

8 September 2020

Mr. Timothy Schneider, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation
6274 East Avon-Lima Road
Avon, NY 14414

VIA ELECTRONIC MAIL

**Subject: Amendment #1 – Revised
Interim Remedial Measure #4 Work Plan
Former Sperry Remington Site – North Portion (NYSDEC #c808022)
777 South Main Street
City of Elmira, Chemung County, NY**

Dear Mr. Schneider:

On behalf of Unisys Corporation (Unisys), Geosyntec Consultants, Inc. and its New York engineering affiliate, B&B Engineers & Geologists of New York, P.C. (collectively, Geosyntec) are submitting this first amendment (Amendment #1) to the Interim Remedial Measure #4 (IRM #4) Work Plan for the Former Sperry Remington Site – North Portion (Site #c808022) (Site) in Elmira, New York. The Site is located at Elmira High School (EHS). IRM #4 is being conducted in accordance with the Brownfields Cleanup Agreement (BCA) for the Site executed on 23 March 2017 with the consent of Elmira City School District (ECSD). The revised Final (100%) IRM #4 Work Plan was submitted on 19 May 2020 and approved as modified by the New York Department of Environmental Conservation (NYSDEC) on 28 May 2020. IRM #4 construction began with mobilization on 1 June 2020 and substantial completion is expected on 28 August 2020. The purpose of IRM #4 is to conduct soil removal adjacent to the EHS building in anticipation of remedial activities and capital improvement in the EHS Football Field Complex (FFC) anticipated in the beginning of Fall 2020 and Spring 2021, respectively. Compounds of Potential Concern (COPCs) include polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals as at the Site based on comparison to Restricted Residential Soil Cleanup Objectives¹ (SCOs). Unisys submitted a draft Final (100%) IRM #5 Work Plan on 21 July 2020 to conduct soil removal and former industrial sewer removal in the EHS FFC beginning in October 2020. As we have discussed, Unisys wishes to continue remedial efforts at the Site in September 2020 in order to take advantage of the existing temporary facilities and current mobilization of the IRM contractor. This Amendment #1 to the IRM #4 Work Plan presents a portion of the IRM #5 soil removal scope of work that is directly adjacent to IRM #4 and could begin in September 2020 and has been revised in response to agency comments received on 31 August 2020.

¹ 6 NYCRR Subpart 375

PROPOSED SCOPE OF WORK

The IRM #4 Amendment #1 scope of work is presented in the Construction Drawings (**Attachment 1**) and will be conducted in accordance with the IRM #4 Construction Specifications included in the revised Final (100%) IRM #4 Work Plan. It will make use of existing temporary facilities constructed for IRM #4 with minor modifications as shown on the Construction Drawings. Soil removal will be conducted with cleanup goals consistent with those for IRM #4, which include:

- COPC concentrations in soils greater than or equal to Restricted Residential SCOs at depths less than two (2) feet bgs;
- Total PCB concentrations greater than or equal to ten (10) mg/kg at depths between two (2) feet bgs and fourteen (14) ft bgs
- Total PCB concentrations greater than or equal to 3.2 mg/kg within the vadose zone and below the water table.², where PCB have been detected above groundwater standards i.e. below fourteen (14) ft bgs;
- Metal³ concentrations greater than twenty (20) times the equivalent toxicity characteristic of hazardous waste with exception of lead; and
- Lead concentrations greater than 200 times the equivalent lead toxicity characteristic, i.e. 1,000 mg/kg⁴.

Total PCB concentrations are also compared to the limit of fifty (50) mg/kg for PCB remediation wastes as defined in 40 CFR §761.3 Toxic Substances Control Act (TSCA). TSCA limits are considered in PCB delineation for identification of those soils that may be classified as hazardous waste containing PCBs as defined in 6 NYCRR Part 371.4 (e). The following sections summarize key elements of the work.

Site Preparation

The IRM contractor will modify temporary facilities and controls including temporary fencing and erosion and sedimentation (E&S) controls. Temporary fencing will be relocated to the limit of disturbance (LOD) and E&S controls including silt fencing and straw wattle will be installed at the LOD to further prevent off-Site migration of potentially impacted materials. Temporary facilities constructed for IRM #4 will still be in place. A reuse stockpile area was constructed on the football field and will be used to stockpile excavated soils for potential reuse. A non-hazardous soil stockpile area and a TSCA Accumulation Area were constructed in the North Athletic Field (NAF) as shown on Sheet 3 of the Construction Drawings

² Depth to water was measured at 16.1 ft bgs at monitoring well MW-15S in September 2016 with a groundwater elevation of 839.62 feet above mean sea level (ft msl).

³ Resource Recovery and Conservation Act (RCRA) list of eight (8) metals (RCRA 8 metals) for which toxicity characteristics are based on toxicity characteristic leach procedure (TCLP) results: arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver.

⁴ Based on NYSDEC experience, lead concentrations of 1,000 mg/kg or greater are more indicative of soils having toxicity characteristics of hazardous waste.

(Attachment 1). The non-hazardous soil stockpile area will be used to stockpile soils for off-Site transport and non-hazardous disposal, and the TSCA Accumulation Area will be used to accumulate TSCA PCB remediation waste/hazardous waste for off-Site transport and disposal. A similar accumulation area will be constructed to the north of the TSCA Accumulation Area, if needed, for RCRA hazardous waste with total PCBs less than fifty (50) mg/kg. Existing temporary haul roads as shown on Sheet 3 will be used to transport excavated soils from the excavation to the stockpile areas. Existing infrastructure within the limit of excavation as shown on the Construction Drawings (**Attachment 1**) will be demolished prior to excavation and staged in the MSA for off-Site disposal or salvage as appropriate. Monitoring wells MW-39 and MW-44 will be abandoned in accordance with NYSDEC Policy CP-43. Monitoring wells MW-10, MW-11S/D, MW-29, MW-32, MW-33, MW-34, MW-36, MW-38 and MW-40 will be protected for future use. Well abandonment will be coordinated with the ongoing Site-wide Remedial Investigation.

Excavation and Soil Management

Excavation

Soils will be excavated to meet IRM #4 cleanup goals presented above. Site Characterization (SC) and Pre-Design Investigation (PDI) data have been used to determine the limits of excavation to achieve those cleanup goals and the limits of PCB remediation waste within the excavation in two-foot intervals as shown on the Construction Drawings. Those data have been presented in the draft Final (100%) IRM #5 Work Plan submitted to NYSDEC on 21 July 2020 and the FFC PDI Data Report submitted to NYSDEC on 2 September 2020. An overall excavation grading plan is presented on Sheet 4 along with the as-built subgrade elevations of IRM #4 completed in August 2020. Updated maps that include unvalidated results from IRM #4 sidewall and bottom samples are included in **Attachment 2**.

Excavation depths of four (4) feet or greater will be achieved using excavation side slopes of two (2) horizontal to one (1) vertical (2H:1V) where feasible. Environmental slide rail systems will be used to provide temporary support of excavation (SOE) in order to support existing infrastructure including the EHS building foundation and storm sewer lines as shown on the Construction Drawings in **Attachment 1**. Environmental slide rail systems were approved as temporary SOE for IRM #4. The northern slide rail posts and panels from IRM #4 will become the southern SOE wall and will remain in place for use during Amendment #1. Additional slide rail posts and panels will be installed to form the northern SOE wall for Amendment #1 and the slide rail cells. After completion of Amendment #1, all remaining SOE elements will be removed. SOE design analysis is provided in **Attachment 3**.

