Former Electruk Battery Site
NIAGARA COUNTY, NEW YORK
Final Engineering Report

NYSDEC Site Number: E932132

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Prepared for:
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JANUARY 2012

CERTIFICATIONS

I, EDWARD SCHILLER, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Interim Remedial Measures Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Interim Remedial Measures Work Plan.

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the Interim Remedial Measures Work Plan and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established in for the remedy.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

I certify that a Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by Department.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, , of 620 Main Street Buffalo, NY, am certifying as Owner's Designated Site Representative for the site.

066247	1/10/12	
NYS Professional Engineer #	Date	Signature

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LIST OF ACRONYMS

Acronym	Definition
CAMP	Community Air Monitoring Plan
CPP	Community Participation Plan
CQAP	Construction Quality Assurance Plan
EPS	Environmental Products & Services of Vermont Inc.
FF	Flowable Fill
HASP	Health and Safety Plan
IC	Institutional Controls
IRM	Interim Remedial Measures
IRMWP	Interim Remedial Measures Work Plan
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objectives
RI/AA	Remedial Investigation/Alternatives Analysis
RI/AAWP	Remedial Investigation/Alternatives Analysis Work Plan
ROD	Record of Decision
SAC	State Assistance Contract
SCG	Standards Criteria and Guidance
SCO	Soil Cleanup Objectives
S/MMP	Soil/Materials Management Plan
SMP	Site Management Plan
SOP	Site Operation Plan
SWPPP	Storm Water Pollution Prevention Plan
VOC	Volatile Organic Compound

FINAL ENGINEERING REPORT

1.0 BACKGROUND AND SITE DESCRIPTION

The Town of Lockport entered into a State Assistance Contract (SAC) with the New York State Department of Environmental Conservation (NYSDEC) in September, 2007, to investigate and remediate a 1.4-acre property located in the Town of Lockport, New York. The property was remediated to commercial use.

The site is located in the County of Niagara, New York and is identified as Block 0001 and Lot 055 on the Town of Lockport Tax Map # 108.00. The site is situated on an approximately 1.4-acre area bounded by undeveloped land and commercial businesses to the north and west, Enterprise Drive to the south, and Polycom-Huntsman Inc., a plastics manufacturer to the east across IDA Drive (see Figures 1). The boundaries of the site are fully described in Appendix A: Survey Map, Metes and Bounds.

An environmental easement was granted for the site on December 22, 2011 and a copy of this easement is included in Appendix D. The easement was recorded with the Niagara County Clerk's office on January 6, 2012 and a copy of the recording receipt is included in Appendix D.

Prior to the investigatory and remedial activities conducted under the above referenced SAC, Phase I and II Environmental Site Investigations performed on the Site identified the potential for a release of contamination into the environment. As a result the NYSDEC requested that the U.S. Environmental Protection Agency (EPA) perform an emergency removal at the Site to address the contamination. That action was completed in June 1999. A summary of this removal action is included in Section 2.0.

An electronic copy of this FER with all supporting documentation is included as Appendix B.

2.0 SUMMARY OF SITE REMEDY

In June 1998, the Niagara County Health Department requested that the NYSDEC consider the site for an emergency removal action under the State superfund program. In July 1998, the NYSDEC requested that the U.S. Environmental Protection Agency (EPA) perform an emergency removal at the Site.

EPA subsequently commenced a Superfund removal action to address the contamination. That action was completed in June 1999. The removal action included the identification, removal, and disposal of all hazardous wastes from the Site, with the exceptions noted below. Material removed from the Site included 24 roll-off containers (695 cubic yards) of building debris and contaminated equipment, 99 drums of miscellaneous wastes, nine roll-off containers (180 cubic yards) of lead contaminated soil, three tanker loads (8,634 gallons) of hazardous liquids, 21 pallets (27.45 tons) of batteries and battery components and 3 cubic yards of spent sorbent and personal protective equipment. All materials were transported to permitted off-site disposal facilities.

Wipe sampling data collected by EPA after the decontamination of the building floor and ceiling beams confirmed the removal of gross contamination. However, some residual lead concentrations that meet EPA's removal criteria but exceed the residential guidelines used by the U.S. Department of Housing and Urban Development remain on the floor and ceiling beams. The lead concentrations remaining are indicative of lead bonded to surfaces in a manner that would require extensive, repetitive cleaning for removal or encapsulation prior to reuse of the building. It was therefore recommended that potential buyers or renters be informed that these surfaces should be encapsulated (e.g., by application of paint and/or insulation on the ceiling beams and either painting the floor or covering it with a fresh layer of concrete or other material) prior to utilizing the building.

