of the approved version: Initial RI soil sampling and delineation of COPCs north of the FFC will be conducted on a 60’x60’ grid in data gap areas as previously proposed by Unisys and approved by the Department (Figure 10, September 2018). Initial RI groundwater sampling will be conducted on a 120 x 120 grid for shallow and intermediate (silty clay interface) zones.

c) The following clarification is part of the approved version: Initial RI soil sampling and delineation of COPCs north of the FFC will be conducted on a 60’x60’ grid in data gap areas as previously proposed by Unisys and approved by the Department (Figure 10, September 2018). Initial RI groundwater sampling will be conducted on a 120 x 120 grid for shallow and intermediate (silty clay interface) zones.

32. Section 3.2.2.3 Identification and Evaluation of Potentially Unidentified Areas of Concern

a) Omission – Schedule
   i) The following clarification is part of the approved version: The schedule for supplemental RI soil sampling is not specified in Section 8 Schedule and therefore, supplemental RI work plans will be due within 60 days.

33. Section 3.2.3 Groundwater Investigation

a) The following additional clarification is part of the approved version: Groundwater investigation will proceed in accordance with the following:

i) DER-10 Sec 3.7.2(b)1, The scope of the remedial groundwater investigation will delineate the vertical and areal (lateral) extent of groundwater contamination, without regard for property boundaries.

ii) DER-10 Sec 3.7.2(b)13, the investigation of each area of concern should include at least one groundwater sample from each monitoring point.

iii) DER-10 Sec 3.7.2(c)4, groundwater sampling points should be located in:
(1) The excavation of any sources of contaminants, including without limitation, tanks, tank distribution systems, seepage pits, dry wells or other injection wells.
(2) Any suspected or confirmed source areas / AOCs and
(3) Known or expected downgradient flow direction from the areas described above
(a) Where groundwater flow direction is uncertain, it must be determined by the placement of at least 3 wells/piezometers in each affected aquifer or waterbearing zone.
(4) The minimum number of groundwater samples collected should be as follows:
(a) At least one sample for each AOC which is classified as an underground injection control (UIC) including without limitation, dry wells or other injection wells
(b) Leaking underground storage tanks (industrial sewers)
(c) At least one sample for all other AOCs unless AOC is within 25-ft. and hydraulically upgradient of another sampling location.

iv) Groundwater investigation of shallow and intermediate (silty clay interface) zones for all other areas will proceed on a 120’x120’ grid.

v) Groundwater investigation must include monitoring/delineation of off-site Petroleum, PCB, VOC and SVOC contaminant plumes emanating from the site.

34. Section 3.2.3.1 Location Specific Investigation Activities

a) Error - The following is deleted from the approved version: Groundwater investigation also will be conducted at those AOCs where soil sampling, as described in Section 3.2.2, shows detection of COPCs exceeding PGW SCOs at or below the water table. The groundwater investigation plan is based on the CSM for each AOC as described in Table 3 and below.

i) The following clarification is part of the approved version: Groundwater investigation at the site will be conducted as per Section 3.2.3/DER-10 clarifications.

b) AOC-13 - The following is deleted from the approved version:

i) Groundwater investigation will be conducted where VOCs were detected in soil above PGW SCOs in the area of SSHS-MW47 and TCE was detected in soils excavated from the parking lot south of the Main Parking lot and west of A Wing in Summer 2017 2017 (the TCE Investigation Area, Table 3).

ii) Proposed well SSHS-MW-48: Potential groundwater impacts from TCE in soils in the parking lot area near SSHS-B92 and SSHS-B94, which is an area on the west side of the Site, will be further assessed by sampling at a newly installed monitoring well SSHS-MW-48 near SSHS-B92 (i.e., within twenty [20] feet) at the depth of eighteen (18) - twenty-eight (28) feet bgs. This is below the well screen depth of SSHS-B92 and hydraulically downgradient of SSHS-B92 and SSHS-B94. TCE was detected at concentrations just above TOGS near water table at SSHS-B92 and SSHS-B94, both of which were sixteen (16) feet deep. A review of historical data collected at SSHS-MW47 indicates an absence of TCE exceedances. Monitoring well SSHS-MW47 delineated the vertical extent of TCE at this location. Downgradient extent of TCE-impacts to groundwater will be further assessed by groundwater sampling from a temporary well east of SSHS-B92 / Proposed SSHSMW-48 (Figure 12B).

iii) Additional groundwater flow and chemistry data from this area will be collected to support the groundwater CSM. This will be conducted by installing two monitoring wells, one west and one north from the TCE impacted soil area. These wells will be included in synoptic rounds of groundwater sampling and water level measurements as described in Section 3.2.3.2.

iv) The following clarification is part of the approved version: Groundwater investigation will be conducted as per above AOC-13/16/18 clarifications and Section 3.2.3 / DER-10 clarifications within these areas and along the western edge of the site.

