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March 28, 2016
Project #15-072

Mr. Bill Struever
Cross Street Partners
2400 Boston Street, Suite 404
Baltimore, Maryland 21224

RE: Phase I Environmental Site Assessment Supplemental Findings
West Salem Square
1001 Marshall Street, SW
Winston-Salem, North Carolina 27101

Dear Mr. Struever:

This letter is intended to supplement the Phase I ESA (Environmental Site Assessment) Report completed by Swift Creek Environmental, Incorporated, dated December 16, 2015 for the West Salem Square Property located at 1001 Marshall Street, SW in Winston-Salem, North Carolina, *the property*. The original Phase I ESA identified several ASTM Scope *RECs (Recognized Environmental Conditions)*, *HRECs (Historical Recognized Environmental Conditions)* and *CRECs (Controlled Recognized Environmental Conditions)* associated with the *property*. The identified *RECs, CRECs and HRECs* are bulleted below.

- A potential vapor intrusion hazard exists at the subject site. A fuel oil odor was noticed in the lower eastern portion of the subject building. Potential vapor intrusion hazards include off-gassing from the sanitary sewer system, process drains and boiler systems. Further assessment is required and as of the date of this report, the current owner is in the process of negotiating with an oil disposal/environmental cleaning services firm to remove the oily water from within the process drains in order to further quantify potential vapor intrusion hazards at the site. Once the process drains have been emptied of their contents and inspected an evaluation for further studies, if necessary, can be formulated.
- The subject site contains 2, non-functional steam driven boilers. The boilers are located in the lower level along the eastern building wall. It appears that natural gas was the heating source last used. However they may have been retrofitted from either coal or oil. Further assessment of the boiler systems should be conducted to insure that there are no ASTs or USTs are associated with these systems. This assessment can be accomplished, once the boiler room and adjoining rooms have been cleared of their contents. Several of the adjoining rooms are being utilized for storage of miscellaneous items by the current tenants.
- PCB containing electrical equipment was observed on the subject property and included several wall transformers/capacitors (>10) and ballasts within the fluorescent lighting (>100). The PCB containing electrical equipment is operational and in-use. The transformers, capacitors and ballasts appeared to be in satisfactory condition with no evidence of leakage or corrosion. Since the capacitors and transformers are in-use removal is not required by statute. However, industry stands best management practices should be adopted in writing when repairing or servicing this equipment.

- No radiological materials were observed on the subject site. However, Radon may be present. The EPA has placed Forsyth County in Zone 2 for Radon Potential (Zone 2 - Moderate Radon Potential). Of the 20 sites tested by the EPA for Radon, 80% of the sites had readings below the 4pCi/L Safe Indoor Standard with an average Radon basement concentration of 4.410 pCi/L. If the facility's proposed end use is to be utilized residentially, a quantitative Radon Survey should be conducted along with any mitigation if concentrations are recorded to be above the 4pCi/L Safe Indoor Standard.
- A Lead Based Paint Survey was beyond the scope of services for this project and as such not conducted. Based on the age of the subject building, LBP is may be present on original painted construction members. If the facility's proposed end use is to be utilized residentially, a quantitative Lead Base Paint should be conducted along with any mitigation/management if concentrations are recorded to be HUD Standard of 1.0/mg/cm².
- A quantitative asbestos survey was beyond the scope of services and as such not conducted. Based on our observations and the age of the subject building, suspect friable and friable ACM's was identified. It was apparent that an asbestos survey and some abatement were conducted in the past. Sample collection points and encapsulation of asbestos materials was observed throughout the interior of the subject building. However, no records of these activities were obtained. Neither the owner, *User* or Forsyth County Asbestos Permitting Department had any available records or knowledge. A quantitative Asbestos Survey should be conducted to determine quantities and types of asbestos along with an Asbestos Management Plan.

Based on the findings discovered during the completion of the Phase I ESA, the owner of the subject property contracted ECS Carolinas, LLP to mitigate the *REC* associated with the oil and water discovered in what was believed to be process drains within the subject building that subsequently was determined to be a submerged mechanical room and a smaller vault beneath the submerged mechanical room. Beginning on January 29, 2016 and concluding March 8, 2016, ECS Carolinas, LLP removed 16,100 gallons of oily water, 1,093 gallons of oily sludge and 725 pounds of metal and concrete debris from these rooms/vault and cleaned the rooms/vault and associated mechanical equipment using a high pressure steam cleaner. The removed materials were disposed of consistent with applicable local, state and federal regulations. A detailed Liquid Removal and Disposal Report completed by ECS Carolinas, LLP and dated March 21, 2016 is on-file with the *USER*.