EPA's action level for excavation of lead-contaminated soil at industrial sites was 750 parts per million (ppm). Although EPA removed all identified lead contaminated soil with concentrations above that level. Lead contamination at concentrations exceeding the NYSDEC's soil cleanup objective for Unrestricted Use, which is 63 ppm, remains in the on-site soils. The highest levels remaining are found against the building foundation and concrete storage pad. Figure 3 depicts the locations and analytical results of the post excavation sampling performed by the EPA. After reviewing the July 22, 1999 *Delineation of Lead Contamination by X-Ray* Fluorescence letter report prepared by Roy F. Weston Inc., the NYS Department of Health (NYSDOH) concluded that the remaining lead levels should not pose any exposure problems as long as the Site remains in its current intended use (commercial/industrial) and the areas remain undisturbed. Because the lead concentrations remain above Unrestricted Use cleanup guidelines, the

NYSDOH also recommended the placement of a formal deed restriction on the property to prevent the use of the site for residential or day care purposes.

EPA determined that no further Superfund action by EPA was needed and that it would not seek to recover the costs incurred while performing the removal action from the Town of Lockport.

Copies of the EPA reports documenting removal action, the delineation of lead contaminated soil, wipe sampling data and the March 9, 2000 NYSDOH letter indicating concurrence with the EPA removal action and recommended site restrictions are included in Appendix F.

The sections below summarize the Remedial Action Objectives (RAOs) and the selected remedy following the 2008 Remedial Investigation performed under the SAC.

2.1 REMEDIAL ACTION OBJECTIVES

Based on the results of the 2008 Remedial Investigation, the following RAOs were identified for this site.

2.1.1 Soil RAOs

The RAOs for the site include the elimination or reduction, to the extent practicable, of the exposure of human and environmental receptors to lead-contaminated surface soil via dermal contact, incidental ingestion or inhalation of particulates, and to prevent lead in the surface soil from impacting surface water runoff quality. The analytical data generated for the soil samples collected at the Site was compared to the Commercial Use Soil Cleanup Objectives listed in 6 NYCRR Part 375-6.8(b).

2.1.2 Surface Water RAOs

The RAOs for the site include the elimination or reduction, to the extent practicable, of the exposure of humans and environmental receptors to contaminated surface water via dermal contact with or incidental ingestion of contaminated surface water.

2.1.3 Sediment RAOs

RAOs for the site was to eliminate or reduce to the extent practicable the exposure of human and environmental receptors to metals in the trench sediments via dermal contact, incidental ingestion or inhalation of particulates, and to prevent metals in the sediment within Trench 1 from impacting surface water runoff quality.

2.2 DESCRIPTION OF SELECTED REMEDY

The site was remediated in accordance with the remedy selected by the NYSDEC in the Interim Remedial Measures Work Plan dated December 1, 2008.

The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. The following are the components of the selected remedy:

1. Removal and proper disposal of contaminated water found in the three on-site concrete trenches;
2. Removal and proper disposal of contaminated sediments found in the three on-site concrete trenches;
3. Pressure washing the concrete surfaces of the three on-site concrete trenches;
4. Filling the concrete trenches with a flowable fill (FF) to prevent re-accumulation of water and sediment;
5. Execution and recording of an Environmental Easement to restrict land use to commercial use and prevent future exposure to any contamination remaining at the site;
6. Restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by New York State Department of Health (NYSDOH);
7. Development and implementation of a Site Management Plan (SMP) for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional Controls (ICs), and (2) reporting;
8. Periodic certification of the institutional controls listed above.

3.0 INTERIM REMEDIAL MEASURES, OPERABLE UNITS AND REMEDIAL CONTRACTS

3.1 INTERIM REMEDIAL MEASURES

Environmental Products and Services of Vermont Inc. (EPS) performed Interim Remedial Measures at the site from January 20, 2009 through January 22, 2009. These activities were observed by TVGA Consultants and the NYSDEC.

Description of the Work Areas

The work area consists of two interior and one exterior man-made drainage trenches. Trench 1 is located in the concrete pad north of the building, while Trenches 2 and 3 are located in the northwest and southwest building interior, respectively. The locations of the trenches are depicted on Figure 2.