Subsurface utilities within the excavation that cannot be protected by the SOE design, including electric, water, data communication and select storm sewer, will be removed. Restoration of utilities will be in coordination with IRM #5 construction and ECSD capital improvements of the FFC. Water, electric and data communication services to the EHS building will be maintained during IRM construction in coordination with ECSD. Submersible pumps will be installed in upstream catch basins to collect storm water and discharge it to downstream catch basins as shown on the Construction Drawings in order to maintain stormwater management during construction. New storm drain sections will be installed at the completion of excavation so that the storm drain bypass can be removed. Horizontal and vertical extents of waste excavations and the location, type, and dimensions of existing underground utilities prior to demolition will be surveyed by a NYS licensed surveyor to document as-built conditions.

Soil Management

Excavation will require the removal of soil cover consisting of NYSDEC-approved imported soil above a demarcation layer. Previously imported soil from above the demarcation will be removed and stockpiled for reuse without characterization. Soils outside of and below the soil cover system will be managed in two-foot intervals as shown on the Construction Drawings:

- Layback soils outside of the extent of the soil cover system or areas being excavated to achieve IRM cleanup will be stockpiled in the reuse stockpile area for chemical testing for potential reuse as backfill between two (2) and fourteen (14) ft bgs. Soils that overlay PCB remediation waste will be staged on poly sheeting within the work area for testing prior to transport to the MSA. PCB analyses will be expedited (i.e. 1-day turnaround time). If total PCBs are less than fifty (50) mg/kg, NYSDEC approval will be requested to transfer those overlay soils to the MSA;
- Soils with total PCB concentrations less than ten (10) mg/kg and either RCRA 8 metal concentration greater than twenty (20) times the equivalent toxicity characteristic of hazardous waste or lead concentrations greater than 200 times the equivalent lead toxicity characteristic, i.e. 1,000 mg/kg will be stockpiled adjacent to the excavation pending waste characterization (approximately 240 CY) – See Metals Handling Section below for further details;
- Soils with total PCB concentrations greater than ten (10) mg/kg and less than fifty (50) mg/kg will be stockpiled in the non-hazardous soil stockpile area pending waste characterization (approximately 1,900 CY).
- Soils from within the limits of PCB remediation waste (greater than or equal to fifty (50) mg/kg) will be temporarily stored in a TSCA Accumulation Area prior to loading in the TSCA Loading Area for off-site disposal as hazardous waste (approximately 2,000 CY); and
- Soils from at or near the water table with total PCB concentrations greater than 3.2 mg/kg and less than fifty (50) mg/kg will be managed as PCB remediation waste and will be accumulated in a TSCA Accumulation Area prior to loading in the TSCA Loading Area for off-Site disposal (approximately 350 CY).

Temporary transit roads will be constructed over non-TSCA areas for TSCA equipment to move between TSCA excavation areas and the TSCA accumulation area and vice versa.

Metals Handling

Soils in areas with elevated concentration of metals including lead, i.e. concentrations greater than twenty (20) times the equivalent RCRA toxicity characteristic of hazardous waste may be characterized as RCRA hazardous waste based on TCLP metals analyses. During the FFC PDI, a selection of soils identified for disposal were sampled for waste characterization with analyses for pH, cyanide, sulfide, flash point, TCLP volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), herbicides and pesticides, and metals. Within the proposed Amendment #1 excavation area, one (1) sample had lead TCLP results above the toxicity characteristic threshold of five (5) mg/L. Sample SSHA-B2673-SUB-2-4, located in an

area designated for disposal as PCB remediation waste, had a TCLP lead results of 29 mg/L. Soils in other areas designated for disposal as TSCA PCB remediation waste or non-hazardous waste may require TCLP metals analyses as part of waste characterization prior to transport for off-Site disposal. Waste characterization samples will be collected either in situ prior to excavation or from soil stockpiles. In-situ sample collection is most appropriate for TSCA areas. For in situ sample collection, soil samples will be composited from soil cores collected from soil borings advanced to depth prior to excavation. Boring locations will be randomly selected from within the area but will include the location with elevated metals results. Soil from three (3) to five (5) soil cores will be used for the composite sample to be representative of the area.

Based on TCLP metals analytical results, soils in TSCA areas will be handled as follows:

- If TCLP metals results are below RCRA toxicity characteristics, soils will be managed as PCB remediation waste and NYS hazardous waste in the TSCA Accumulation Area;
- If TCLP metals results are above RCRA toxicity characteristics, soils will be managed as a mixed TSCA/RCRA waste in the TSCA Accumulation Area.

Alternatively, soils in TSCA areas with elevated metals may be classified as a mixed TSCA/RCRA waste based on total constituent analyses, pending waste facility acceptance. It is anticipated that it will not be necessary to stabilize metals on-site prior to transport for disposal.

Areas with elevated metals concentrations and total PCB concentrations less than ten (10) mg/kg constitute a small volume (approximately 240 cubic yards) of the total excavation, primarily in the interval 2 to 4 feet bgs. These soils will be staged on 30-mil LDPE sheeting with a hay bale berm in the vicinity of the excavation for sampling for expedited TCLP metals analyses. Piles will be covered with 30-mil LDPE sheeting after sampling pending receipt of analytical results, at the end of each workday and when not in use. Based on TCLP metals analytical results, soils in these areas will be handled as follows:

- If TCLP metals results are below RCRA toxicity characteristics, soils will be managed as non-hazardous waste in the non-hazardous soil stockpile area;
- If TCLP metals results are above RCRA toxicity characteristics, soils will be managed separately as a RCRA waste in a RCRA Accumulation Area to be constructed to the north of the TSCA Accumulation Area, if needed.

Confirmation Sampling

The native soil horizon will be documented during these excavations. Confirmation sampling of excavation side walls and bottom will be conducted as the excavation proceeds in accordance with Section 5.4 (b) of DER-10 as follows:

- one sample from the bottom of each sidewall for every thirty (30) linear feet of sidewall; and
- one sample from the excavation bottom for every nine hundred (900) square feet of bottom area.

Sidewall samples will be collected at two-foot (2-ft) intervals consistent with soil management as shown on the Construction Drawings. If a depth cannot be reached, then a sidewall sample will be collected for the excavation depth achieved. Confirmation samples will be submitted to the fixed laboratory for expedited (i.e. 1-day laboratory turnaround time) analyses for PCBs and target analyte list (TAL) metals in accordance with the Quality Assurance Project Plan (QAPP) included in the Final (100%) IRM #4 Work Plan. Unvalidated data will be available for NYSDEC review approximately three (3) days after sample collection. Upon receipt of unvalidated data, analytical results will be compared to the IRM cleanup goals. Procedures for excavation step-out and step-down based on unvalidated confirmation sampling results are presented in **Table 8** of the Final (100%) IRM #4 Work Plan. Decisions regarding step-out or step-down of the excavation will be made in consultation with NYSDEC and ECSD. Confirmation sample locations will be biased to areas with the highest concentrations of COPCs. NYSDEC will approve final sample locations and may request additional samples. Sidewall samples will be not collected on the northern sidewall where the proposed Amendment #1 excavation is adjacent to areas that will be excavated to depths of six (6) feet bgs during IRM #5. Sidewall samples will also not be collected in areas adjacent to where soils were removed during IRM #4, e.g. where the south wall of the slide rail trench is adjacent to the north wall of the IRM #4 slide rail trench. Sheet 4 of the Construction Drawings shows where the IRM #4 and Amendment #1 excavations overlap.