On March 15, 2016, Swift Creek Environmental, Incorporated re-inspected the facility to document current conditions. During our inspection it was determined that ECS Carolinas, LLP adequately cleaned and removed the oil containing materials from the submerged rooms and vault. Photographic documentation of the cleaned rooms and vault are attached. It is our belief that the primary purpose of the rooms and vault served as a mechanical room which housed a #6 oil AST, a steam process tank to facilitate in reducing viscosity in #6 oil utilized to supply fuel to the facility's boilers and an overflow vault to capture water from the condensed steam in the steam process tank overflow. The AST was believed to be located in the empty portion of the mechanical room. This is based on the presence of disconnected fuel lines exiting the steam process tank and ending abruptly overhead midway in the larger portion of the vacant room. Based on the arrangement of mechanical components contained within the mechanical room, it does not appear that any other ASTs or USTs (Underground Storage Tanks) were associated with the facility's heating system.

During our re-inspection, organic vapor readings were collected continuously from within and immediately outside the mechanical room utilizing a PID (Photo-Ionization Detector). PID readings held a consistent 4 ppm within the mechanical room and 1 to 2 ppm outside the mechanical room. The CoC (Contaminant of Concern) is believed to be #6 fuel oil. Fuel oil is categorized as an aliphatic paraffin containing minor quantities of PAHs (Poly Aromatic Hydrocarbons). OSHA (Occupational Safety and Health Administration) has not established any PEL (Permissible Exposure Limits) for #6 fuel oil; however, some PAHs are known carcinogens. The MSDS (Material Safety Data Sheet) for #6 fuel oil is attached for record. Based on our findings, potential fuel vapors emanating from the subterranean mechanical room and vaults can be mitigated by venting the mechanical room to the outside ambient air. Currently, sheet metal covers the upper portion of a concrete wall that separates the outside from this room. Removal of the sheet metal with replacement of a metal grate will sufficiently ventilate the rooms and vault; reducing organic vapors in this area of the facility to <1ppm. Upon removal of the sheet metal and installation of

the grate, air samples should be collected and analyzed for PAHs to document ambient air concentrations within the facility and insure that no PAHs exhibiting concentrations above OSHA PELs are present within the facility.

It is noted that during our inspection of the subsurface mechanical rooms and vault, the rooms and vault are constructed of reinforced concrete. No evidence of cracking or failure of the concrete was observed; reducing the likelihood that the CoC migrated beyond the confines of these rooms. The probable cause of the oil and water that was contained within in these rooms and vault is due to gravity draining of water from the boiler(s) and associated piping when the boiler(s) were taken out of service. Likewise, the oil contained within the water is believed to be from the fuel lines that were disconnected from the AST and steam process tank during boiler(s) decommissioning.

With regards to the other *RECs* identified in or Phase I ESA, dated December 16, 2015, they should be addressed in a manner similar to what was recommended.

We are pleased to have had the opportunity to provide these services. Should you have any questions concerning this project, please do not hesitate to contact me at 804.991.3213.

Sincerely,

B. Thomas Houghton

B. Thomas Houghton, Principal
North Carolina Professional Geologist #1291

Attachments: Photographic Documentation
Material Safety Data Sheet - #6 fuel oil

Cc: Mr. Dewey Anderson, President – Blackpine Development

PHOTOGRAPHIC RECORD



Photograph 1 – Steam Process Tank



Photograph 2 – Metal Sheeting to Outside



Photograph 3 – Concrete Bottom Sump in Vault



Photograph 4 – Mechanical Room Former AST Area



Material Safety Data Sheet

FUEL OIL NO. 6

MSDS No. EJ-474

Date of Preparation: December 12, 2012

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: FUEL OIL NO. 6

Chemical Formula: A high-viscosity residual oil.

CAS Number: 68553-00-4

Other Designations: Bunker C, Bunker fuels; IFO 180, IFO 280 and IFO 380, utility fuel oil; heavy fuel oil; residual fuel oil; #6 residual fuel oil blendstock; ASTM No. 6 Grade Fuel Oil (D396).

General Use: Used in industrial burners, boiler fuel for electric utilities and bunker fuel for ocean going vessels. A thick oil, fuel oil No. 6 is not usually used unless preheated to decrease its viscosity.

Manufacturer: Enjet, LLC

5373 W. Alabama, Suite 502
Houston, Texas 77056

Emergency: Chemtrec +1 - (800) 424-9300
Enjet, LLC +1 - (713) 552-1559

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% vol.
Fuel Oil No. 6 – A complex mixture of paraffinic, olefinic, naphthenic and aromatic hydrocarbons, including polycyclic aromatic hydrocarbons. Sulfur content for bunker fuels must be less than 5.0%. No. 6 Fuel Oil with low sulfur (0.3 and 1.0%) is also available.	68553-00-4	

Trace Impurities:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Fuel Oil No. 6	none estab.						