Contaminants of concern detected in the sediment included arsenic with concentrations ranging from 3 to 77.5 ppm, barium with concentrations ranging from 90.5 to 839 ppm and lead with concentrations ranging from 39.5 to 74,900 ppm in Trenches 1 through 3. The results of the TCLP analysis revealed that the sediment sample collected from Trench 2 contained a hazardous concentration of lead (i.e. greater than 5 ppm), which was detected at 64.4 ppm. The sediments from Trench 1 also had a very high total lead concentration (i.e. 45,700 ppm), but since no TCLP data existed, the sediments from this trench were also assumed to be hazardous. Contaminants of concern identified in the surface water within the trenches were limited to lead within Trench 3, which was detected at 302 parts per billion.

IRM Activities Performed

Water and Sediment Removal

A vacuum truck was used to remove all standing water from Trenches 1 and 3. The remaining sediment and ice within these trenches were removed with shovels and placed into 55-gallon drums.

Based on the hazardous concentration of lead in the sediment in Trench 2, an electric drum vacuum (i.e., a wet/dry vacuum connected to a 55-gallon drum) was used to remove the water and sediment from this trench.

Following the removal the water and sediment, the exposed surfaces within the trenches were cleaned utilizing high pressure power washing equipment. Upon completion, the wash water was removed with the vacuum truck or drum vacuum. All solids and water were disposed off-site. The disposal locations and quantities of these materials are listed below.

Backfill with Flowable Fill

Upon completion of the cleaning activities, the trenches were backfilled with 100 pounds per square inch flowable fill to an elevation matching the surrounding concrete slabs.

Disposal

A total of 1,414 gallons of water was removed from Trenches 1 and 3 for disposal as non-hazardous liquid waste. Additionally, the following materials were removed the trenches:

- Trench 1: Three 55-gallon drums of hazardous ice/sediment/wash water
- Trench 2: One 55-gallon drum of hazardous ice/sediment/wash water
- Trench 3: Eight 55-gallon drums non-hazardous ice/sediments/wash water

The non-hazardous liquids and solids were disposed at the EPS facility in Syracuse, New York and the hazardous liquids and solids were disposed at the Cycle Chem Inc. facility in Lewisberry, Pennsylvania. The manifests that identify the weight and location of final disposition of the contaminated sediment and water are included in Appendix B.

3.2 OPERABLE UNITS

No operable units were part of the site remedy.

3.3 REMEDIAL CONTRACTS

No remedial contracts were part of the site remedy.

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved Interim Remedial Measures Work Plan (IRMWP) for the Former Electruk Battery site (December, 2008). All deviations from the IRMWP are noted below.

4.1 GOVERNING DOCUMENTS

4.1.1 Site Specific Health & Safety Plan (HASP)

All remedial work performed under these Interim Remedial Measures were in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

The Health and Safety Plan (HASP) was complied with for all remedial and invasive work performed at the Site.

4.1.2 Quality Assurance Project Plan (QAPP)

Due to the limited scope of activities performed during the IRM, an IRM-specific QAPP was not prepared as part of the IRMWP. However, quality assurance procedures were handled in general accordance with those included in the NYSDEC-approved April 2008 Remedial Investigation/Alternatives Analysis Work Plan (RI/AAWP).

4.1.3 Construction Quality Assurance Plan (CQAP)

Due to the limited scope of activities performed during the IRM, a CQAP was not prepared as part of the IRMWP. However, construction observation was handled in general accordance with those included in the NYSDEC-approved April 2008 RI/AAWP. TVGA and NYSDEC personnel were on-site to visually observe the work, which was not accepted until the work was satisfactory to both the NYSDEC and TVGA personnel on-site.

4.1.4 Soil/Materials Management Plan (S/MMP)

The remedy for the site did not include any removal or disturbance of surface or subsurface materials therefore no Soil/Materials Management Plan (S/MMP) was created as part of the IRMWP.

4.1.5 Storm-Water Pollution Prevention Plan (SWPPP)

The IRMWP does not include any remedial activities that remove or disturb surface or subsurface soil. Therefore no SWPPP was created as part of the IRMWP.

4.1.6 Community Air Monitoring Plan (CAMP)

The remedial activities for the site included the removal and disposal of sediment and surface water from three trenches on the subject property. No soils were removed or disturbed during remedial activities. Due to the saturated conditions of the sediment the monitoring for airborne particulates was not required. Additionally, based on the absence of elevated organic vapors during the RI, monitoring for total organic vapors was not required. Therefore a CAMP was not created as part of the IRMWP.