Additional confirmation or documentation samples may be collected based on visual or olfactory observations or field screening during excavation. A qualified environmental professional (QEP) will request analyses of those samples for COPCs (not limited to PCBs) in accordance with the QAPP and in consultation with NYSDEC. All confirmation data will be submitted to NYSDEC's EquIS database in accordance with NYSDEC requirements. Confirmation sample location and elevation will be surveyed by a NYS licensed surveyor to document as-built conditions.

Groundwater

It is anticipated that groundwater may be encountered at or around sixteen (16) ft bgs. Groundwater entering the excavation will be managed using methods described below. Previous well installations have encountered a glacial outwash layer between sixteen (16) and thirty-six (36) ft bgs. This layer was observed during installation of monitoring well MW-15D and historical EHS production wells. Boring logs and pump test logs of the EHS production wells were provided in **Appendix F** of the Final (100%) IRM #4 Work Plan. Flow tests of the EHS production wells in 2000 reported flow between 570 and 602 gallons per minute (gpm) with 1.96 and 2.63 feet of drawdown, respectively. If bottom sample results at the water table exceed the cleanup goal of 3.2 mg/kg total PCBs, the necessity for stepping down the excavation would be evaluated based on:

- Unvalidated bottom sample results;
- Pre-design soil analytical data from "deep" excavations (near water table);
- Lithology (e.g. gravel, cobbles vs. sand, silt); and
- Infiltration rate as an indicator of transmissivity.

If further excavation below the water table is required, ground water will be managed using water management methods described below. Glacial outwash conditions may limit the feasibility of dewatering for further excavation at depth within schedule. Drawdown during dewatering will be observed for four (4) hours to assess its effectiveness. If the observed drawdown is ineffective to allow deeper excavation to proceed, NYSDEC will be advised that the technical practicality of dewatering is considered low and that deeper excavation should be halted.

Obstructions

Boring refusal was encountered at various locations during SC and PDI activities as shown on **Figure 1**. This refusal may be due to rubble or historic subsurface structures also shown on **Figure 1**. NYSDEC will be notified immediately of any previously unidentified subsurface structures encountered within the excavation. Unidentified structures encountered will be characterized to determine active function, contents and integrity for removal. Structure type, location and elevation will be surveyed by a NYS licensed surveyor. Structures will be demolished and removed if feasible and debris will be stockpiled and characterized for off-Site disposal based the surrounding soils in which they are encountered. Structures encountered in hazardous or PCB remediation waste will be cleaned and sampled for disposal as non-hazardous waste, if appropriate. If removal is not feasible during IRM #4 construction, such structures shall be left in place and documentation samples will be collected from around the structure. Documentation samples will be analyzed for PCBs, TAL metals, SVOCs and VOCs and sample locations will be surveyed by a NYS licensed surveyor to document as-built conditions.

Excavation Completion

Excavation will be complete after achievement of cleanup goals has been demonstrated by unvalidated confirmation sampling results or after documentation samples have been collected in areas where COPCs will be left in place. NYSDEC approval will be required to confirm that prior to backfilling any portion of the excavation of the excavation has been completed. The extent of the excavation will be surveyed and a demarcation layer, consisting of orange snow fencing material, white geotextile or equivalent material, will be placed in the excavation to provide a visual reference of the limit of fill material for future excavations. Some demolished utilities, e.g. storm drains, will be replaced in order to remove the storm drain bypass. Backfilling of the Amendment #1 excavation and restoration of other utilities will be completed during IRM #5 in coordination with ECSD's plans for FFC capital improvements.

Stockpile Methods

Upon excavation, excavated soils will be stockpiled in the following categories based on potential for reuse or waste category including:

- NYSDEC-approved imported fill used as soil cover above a demarcation layer;
- Soils previously approved by NYSDEC for reuse as backfill below a demarcation layer;
- Uncharacterized soils with the potential for reuse as backfill below two (2) ft bgs in accordance with Section 5.4 of DER-10;

- Soils with total PCB concentrations less than ten (10) mg/kg and lead concentrations greater than 1,000 mg/kg or other RCRA 8 metal concentrations greater than twenty (20) times the equivalent toxicity characteristic will be stockpiled adjacent to the excavation pending waste characterization (approximately 240 CY);
- Soils with total PCB concentrations greater than ten (10) mg/kg and less than fifty (50) mg/kg that will be transported off-Site for disposal as non-hazardous waste (approximately 1,900 CY); and
- Soils with total PCB concentrations greater than or equal to fifty (50) mg/kg that will be transported off-Site for disposal as hazardous waste (approximately 2,000 CY); and
- Soils from near the water table with total PCB concentrations greater than or equal to 3.2 mg/kg and less than fifty (50) mg/kg that will be transported off-Site for disposal as PCB remediation waste (approximately 350 CY).

NYSDEC-approved imported fill used as soil cover above a demarcation layer and soil previously approved by NYSDEC for reuse as backfill below a demarcation layer during IRM #1 and IRM #3 will be stockpiled separately within the re-use soil stockpile area as shown on the Construction Drawings (**Attachment 1**) for reuse below a demarcation layer without re-testing. Uncharacterized soil from the excavation including layback that will be potentially reused as backfill below two (2) ft bgs will be stockpiled in the MSA in windrows and characterized for approval for reuse at a maximum frequency of approximately one hundred (100) cubic yards in volume.

Each newly placed soil stockpile to be used for backfilling below two (2) ft bgs as part of the IRM will be inspected by the QEP for visual or olfactory impacts, solid waste, bricks or debris and screened with a photoionization detector (PID) for elevated VOC vapor levels. Soils will be sampled for analyses for PCBs, metals, SVOCs, and VOCs at the frequency presented in Table 5.4 (e) 10 of DER-10 in accordance with the QAPP. Soils that exhibit visual or olfactory impacts or that exhibited elevated PID readings will be segregated for additional testing at the direction of the QEP prior to re-use as backfill. Stockpiles with observed solid waste or debris will be segregated for potential off-Site disposal. Stockpiles with observed bricks, concrete, or other inert materials will be evaluated for use in structural backfill. Unvalidated analytical results will be submitted to NYSDEC with a request to reuse as backfill below the soil cover system and at least two (2) feet above the water table. Upon approval by NYSDEC for reuse, windrows may be consolidated with other soils approved by NYSDEC for reuse.

Soils with total PCB concentrations greater than ten (10) mg/kg and less than fifty (50) mg/kg will be managed as non-hazardous waste to be transported off-Site for disposal at an appropriate treatment storage and/or disposal facility. Non-hazardous soils accepted for disposal will be stockpiled in the MSA and then loaded for transport from there to the receiving facility. If further characterization of soils is required by the receiving facility for waste profile approval, those soils will be segregated within the MSA for waste characterization sampling and staged for off-Site transport and disposal.

Soils identified for disposal as hazardous waste or PCB remediation waste will be accumulated in a TSCA Accumulation Area prior to loading in the TSCA Loading Area for off-site disposal. The TSCA Accumulation Area as shown on Sheet 3 of the Construction Drawings (**Attachment 1**) was constructed

during IRM #4 and is located in a secure portion of the NAF. The TSCA accumulation stockpile and all other soil stockpiles will be covered with poly sheeting and secured at the end of each workday, when not in active use, or during heavy rain or wind events.

Soils with total PCB concentrations less than ten (10) mg/kg and lead concentrations greater than 1,000 mg/kg or other RCRA 8 metal concentrations greater than twenty (20) times the equivalent toxicity characteristic will be staged in the vicinity of the excavation pending waste characterization as described in the Metals Handling section above. These soils will be managed as non-hazardous waste or RCRA hazardous waste as discussed above, as required by the waste characterization results.