35. Section 3.2.3.2 Site-Wide Groundwater Data Collection Activities

a) Groundwater Sampling and COPC Analysis

i) The following clarification is part of the approved version: Once new monitoring wells are installed for each AOC and in accordance with Department direction (AOC specified / 120’ spacing or grid).

ii) The following is deleted from the approved version: To assess potential groundwater impacts near AOC2A / 2B, groundwater sampling is planned near

CB-15 (Figure 9), using a temporary well installed at the time of soil sampling at this location. The groundwater sampling plan is described in Table 5.

(1) The following clarification is part of the approved version: Groundwater investigation will be conducted as per above AOC2A / 2B clarifications and Section 3.2.3 / DER-10 clarifications.

iii) The following is deleted from the approved version: Document review and field observations related to the former railroad siding area information will be used to assess the necessity of up to two (2) temporary wells to evaluate potential groundwater impacts at the former railroad siding area.

(1) The following clarification is part of the approved version: Historic records and data collected has identified site related waste infrastructure and COPCs in the railroad siding area. Moreover, site surveys document on-site industrial facilities adjacent to the property line and surface drainage topography towards the railroad siding. Recent public comments identified the potential presence of a northern drainage culvert (small diameter) under the rail road tracks, draining the siding area to the east. Soil and groundwater investigation will proceed as per above AOC/Other Areas clarifications and Section 3.2.3 / DER-10 clarifications (downgradient).

iv) The following is deleted from the approved version: If groundwater results at a monitoring well exceed TOGs, a temporary well will be installed and sampled at a location downgradient (east northeast) and at the base of the water-bearing unit (approximately 45 feet bgs) to delineate groundwater impacts Figure 5).

(1) The following clarification is part of the approved version: Historic records and data identify site related COPCs having a specific gravity greater than 1, therefore initial groundwater investigation of the site will extend to the intermediate zone interface of the silty clay formation.

v) The following clarification is part of the approved version: Groundwater samples will be collected to monitor/delineate the Petroleum, PCB, VOC and SVOC contaminant plumes emanating from the site.

36. Section 3.2.3.3 Groundwater Sampling and Analysis for 1,4-Dioxane and Per-and Polyflouroalkyl Substances (PFAS)

The following clarification is part of the approved version: 1,4-Dioxane and PFAS sampling will be added to AOC 2A (CB-15 dry well) and AOC 18 (TCE Soils, Sanitary Sewer/Ejector) scope of work in addition to one downgradient location in the north field (once flow direction is confirmed).

37. Section 3.2.3.4 Groundwater Data Evaluation
    The following is deleted from the approved version: Assessment of groundwater COPCs will include a comparison of soil COPC results to PGW SCOs

38. Section 4.1.1 Soil Investigation
    The following clarification is part of the approved version: Soil sampling intervals (2-ft) must demonstrate a minimum of 50% recovery for sampling.

39. Section 8 – Schedule
    The following clarification is part of the approved version: Interim reporting and supplemental work plans for soil and groundwater investigation will be due 60 days from workplan approval.

40. Table 1 – AOCs Identified by NYSDEC
    The following clarification is part of the approved version: The Prior Investigation column contains accurate references however numerous errors in AOC correlation.

41. Table 2 – Soil Investigation Sampling Plan
    The following clarification is part of the approved version: Primary Sample Locations must be grouped and coded to AOCs. The table contains numerous errors as described above for each AOC.

42. Table 3 – Investigation Plan by Area

    a) The following clarification is part of the approved version: The CSM (Conceptual Site Model) column narrative is inadequate based on available information and is not supported with detailed plan and section figures. From DER-10 guidance, the conceptual site model should identify potential sources of contamination, types of contaminants and affected media, release mechanisms and potential contaminant pathways and actual/potential human and environmental receptors. This will assist in identifying and setting priorities for the activities to be conducted.

        i) Omitted available information, including but not limited to engineered / surveyed plans depicting location / elevation of potential release mechanisms (industrial process, floor drains, tanks, pits, pipes, sewers, oil skimmers, dry wells, bottomless basins, breached/leaking structures etc.), affected media (visual/olfactory/screening/data), overburden geology / hydrology (silty clay interface / groundwater elevations/flow), potential contaminant pathways (soil, water, vapor) and preferential pathways (sewer bedding, tunnels etc.) must be detailed in plan and vertical view to comprehensively assess the scope of planned remedial work for each AOC, site-wide and off-site areas.

    b) The following clarification is part of the approved version: The Investigation Rationale column narrative is inadequate based on available information and inconsistent with DER-10 guidance for remedial investigations. The narrative

contains errors and is not supported with detailed CSM figures. Potential sources may be in soil, groundwater and remaining structures at the site and migration of contaminants may be influenced by media, geology/hydrology and preferential pathways. A comprehensive remedial investigation rationale necessary to support a human health exposure assessment must include the location / characterization of remaining potential source structures and the sampling of all potential source and transport media (soil, groundwater, remaining structures and vapor) at locations and elevations of potential release mechanisms and along contaminant transport and preferential pathways.