4.1.7 Contractors Site Operations Plans (SOPs)

No SOPs were created for the remedial activities performed at the site. Remedial activities at the site were completed in accordance with the scope of work outlined in the IRMWP submitted to and approved by the NYSDEC and NYSDOH prior to the start of work.

4.1.8 Community Participation Plan

A Community Participation Plan (CPP) was implemented as part of the overall RI/AA program, and the participation procedures associated with the IRM were handled in general accordance with those included in the NYSDEC-approved April 2008 RI/AAWP.

4.2 REMEDIAL PROGRAM ELEMENTS

4.2.1 Contractors and Consultants

- Environmental Products and Services of Vermont Inc., Prime Contractor, performed removal, cleaning and disposal services
- Shirley's Concrete Pumping provided the pump truck to deliver the flowable fill to the trenches
- Lafarge delivered the flowable fill to the site
- TVGA Consultants designed the scope of the IRMs and provided full-time observation of the remediation activities

4.2.2 Site Preparation

Due to the nature of the specific IRM activities, site preparation activities were not required. All remedial work was limited to the removal, cleaning, off-site disposal and backfilling of the three manmade trenches. The remedial activities did not include any soil disturbances; therefore, erosion and sediment controls along with utility marking were not necessary. The Interim Remedial Measures Work Plan was approved by the NYSDEC Region 9: Division of Environmental Remediation on December 4, 2008. Documentation of agency approvals required by the IRMWP is included in Appendix C.

All substantive compliance requirements for attainment of applicable natural resource or other permits were achieved during this Remedial Action.

A NYSDEC-approved project sign was erected at the project entrance prior to remedial investigation and remained in place during all phases of the IRM.

4.2.3 General Site Controls

Based on the location of the remedial work, general site controls were unnecessary. Two of the three trenches are located with the existing building which was locked when remediation activities were not in progress. The remedial activities associated with the trench outside were completed on the first day of activities. As stated above there were no soil disturbances as part of the IRM so erosion and sedimentation controls were not necessary. Equipment used on the site for remedial purposes were decontaminated by the contractor prior to removal from the site. Drums were closed and secured within the building at the end of each day's activities and were sipped off-site at the end of the IRM activities.

4.2.4 Nuisance controls

Based on the project location and the limited nature of work, nuisance controls were not required.

4.2.5 CAMP results

As previously stated, a CAMP was not created for the IRMWP and no air monitoring was performed during the IRM.

4.2.6 Reporting

The site remedial activities were completed over the course of three days. Site inspection and observation was performed by TVGA Consultants. Daily inspection reports include personnel on site, working hours, equipment used, and a description of remedial activities performed.

All daily inspection reports, project photographs, waste disposal manifests and bills of landing are included on a CD labeled, Supporting Documents for the Final Engineering Report for the Environmental Remediation of the Former Electruk Battery Site, created January 2012. This CD is included in Appendix B.

4.3 CONTAMINATED MATERIALS REMOVAL

4.3.1 Surface Water

Contaminated surface water was removed from three trenches located on the site. Two of the trenches are located inside of the building on site and the other is located outside the building on a concrete pad. The locations of the trenches are shown in Figure 2. Surface water in the trenches was removed by vacuum truck and disposed of off-site.

4.3.1.1 Disposal Details

Contaminated surface water was removed from the trenches and disposed of by EPS. A total of 1,414 gallons of non-RCRA liquid waste was removed from the Site. The contaminated surface water was disposed of at the Environmental Products and Services of Vermont Inc., facility at 532 State Fair Boulevard, Syracuse New York on January 23, 2009. EPS was also the transporter for the waste. License numbers and other pertinent information can be found on the electronic copies of the Bill of Landing in the supporting documents compact disc.

4.3.2 Sediments

The trenches located on the site contained various amounts of contaminated sediments. Sediments in the three trenches on the site were removed by manual means and placed into 55 gallon drums to be disposed of offsite. Two of the trenches are located inside of the building on site and the other is located outside the building on a concrete pad. The locations of the trenches are shown on Figure 2.