The TSCA accumulation area and the non-hazardous stockpile area will be accessed by separate temporary haul roads constructed on NSRC property during IRM #4 so that haul trucks will not need to access South Main Street except for off-Site transport and disposal. The reuse stockpile area is located on the northern portion of football field and will be accessed by temporary haul roads within the excavation

Off-Site Disposal

Hazardous Waste

Soils with total PCB concentrations greater than or equal to fifty (50) mg/kg will be classified as PCB remediation waste under TSCA and as hazardous waste containing PCBs as defined in 6 NYCRR Part 371.4 (e). These wastes may also be classified as RCRA characteristic wastes (D004 – D011) for metals. TSCA/hazardous waste and mixed TSCA/RCRA hazardous waste will be accumulated in the TSCA Accumulation Area prior to loading in the TSCA Loading Area for off-Site disposal. Trucks will be loaded in the TSCA Loading Area for transport of hazardous waste for off-Site disposal at an appropriate treatment storage and/or disposal facility. Each shipment will have the required manifest, labeling and placarding in accordance with Federal and state laws and regulations. It is estimated that approximately 2,000 CY (3,800 tons) of soil will be removed as hazardous waste containing PCBs.

Soils with total PCB concentrations less than fifty (50) mg/kg and TCLP metals results above RCRA toxicity characteristics will be classified as RCRA hazardous waste. RCRA hazardous waste will be accumulated in the RCRA Accumulation Area to be constructed if needed. Trucks will be loaded in the RCRA Loading Area for transport of hazardous waste for off-Site disposal at an appropriate treatment storage and/or disposal facility. Each shipment will have the required manifest, labeling and placarding in accordance with Federal and state laws and regulations. Approximately 240 cubic yards (456 tons) of soil could be classified as RCRA hazardous waste based on total metal concentrations. Waste classification will be determined by the results of TCLP metals analyses.

Non-hazardous waste

Soils identified for disposal as non-hazardous waste will be stockpiled in non-hazardous soil stockpile area for off-Site transport and disposal. Stockpiles will be maintained and secured so that soils do not migrate from staging and stockpile locations. In the event that soils have not been pre-characterized for disposal, composite samples will be collected for analyses for waste characteristics at a frequency consistent with the requirements of the receiving facility. Trucks will be loaded in the non-hazardous soil stockpile area for transport for off-Site disposal at an appropriate treatment storage and/or disposal facility. Each shipment

will have the required manifest, labeling and placarding in accordance with Federal and state laws and regulations. It is estimated that approximately 2,140 CY (4,100 tons) of soil will be removed as non-hazardous waste.

PCB Remediation Waste

Soils with total PCB concentrations greater than or equal to 3.2 mg/kg and less than fifty (50) mg/kg from at or below the water table will be classified as PCB remediation waste under TSCA. Soils classified as PCB remediation waste will be accumulated in the TSCA Accumulation Area prior to loading in the TSCA Loading Area for off-site disposal. Trucks will be loaded in the TSCA Loading Area for transport of hazardous waste for off-Site disposal at an appropriate treatment storage and/or disposal facility. Each shipment will have the required manifest, labeling and placarding in accordance with Federal and state laws and regulations. It is estimated that approximately 350 CY (665 tons) of non-hazardous PCB remediation waste will be disposed.

Estimated Truck Traffic

Based on proposed soil volumes to be transported between the Site and the MSA, necessary on-Site truck traffic has been estimated as follows:

- Transport of non-hazardous soil to the MSA via the temporary haul road for stockpiling for potential reuse or non-hazardous disposal: 450 cubic yards per day (20 to 22 loads per day);
- Transport of soils approved for reuse from the MSA for use as excavation backfill via the temporary haul road: 450 cubic yards per day (20 to 22 loads per day); and
- It is unlikely that excavation and backfilling operations will be concurrent, so truck traffic to and from the MSA will not exceed 22 loads per day.

Necessary truck traffic on public roads for off-Site disposal has been estimated as follows:

- Transport of hazardous waste/PCB remediation waste on public roads for off-Site disposal: 200 to 250 tons per day (10 to 20 loads per day);
- Transport of non-hazardous soil on public roads for off-Site disposal: 400 to 440 tons per day (15 to 25 loads per day);
- Transport on public roads for off-Site disposal (hazardous waste/PCB remediation waste and non-hazardous soil) will not exceed 35 loads per day without prior notification of NYSDEC; and
- Trucks will enter and exit the Site between the hours of 7:00 AM and 5:00 PM except during student arrival and departure when school is in session. No truck traffic will occur outside those hours with prior notification of NYSDEC.

Each vehicle will be inspected prior to shipment. Each vehicle will be lined and covered, and the tailgate secured. The wheels, sides and underbody will be decontaminated prior to departure from the Site as described in the Construction Specifications.

The planned on-Site journey management plan for the material which will be handled during the IRM will be discussed with the City of Elmira Traffic Engineering Department. All trucks hauling impacted soils on the public roadway will have a valid NYS Part 364 Waste Transporter Permit. Proposed haul routes are presented on **Figure 2**. Routes have been selected to avoid planned road construction in Elmira during the IRM, difficult traffic areas as well as to utilize routes with the most marked pedestrian crossings to ensure maximum safety.

Over the road haul trucks which will transport hazardous waste, PCB remediation waste and non-hazardous waste will enter and exit the MSA via the temporary haul road to South Main Street. Off-road haul trucks which will transport soils between the Site and the MSA will use the temporary haul road to enter and exit the excavation as presented on **Figure 2**.

All trucks leaving the Site for off-Site disposal will travel north on South Main Street, cross the Chemung River and travel east on East Water Street to the interchange with Interstate 86. Additional trucks will enter the Site via the temporary construction entrance on South Main Street for delivery of equipment and supplies, as needed.

Water Management

Storm water contacting potential PCB impacted soils (contact water) will be segregated from storm water entering areas cleaned of PCB impacted soils (non-contact water). Contact and non-contact water shall remain separated at all times. Contact water generated within the excavation will be minimized and managed to the extent practical. Grading shall be performed as necessary to divert surface water runoff from entering excavation areas and all stockpiles will be tightly covered. Diversion control berms and temporary drainage channels shall be constructed as needed and maintained.

Standing water remaining after storm events will be removed from the excavation in a timely manner using vacuum trucks and/or dewatering sumps. Any contact water generated will be conveyed overland via hose to frac tanks staged on-Site. Liquids will be pumped through a filter skid prior to entering the storage tanks as PCBs are typically not readily water soluble and therefore running these liquids through filter bags prior to storage will help to reduce the potential TSCA waste from the project site. Once a tank nears capacity, waste characterization samples will be collected for waste profiling and off-Site disposal.

As excavation proceeds to the final depth near the water table, groundwater may be encountered. Excavation below the water table may be required by the Engineer and NYSDEC to achieve cleanup goals. Moist or wet soils will be placed on poly sheeting on the slope and any excess water will decant back into the bottom of the excavation. After those soils have sufficiently drained, they will be transported to the TSCA Accumulation Area for stockpiling and loadout. Any residual moisture will be contained within the TSCA Accumulation Area, collected in the sump for that area and transferred to a frac tank for off-Site treatment and disposal. In the case of moderate ground water infiltration, sumps will be constructed at the base of the excavation. Pumps with sufficient lift and a pumping capacity of up to fifteen (15) gpm will

transfer water collected in the sumps to an adjacent frac tank for off-Site disposal. Approximately 20,000 gallons of capacity is reserved for excavation dewatering activities. A contingency plan for additional capacity will be provided within one day based on actual conditions encountered if this capacity will be exceeded. Drawdown during initial dewatering will be observed for four (4) hours to assess its effectiveness. If the observed drawdown is ineffective to allow deeper excavation to proceed, NYSDEC will be advised that the technical practicality of dewatering is considered low and that dewatering operations should be halted.