43. Table 4 – Monitoring Wells:

    The following clarification is part of the approved version: Due to seasonal fluctuations in groundwater, data provided in this table must be grouped by date. Groundwater elevation, for each monitoring well/piezometer, must be included in this table, accurate to the nearest hundredth (0.01) foot relative to a permanent, on-site datum (GPS may not provide required accuracy).

44. Table 5 – Groundwater Investigation Sampling Plan

    The following clarification is part of the approved version: Table 5 will be updated based on the above clarifications, DER-10 and direction for initial sampling.

45. Figure 3 EHS Building & First Floor
    a) Figure 3 will include soil vapor sampling locations, a table of results and SSDS systems.

46. Figure 5 RI Sampling Flow Chart

    a) Figure 5 is deleted from the approved version.
    b) The following clarification is part of the approved version: RI sampling will proceed as described above, consistent with DER-10, Department direction and prior approvals.

47. Figure 6 – Former Combined Industrial Sewer

    a) The following clarification is part of the approved version: The following errors and omissions will be corrected in updated figures:

        i) Portions of 30” and 36” dia. pipe north of CB-15 have been surveyed and are not estimated as show
           (1) Surveyed section of 36” dia. pipe extends 395’ north of CB-15

        ii) Omitted data from CB-15

        iii) Omitted depiction and estimated direction of western lateral north of CB-24

iv) Alignment of western industrial sewer has not been surveyed and therefore must be show as estimated

48. Figure 7A-15C

a) The following clarification is part of the approved version: The following errors and omissions will be corrected in updated figures:

i) Existing and proposed borings and monitoring wells
(1) Icons scaled to small
(a) Existing locations not identified
(b) Proposed locations not easily distinguished from existing
(2) Existing data / proposed sampling tables must be included for area depicted
(3) The RI investigation and delineation of impacted media will require documented impacts (visual, olfactory, screening, data), potential release mechanisms and proposed investigation and delineation sampling to be depicted in plan view based on depth/sampling interval.

ii) Proposed soil and groundwater sampling locations should be updated as described above.

iii) Size/identifier of industrial sewer pipe

iv) Explanation - Industrial sewer line must be defined (dashed=estimated / solid=surveyed)

v) Industrial Sewer depiction
(1) 36” north of CB-15 has been surveyed
(2) Section north and south of CB-2 lateral is estimated
(3) 30” north of CB-15 has been surveyed
(4) 30” along western side of site is estimated
(5) Industrial sewer through football field area must be depicted

vi) Figures of the football field complex must be included.

vii) A combined on-site and off-site groundwater figure must be added depicting existing monitoring wells, impacts/depth(elevation) and proposed RI and delineation sampling locations/depths(elevation) in addition to off-site monitoring of contaminant plumes emanating from the site. Additional figures may be provided to depict seasonal groundwater elevations for the shallow and intermediate high flow zones above the silty clay layer.

viii) Figure 7A

(1) 36" diameter industrial sewer camera survey extended 395' north of CB-15, perforated by what appears to be a piezometer.

(2) Test Pit and Camera
  (a) Beyond bulkhead observed south east of CB-3 (historic record – "By-passed oil skimmer")
  (b) South of southern by-pass sludge obstruction
  (c) Must depict limits and data collected during Oil Skimmer #1 characterization (Site #808043 OS-2 IRMPDI 2014)

ix) Figure 8

(1) Cross section must be constructed from all available information and depict:
  (a) Potential release mechanisms as described above
  (b) Recorded impacts - Soil, Groundwater, Soil Vapor, Remaining Structures (visual, olfactory, screening and analytic data)
  (c) IRM #2 Remediation

x) Figure 9

(1) Plan must depict existing overburden soil borings exceeding SCOs and TSCA (on-site and off-site) and proposed delineation of impacts as described above.

xi) Figure 13 and 14

(1) Cross section must be constructed from all available information and depict:
  (a) Potential release mechanisms as described above
  (b) Recorded impacts - Soil, Groundwater, Soil Vapor, Remaining Structures (visual, olfactory, screening and analytic data)
  (c) Documented elevation of silty clay layer

Notice to proceed is granted based on these modifications which will be appended to the front and become part of the approved work plan and placed in the document repository. An updated schedule and workplan figures will be due in 20 days.

Please contact me at (585) 226-5480 if you have any questions regarding this letter.

Sincerely,

Digitally signed by Timothy A. Schneider
DN: cn=Timothy A. Schneider, o=NYSDEC, ou=DER, email=timothy.schneider@dec.ny.gov, c=US
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Timothy Schneider, P.E.
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