Section 3 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Potential Health Effects

HMIS

H 1

F 2

R 0

PPE[†]

[†]Sec. 8

Summary of risks: Residual oils are generally more viscous and less toxic than kerosene due to their low volatility and limited absorption through the intestinal tract. Inhalation of heated or misted fuel oil No. 6 can cause the same systemic and local pulmonary effects seen with lighter grade fuel oils, respiratory tract irritation, headache, dizziness, nausea, stupor, convulsions, or unconsciousness, depending on concentration and time of exposure. When removed from exposure area, affected persons usually experience complete recovery. The residual (heavy) oils have a lower aspiration hazard since heavy oils are more viscous. Aspiration is limited to inhalation from vomiting after ingestion and dilution with gastric contents. Significant ingestion is unlikely. In addition, intestinal absorption of long-chain hydrocarbons is low. Its primary toxicity, then, are its laxative effects, mild GI irritation and skin irritation. After prolonged skin contact, changes in rabbit bladder linings reported.*

Primary Entry Routes: Inhalation, ingestion.

Target Organs: Central nervous system (CNS), skin and mucous membranes.

Acute Effects

Inhalation: Inhalation of aerosol or mists may result in increased rate of respiration, tachycardia (excessively rapid heartbeat), and cyanosis (dark purplish coloration of the skin and mucous membranes caused by deficient oxygenation of the blood).

Eye:

Skin:

Ingestion: Systemic effects from ingestion include gastrointestinal (GI) irritation, vomiting, diarrhea and in severe cases, CNS depression, progressing to coma and death.

Carcinogenicity: IARC, NTP, and OSHA list as a possible human carcinogen (Group 2B); animal evidence-limited.

Medical Conditions Aggravated by Long-Term Exposure: None reported.

Chronic Effects: Repeated skin contact causes dermatitis and possible systemic toxicity. Hydrogen sulfide, an irritant gas at 5 ppm concentration and above, can cause systemic toxicity. At concentrations greater than 500 ppm, rapid death due to respiratory paralysis can occur.

Section 4 - First Aid Measures

Inhalation: Hydrogen sulfide gas evolved when stored/handled at elevated temperatures may cause irritation and/or systemic effects. Remove exposed person to fresh air and support breathing as needed.

Eye Contact: Gently lift the eyelids and flush immediately and continuously with flooding amounts of water until transported to an emergency medical facility. Consult a physician immediately.

Skin Contact: Quickly remove contaminated clothing. Rinse with flooding amounts of water for at least 15 minutes. For reddened or blistered skin, consult a physician. Wash affected area with soap and water.

Ingestion: Never give anything by mouth to an unconscious or convulsing person. If ingested, do not induce vomiting. Consult a physician immediately.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Note to Physicians: Gastric lavage is contraindicated due to aspiration hazard. Preferred antidotes are charcoal and milk.

Special Precautions/Procedures: Prolonged or repeated skin contact may cause irritation and block the sebaceous glands, with a rash of acne-like pimples and spots, usually on the arms and legs. Repeated prolonged dermal contact may also have systemic effects. Heavy repeated application of fuel oil No. 6 to rabbit skin gave severe skin changes and systemic toxicity including an increased incidence of hyperplasia of the urinary bladder epithelium [EPA (TOSCA) document 8EHQ-0181-0377, December 1980.]

Section 5 - Fire-Fighting Measures

Flash Point: 140°F (60°C) minimum

Flash Point Method: CC?, OC?, COC?

Burning Rate:

Autoignition Temperature: 765°F (407°C)

LEL: 3.9% v/v

UEL: 20.1% v/v

Flammability Classification:

Extinguishing Media: Use dry chemical, carbon dioxide, foam, water fog or spray. Do not use a forced water spray directly on burning oil since this scatters the fire. Use a smothering technique to extinguish fire. Cool fire-exposed containers with water spray.

Unusual Fire or Explosion Hazards: Product is an OSHA Class IIIA combustible liquid that exhibits "boil-over" characteristics.

Hazardous Combustion Products:

Fire-Fighting Instructions: Isolate hazard area and deny entry. If feasible, remove containers from fire hazard area. Do not release runoff from fire control methods to sewers or waterways.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.



Section 6 - Accidental Release Measures

Spill /Leak Procedures: Notify safety personnel, evacuate area for large spills, remove all heat and ignition sources and provide maximum explosion proof ventilation.