Dust Control and Monitoring

Dust control and monitoring shall be conducted throughout the Site during all phases of work in accordance with the Soil/Dust Control and Monitoring Plan (SDCMP) included as **Appendix F** in the Final (100%) IRM #4 Work Plan. The SDCMP has been developed to be consistent with New York State Department of Health's (NYSDOH's) Generic Community Air Monitoring Plan (CAMP). The QEP will be responsible for the implementation of the dust monitoring, control and mitigation measures.

Dust control shall be conducted to prevent the presence of visible dust as determined by visual observation and continuous dust monitoring. Visible dust shall not leave the exclusion zone. Dust control measures shall be applied periodically throughout each workday. Dust control may be conducted by sprinkling with water until the surface is wet; restricting vehicle speeds, covering excavation areas and stockpile areas; and reducing the excavation size and/or number of excavations. Additional dust control measures will be considered during intrusive activities within twenty (20) feet of potentially exposed populations or occupied structures including dust barriers and special ventilation devices.

Continuous air monitoring for PCBs will be conducted in accordance with the SDCMP. The air monitoring program will include two different types of ambient air quality measurements: (1) real-time dust monitoring using direct reading instruments, and (2) time-integrated air sampling and fixed laboratory PCB analyses. Continuous real-time particulate monitoring will be conducted at the upwind and downwind perimeter of the exclusion zone(s) using portable monitors. A minimum of one (1) upwind and four (4) downwind locations shall be monitored. The four (4) downwind locations shall be equally distributed along the perimeter of the work area(s). Work areas are areas where ground intrusive activities and/or soil handling is occurring. During work activities within twenty (20) feet of potentially exposed populations or occupied structures, continuous monitoring locations will be selected based on the nearest potentially exposed individual and the location of ventilation system intakes for nearby structures. Proposed air monitoring locations are presented on **Figure 3**. Air monitoring locations will be adjusted, as necessary, based on changes in wind direction.

Continuous real-time particulate (PM10) monitoring shall be conducted during excavation, grading, placement of clean fill, or other activities which may generate fugitive dust. Action levels for dust are presented in the SDCMP. If an action level for dust is reached, Site operations will be stopped and dust control measures in the working area will be implemented. Mitigation measures for dust may include increasing the level of personal protection for on-Site personnel, increasing water spraying, or stopping work. If dust suppression techniques being utilized at the Site do not lower particulates to an acceptable level, work will be suspended until appropriate corrective measures are approved by the QEP to remedy the situation.

Time-integrated sampling will be used to provide chemical-specific data for the assessment of potential impacts. One (1) upwind and three (3) downwind real-time monitoring locations will be used for time-integrated sampling for PCBs during excavation of PCB-impacted soils. Time-integrated samples for PCB analyses will be completed under expedited three-day (3-day) laboratory turnaround times (TAT). These time-integrated samples will be used for assessing the potential for off-Site exposures. Time integrated samples will be collected during work hours (excluding lunch and break time) from each sampling location using high-volume air samplers. Time-integrated sampling will be implemented during excavation, stockpiling, and load-out of soils with PCB concentrations are greater than fifty (50) mg/kg. Action levels for total PCBs in ambient air will be 110 nanograms per cubic meter as noted in the 28 May 2020 NYSDEC approval of the Final (100%) IRM #4 Work Plan. If any total PCB concentration exceeds the PCB action level, NYSDEC and NYSDOH will be notified immediately and work practices will be re-evaluated, and changes will be implemented, as appropriate. Changes may include additional watering of excavation and soil handling areas, rush (1-day TAT) PCB analyses, and additional time-integrated sampling locations.

Daily Construction Inspection Reports (Daily Reports) will be sent the NYSDEC and the NYSDOH the following day. Daily Reports summarizing work completed Friday through Sunday will be submitted no later than the following Monday. CAMP data will be attached the Daily Report.

Vibration Monitoring and Building Survey

Vibration monitoring will be required during excavation within 100 feet of the EHS building. A building condition survey will be performed to assess the pre- and post-construction conditions of the EHS building. The building condition survey and vibration monitoring shall be performed in accordance with the requirements of the Construction Specifications. Written approval for building condition surveys and vibration monitoring will be obtained from ECSD and provided to NYSDEC prior to construction. Additional monitoring for vertical and lateral deflection of the EHS building will be conducted during and after installation of the environmental slide rail system. A transit will be set up to monitor the building and foundation for movement and stability during installation of the slide rail support system and excavation of soils. The building monitoring is accomplished by using automated motorized total stations (AMTS) and prisms. The monitoring prisms have been installed on the outside of the existing school building. The AMTS will shoot and record the position of the prism on pre-determined and scheduled intervals.

Temporary Use Restrictions

There will be temporary use restrictions of the EHS property during IRM #4 Amendment #1 construction to ensure safe access during construction work. Access to the FFC and the North Athletic Fields will be restricted by temporary fencing. A temporary rally point has been constructed in parking lot adjacent to the basketball courts. In the event of an evacuation or evacuation drill, all IRM activities will be halted until ECSD gives permission for them to resume. Requirements for work on school properties are presented in Specification Section 01 14 00 (**Attachment 4**). Additional safety and security measures will be in place for work during normal school activities including 24-hour security and reinforced temporary fencing adjacent to excavations close to the LOD.

HEALTH AND SAFETY

All Site activities will be performed in such a manner as to ensure the safety and health of all personnel and the surrounding community. All Site activities shall be conducted in accordance with all pertinent general industry (29 CFR 1910) and construction (29 CFR 1926) Occupational Health and Safety Administration (OSHA) standards, as well as any other applicable New York State and municipal codes or ordinances. All Site activities will comply with those requirements set forth in OSHA's final rule entitled Hazardous Waste Operation and Emergency Response (HAZWOPER), 29 CFR 1910.120, Subpart H.

To ensure that all Site activities are in compliance, each contractor will prepare a Health and Safety Plan (HASP) in accordance with the aforementioned regulations. Each HASP shall conform to the requirements of 29 CFR 1910.120 and all applicable state, federal, local, and other health and safety requirements and safe construction practices not specifically identified in these requirements. A Site-specific HASP has been prepared for IRM tasks. A contingency for chemical specific PCB monitoring would be developed in the event the State determines that it is necessary.

The IRM Contractor will provide a "competent person" per 29 CFR 1926 Subpart P – Excavations on-Site during excavations. The qualifications of the designated "competent person" will be provided to NYSDEC prior to IRM construction. Excavations will be secured with temporary fencing and enhanced barriers at LOD if they remain open for an extended time. Open excavations will be monitored for standing water and dust. Water management and dust control measures will be implemented as appropriate.

ENHANCED COMMUNICATION

An Enhanced Community Liaison Plan (ECLP) has been prepared to highlight additional measures being implemented prior to initiation of IRM construction in Fall 2020, and also serves to describe the project, project team members, community, and stakeholders. PM10 data will reported daily and results from time-averaged air sampling for PCBs will be reported weekly to NYSDEC for posting on the project web site to be hosted by NYSDEC. Each month, an update and newsletter will be posted to the project website summarizing project status, upcoming activities, and items of interest related to the construction process or onsite health and safety measures. Enhanced communications and security measures will begin when work on Amendment #1 begins.

SCHEDULE AND DELIVERABLES

Schedule

The proposed schedule for the IRM #4 Amendment #1 is presented in **Table 1**. The following are milestone dates applicable to this IRM:

- 19 August 2020 – IRM #4 Work Plan Amendment #1 Submittal;
- 8 September 2020 – Revised IRM #4 Work Plan Amendment #1 Submittal;
- 8 September 2020 – Teachers return to EHS;

- 10 September 2020 – Students return to EHS;
- 16 September 2020 – IRM #4 Amendment #1 construction start with enhanced security and communication;
- 16 October 2020 – Excavation Completion; and
- 19 October 2020 – IRM #5 Mobilization (pending Agency approval).

The proposed schedule is based on excavation of up to 600 cubic yards per day. Based on construction of previous IRMs at the Site, the schedule includes contingency for delays of up to three (3) days due to weather. Anticipated working hours are Monday through Saturday during daylight hours. Work on Sundays may be required to meet schedule milestones.

Deliverables

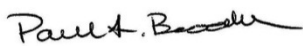
A construction completion report (CCR) will be prepared in accordance with Section 5.8 of DER-10 to document the implementation of the IRM. The CCR will include a description of IRM construction activities, as-built drawings, daily field reports, analytical data reports, and disposal manifests. The CCR will be delivered to NYSDEC within ninety (90) days of substantial completion of IRM #4 Amendment #1.

CLOSING

Geosyntec appreciates the opportunity to submit this work plan amendment to the NYSDEC, NYSDOH and ECSD. If you have any questions, please contact Mr. Kevin Krueger of Unisys at (651) 687-2210.

Sincerely,

Geosyntec Consultants, Inc.



Paul Brookner
Principal/Project Director
Geosyntec Consultants, Inc.



Aron Krasnopoler, Ph.D., P.E.
Senior Engineer/Project Manager
B & B Engineers and Geologists of New York, P.C.

- Attachments:
- Table 1 – IRM Schedule
 - Figure 1 – Boring Refusal and Historic Structures
 - Figure 2 – Truck Haul Routes
 - Figure 3 – CAMP Monitoring Locations
 - Attachment 1 – Construction Drawings
 - Attachment 2 – Proposed Excavation and Extent of Metals Maps
 - Attachment 3 – Shoring Plan and Design
 - Attachment 4 – Construction Specifications

Copies to:	Dave Pratt NYSDEC Ben Conlon, NYSDEC Michael Cruden, NYSDEC Sara Bogardus, NYSDOH Joe Magliocca, ECSD Hillary Austin, ECSD Paul Sylvestri, Harter, Secrest & Emery	Kevin Krueger, Unisys Terry Etter, Unisys Elizabeth Parker, Unisys Michael G. Murphy, Beveridge & Diamond
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CERTIFICATION

I Aron Krasnopoler certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Amendment #1 to the Interim Remedial Measures #4 Work Plan for the Former Sperry Remington Site – North Portion dated 8 September 2020 was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).



Aron Krasnopoler, P.E.