Small Spills:

Large Spills

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Personnel should protect against vapor inhalation and liquid contact. Clean up spills promptly to reduce fire or vapor hazards. Use a noncombustible absorbent material to pick up small spills or residues.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - Handling and Storage

Handling Precautions: Hydrogen sulfide vapors may accumulate in tanks and transport compartments. Avoid breathing vapors when opening hatches and dome covers by standing upwind. Vent slowly, and keep your face away from compartment openings. Use only in a well-ventilated area. Hydrogen sulfide odor is not reliable as a warning of possible overexposure.

Storage Requirements: Use and storage conditions should be suitable for an OSHA Class IIIA combustible liquid. Store in closed containers in a well-ventilated area away from heat and ignition sources and strong oxidizing agents. Protect containers from physical damage. To prevent static sparks electrically ground and bond all containers and equipment used in shipping, receiving or transferring operations. Use non-sparking tools and explosion-proof electrical equipment. No smoking allowed in area of storage or use.

Regulatory Requirements:

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Avoid prolonged skin contact and vapor or mist inhalation. Use only in a well-ventilated area with personal protective gear. Institute a respiratory protection program that includes regular training, maintenance, inspection and evaluation. Practice good personal hygiene and housekeeping procedures. Do not wear oil-contaminated clothing. Do not put oily rags in pockets. When working with this material, wear gloves or use barrier cream.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Never wear contact lenses in the work area: soft lenses may absorb and all lenses concentrate irritants. Appropriate eye protection must be worn instead of contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State:

Appearance and Odor: Brown to black colored viscous oil with a cracked petroleum and/or asphalt-type odor.

Odor Threshold:

Vapor Pressure: 0.2 mm Hg at 70°F (21°C)

Vapor Density (Air=1):

Formula Weight:

Density:

Specific Gravity (H₂O=1, at 4 °C): 0.90 to 1.07 @ 60°F (15°C)

pH:

Water Solubility: Insoluble

Other Solubility's:

Boiling Point: 500°F (>260°C)

Freezing/Melting Point:

Viscosity: 96 centistokes @ 122°F (50°C)

Refractive Index:

Surface Tension:

% Volatile:

Evaporation Rate:

Blended to meet customer & regulatory requirements including viscosity, pour, sulfur and metals.

Section 10 - Stability and Reactivity

Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization cannot occur.

Chemical Incompatibilities: Incompatible with strong oxidizing agents; heating greatly increases fire hazard.

Conditions to Avoid: Avoid heat and ignition sources.

Hazardous Decomposition Products: Thermal oxidative decomposition can produce various hydrocarbons and hydrocarbon derivatives and partial oxidation products including carbon dioxide, carbon monoxide and sulfur dioxide.

Section 11- Toxicological Information**Toxicity Data:*****Eye Effects:****Acute Inhalation Effects:**Human, inhalation, TC_{Lo}: ?? ppm**Skin Effects:****Acute Oral Effects:**Rat, oral, LD₅₀: 9 g/kg**Chronic Effects:****Carcinogenicity:****Mutagenicity:****Teratogenicity:*** See NIOSH, *RTECS* (HZ1800000), for future toxicity data.**Section 12 - Ecological Information****Ecotoxicity:****Environmental Fate****Environmental Transport:****Environmental Degradation:****Soil Absorption/Mobility:****Section 13 - Disposal Considerations****Disposal:** Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.**Disposal Regulatory Requirements:****Container Cleaning and Disposal:****Section 14 - Transport Information****DOT Transportation Data (49 CFR 172.101):****Shipping Name:** Fuel oil**Shipping Symbols:****Hazard Class:** Combustible liquid**ID No.:** NA1993**Packing Group:****Label:** None**Special Provisions (172.102):****Packaging Authorizations****a) Exceptions:** 173.118a**b) Non-bulk Packaging:** 173.???**c) Bulk Packaging:** 173.???**d) Packaging Requirements:**

none

Quantity Limitations**a) Passenger, Aircraft, or Railcar:****b) Cargo Aircraft Only:****Vessel Stowage Requirements****a) Vessel Stowage:****b) Other:****Section 15 - Regulatory Information****EPA Regulations:**

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification (40 CFR 261.??): Not classified

CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112

CERCLA Reportable Quantity (RQ), ?? lb. (?? kg)

SARA 311/312 Codes:

SARA Toxic Chemical (40 CFR 372.65): Not listed

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ)

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

OSHA Specifically Regulated Substance (29CFR 1910.????)

State Regulations:**Section 16 - Other Information****Prepared By:** R. N. Kauth**Revision Notes:** December 12, 2012 – Replaces January 1992**Additional Hazard Rating Systems:**

Disclaimer: The information presented herein is based on data considered to be accurate as of the date of preparation of the Material Safety Data Sheet. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to the recommended practices or from any hazards inherent in the nature of the product.