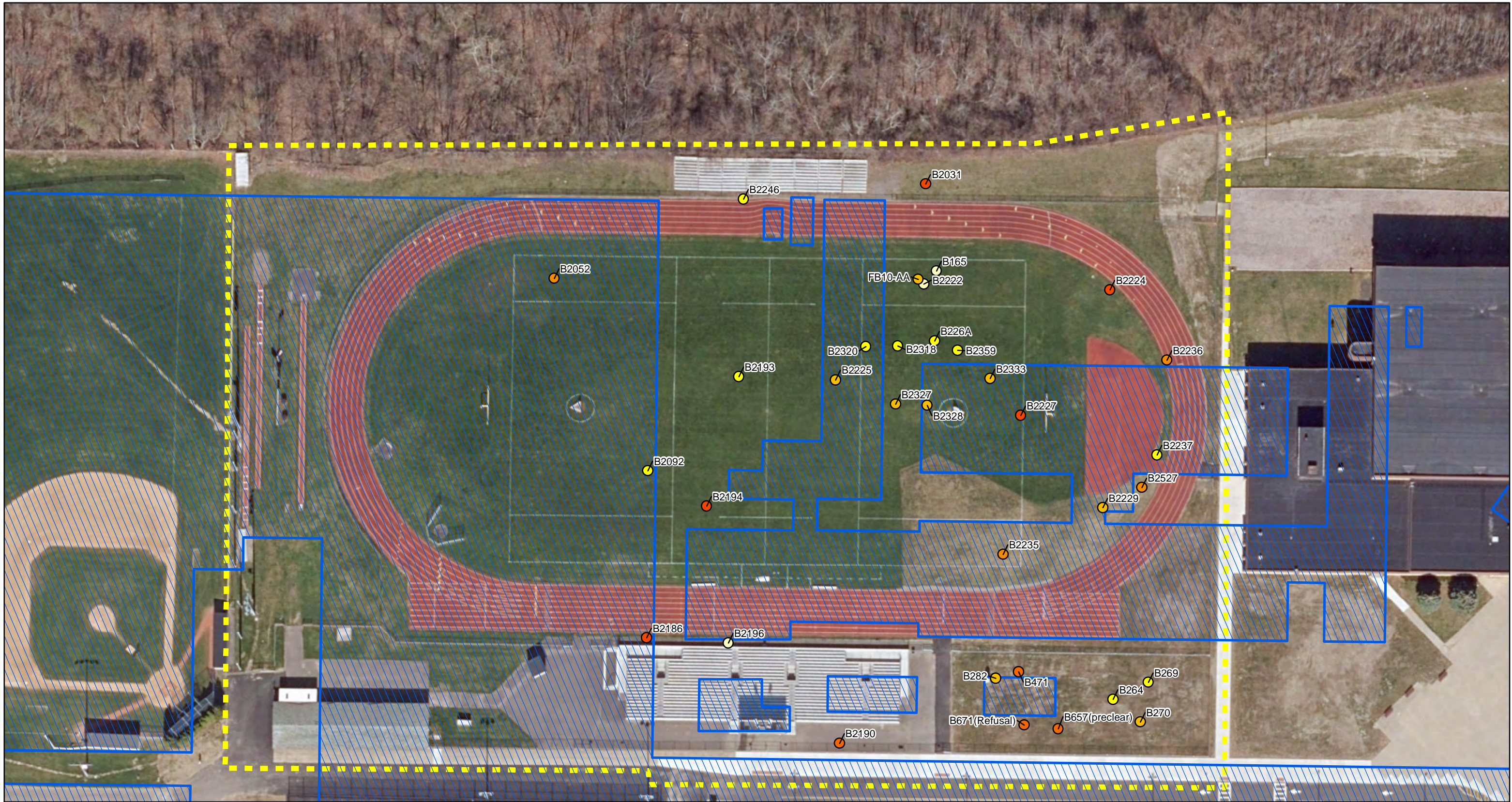


9/8/2020

TABLE 1
IRM Schedule

Former Sperry Remington - North Portion
Elmira, Chemung County, New York

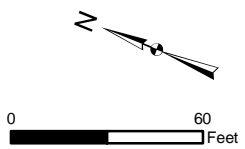
Task Name	Duration	Start	Finish
IRM Strategy & Planning Meeting	0 days	Tue 11/19/2019	Tue 11/19/2019
IRM #4 Work Plan and Design	117 days		
Pre-Final (95%) Work Plan and Design Preparation	9 wks	Wed 12/18/2019	Fri 2/14/2020
Pre-Final (95%) Work Plan and Submittal	0 days	Fri 2/14/2020	Fri 2/14/2020
Agency and ECSD Review	6 wks	Fri 2/14/2020	Thu 3/26/2020
Agency Comments on Pre-Final (95%) Submittal	0 days	Thu 3/26/2020	Thu 3/26/2020
Final (100%) Work Plan and Design Preparation	5 wks	Fri 3/27/2020	Thu 4/30/2020
Final (100%) Work Plan and Design Submittal	0 days	Thu 4/30/2020	Thu 4/30/2020
Contractor Work Plan	2 wks	Fri 4/17/2020	Thu 4/30/2020
ECSD Comments	0 days	Thu 5/7/2020	Thu 5/7/2020
Response Schedule to ECSD Comments	0 days	Mon 5/11/2020	Mon 5/11/2020
Agency Comments on Final (100%) Submittal	0 days	Wed 5/13/2020	Wed 5/13/2020
Revised Final (100%) Work Plan and Design Preparation	4 days	Thu 5/14/2020	Tue 5/19/2020
Revised Final (100%) Work Plan and Design Submittal	0 days	Tue 5/19/2020	Tue 5/19/2020
Agency and ECSD Review	1 wk	Wed 5/20/2020	Thu 5/28/2020
Revised Contractor Work Plan Submittal	0 days	Thu 5/21/2020	Thu 5/21/2020
Temporary Rally Point Plan Submittal	0 days	Thu 5/21/2020	Thu 5/21/2020
Agency and ECSD Review	4 days	Fri 5/22/2020	Thu 5/28/2020
NYSDEC Approval and NTP	0 days	Thu 5/28/2020	Thu 5/28/2020
2020 IRM Contractor Selection Process	48 days	Wed 1/22/2020	Fri 3/27/2020
IRM #4 Construction	70 days	Mon 6/1/2020	Fri 9/4/2020
Mobilization	0 days	Mon 6/1/2020	Mon 6/1/2020
Existing Conditions Survey/Utility Location/ Grandstand Hazardous Material Survey	8 days	Mon 6/1/2020	Wed 6/10/2020
Install Temporary Fencing	8 days	Wed 6/3/2020	Fri 6/12/2020
Construct Temporary Facilities (haul roads, MSA)	3 wks	Wed 6/10/2020	Fri 7/3/2020
Demolition Plan Submittal	0 days	Fri 6/12/2020	Fri 6/12/2020
Temporary Rally Point Construction	2 wks	Mon 6/15/2020	Tue 6/30/2020
Grandstand Demolition	4 days	Mon 7/6/2020	Thu 7/9/2020
Excavation	4 wks	Mon 7/6/2020	Tue 8/4/2020
Slide Rail System Installaton	4 days	Mon 7/13/2020	Fri 7/17/2020
Excavation Step Outs	10 days	Wed 8/5/2020	Mon 8/17/2020
Backfilling	2 wks	Wed 8/5/2020	Fri 8/21/2020
Site Restoration	1 wk	Mon 8/24/2020	Fri 8/28/2020
IRM #4 Amendment #1 Construction	70 days	Wed 8/19/2020	Fri 9/4/2020
IRM #4 Work Plan Amendmet #1 Submittal	0 days	Wed 8/19/2020	Wed 8/19/2020
Agency Comments	0 days	Mon 8/31/2020	Mon 8/31/2020
Enhanced Fencing Installation	3 days	Wed 9/2/2020	Fri 9/4/2020
Revised IRM #4 Work Plan Amendmet #1 Submittal	0 days	Tue 9/8/2020	Tue 9/8/2020
Teachers Return to EHS	0 days	Tue 9/8/2020	Tue 9/8/2020
Students Return to EHS	0 days	Thu 9/10/2020	Wed 9/9/2020
IRM #4 Amendment #1 Construction Start	23 days	Wed 9/16/2020	Fri 10/16/2020
IRM #4 Construction Completion Report (CCR)			
CCR Preparation	3 mons	Mon 10/19/2020	Mon 1/11/2021
CCR Submittal	0 days	Mon 1/11/2021	Mon 1/11/2021



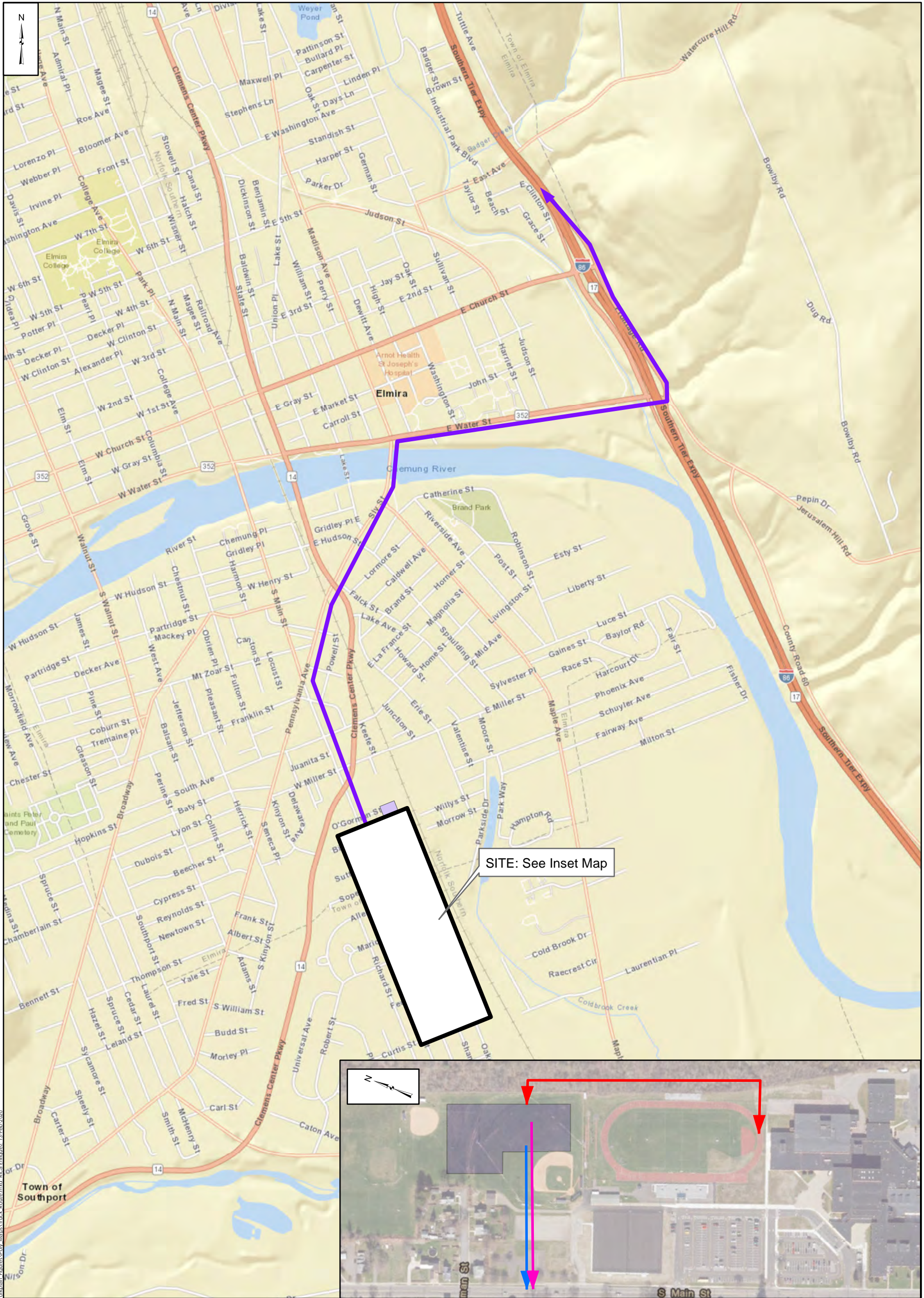
Legend

Boring Refusal Depth	Football Field Complex
2 ft bgs	Investigation Area
4 ft bgs	Historical Structure
6 ft bgs	
8 ft bgs	
10 ft bgs	
12 ft bgs	

Notes
 ft bgs - Feet below ground surface
 "SSHS-" prefix removed from location IDs.
 Aerial imagery provided by ArcGIS Online.



Boring Refusal and Historic Structures	
Former Sperry Remington Site North Portion Elmira, New York	
B&B Engineers & Geologists of new york, p.c. <small>an affiliate of Geosyntec Consultants</small>	
Columbia, Maryland	January 2020
Figure 1	



Legend	
	Load Out for Off-Site Hazardous Waste Disposal
	Haul Route to/from MSA for Stockpiling
	Load Out for Off-Site Non-Hazardous Waste Disposal
	Site to Off-Site Disposal
	Material Staging Area (MSA)

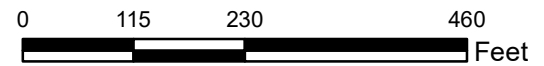
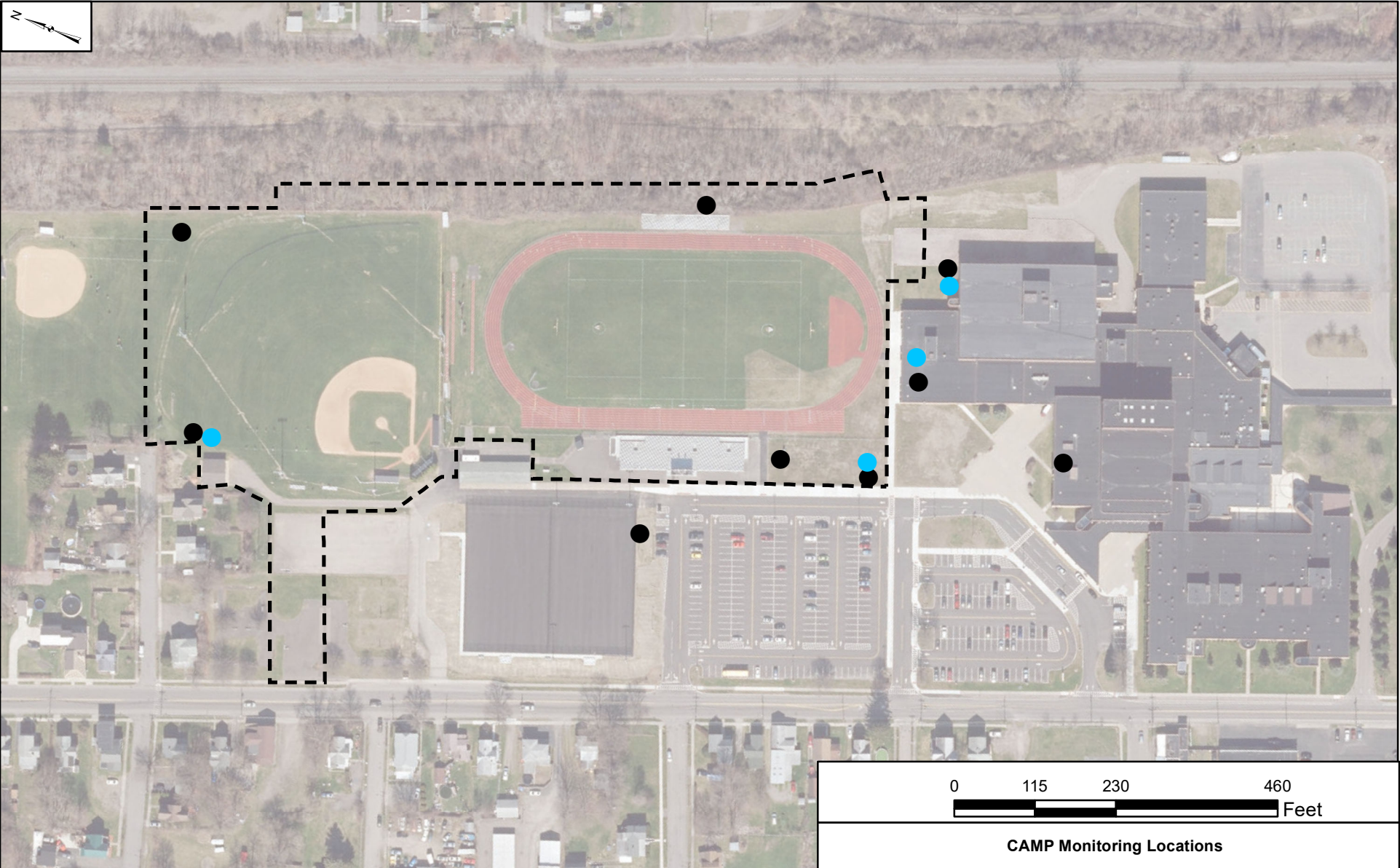
Notes

The planned on-site journey management plan for the material which will be handled during the IRM has been discussed with the City of Elmira Traffic Engineering Department. Routes have been selected to avoid planned road construction in Elmira during the IRM, difficult traffic areas as well as to utilize routes with the most marked pedestrian crossings to ensure maximum safety. Truck traffic will not take place during student arrival/departure times. Left hand turns on to South Main Street will be controlled through a flagperson.

Aerial imagery and street map accessed via ArcGIS Online and provided by Microsoft on 13 February 2020.

Truck Haul Routes Former Sperry Remington - North Portion Elmira, New York	
B&B Engineers & Geologists of new york, p.c. <i>an affiliate of Geosyntec Consultants</i>	
Columbia, Maryland	February 2020
Figure 2	

P:\GIS\Elmira - M0182\MapDocs\AOC\AIRM_2018\FB_East_2018\June 2019\Workshop_Equise\Copy_Maps\Truck_Route.mxd, Erica Engerer, 13 Feb 2020



Legend

- TISCH Monitoring Locations
- CAMP Locations
- Limits of Disturbance/Temporary Fencing

Notes

CAMP monitoring locations are approximate and will be adjusted based on changes in wind direction, as necessary. At least one monitoring location will be upwind of the work area. Rooftop locations will remain in place.

Aerial imagery and street map accessed via ArcGIS Online and provided by Microsoft on 10 September 2020.

CAMP Monitoring Locations

Former Sperry Remington - North Portion
Elmira, New York

B&B Engineers & Geologists
of new york, p.c.

an affiliate of Geosyntec Consultants

Figure

3

Columbia, Maryland

September 2020

F:\GIS\Elmira - M10837A\Map3\NWDEF_AOC\CAMRA_2018_ER_Field_2018_Line_2019\Workshop_Elmira\Job_Map3\Figure 22 - CAMP Locations.MXD; Rocio Estrada; 10-Sep-2020