4.3.2.1 Disposal Details

Sediments were removed from the trenches and transported of by EPS. Eight 55-gallon drums containing 440 gallons of non-RCRA liquid waste were removed from the site on January 22, 2009 and disposed of at the Environmental Products and Services of Vermont Inc., facility at 532 State Fair Boulevard, Syracuse New York on January 23, 2009. Four 55-gallon drums, (220 gallons) of RQ, Waste Toxic Liquid, Inorganic, N.O.S. (lead), 6.1, UN3287, PG II was removed from the site and disposed of at Cycle Chem, Inc., 550 Industrial Dr., Lewisberry, Pennsylvania. License numbers and other information can be found on the electronic copies of the Manifest and Bill of Landing on the supporting documents compact disc. The letter from the disposal facility stating it is approved to accept the hazardous waste is also included on the supporting documents compact disc.

4.4 REMEDIAL PERFORMANCE/DOCUMENTATION SAMPLING

Because each of the three trenches will be backfilled with a flowable fill, no post-cleaning samples were required to confirm the efficacy of the cleaning process. However, TVGA and NYSDEC personnel were on-site to visually observe the work, which was not accepted until a result that is satisfactory to both the NYSDEC and TVGA was achieved.

4.5 IMPORTED BACKFILL

Upon completion of the cleaning activities, the trenches were backfilled with 100 pounds per square inch flowable fill to an elevation matching the surrounding concrete slabs.

4.6 CONTAMINATION REMAINING AT THE SITE

The remaining contamination left on the Site encompasses surface soil/fill areas across the Site. The analytical results indicate that the contaminant of concern in the surface soil is lead. Concentrations ranged from 19.4 to 1,180 ppm. An attempt was made to confirm the highest concentration in that range, as the sample with the concentration of 1,180 ppm (CC3) was collected previously by EPA. Sample SS-10 was collected August 2008 from the same location as CC3 and revealed a lead concentration of 48.4 ppm, below the Unrestricted Use SCO. Therefore, while lead concentrations in the surface soil exceed the Residential Use SCO, these concentrations are below the Commercial Use SCO. The extent of lead contaminated surface soil based on the EPA and NYSDEC investigations exceeding the Residential Use SCO are depicted in Figure 3. Table 1 summarizes the degree of contamination for the contaminants of concern and compares the data with the Standards Criteria and Guidance values (SCGs) applicable to each medium sampled.

Since contaminated soil remains beneath the site after completion of the Remedial Action, Institutional Controls are required to protect human health and the environment. These Institutional Controls (ICs) are described in the following sections. Long-term management of these ICs and residual contamination will be performed under the Site Management Plan (SMP) approved by the NYSDEC.

4.7 SOIL COVER SYSTEM

A soil cover/cap was not included as part of the site remedy.

4.8 OTHER ENGINEERING CONTROLS

The remedy for the site did not require the construction of any engineering control systems.

4.9 INSTITUTIONAL CONTROLS

The site remedy requires that an environmental easement be placed on the property to (1) limit the use and development of the Site to commercial uses only, which would also permit industrial use; (2) require compliance with the approve site management plan; (3) restrict the use of groundwater as a source of potable or process water without necessary water quality treatment as determined by the NYSDOH; and (4) require the property owner to complete and submit to the NYSDEC a periodic certification of institutional controls.

Due to the remaining surface soil/fill contamination on-site a Site Management Plan (SMP) was developed. The SMP was developed to define the institutional controls that will be implemented to protect the public and to manage the remaining contamination at the Site in perpetuity or until the Environmental Easement is extinguished.

The Environmental Easement is provided in Appendix D

4.10 DEVIATIONS FROM THE REMEDIAL ACTION WORK PLAN

The remedial actions taken for the environmental restoration of the Electruk Battery Site were performed in accordance with that described in the IRMWP with no deviations.

5.0 PROJECT COSTS

As shown in Appendix E, the project costs for the IRM activities were $13,225.

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Figure 2	Trench Location Map
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Appendix B	Digital Copy of the FER, Daily Inspection Reports, Project Photographs, Waste Disposal Manifests and Bills of Landing (CD)
Appendix C	NYSDEC Approval Letter for the IRMWP
Appendix D	Environmental Easement
Appendix E	Project Costs
Appendix F	USEPA Sampling/Removal Action Reports and NYSDOH's March 9, 2000 Concurrence Letter

TABLES

TABLE 1
Nature and Extent of Contamination

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
	pH	6.8 – 7.7		
	Lead (RI Samples)	19.4 – 296	1,000	0/10
	Lead (EPA samples)[c]	93 to 1,180	1,000	1/221

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Carbon Disulfide	ND - 13	500	0/4
	TICs	13 - 41	NS	
Semivolatile Organic Compounds (SVOCs)	TICs	160 - 770	NS	
Metals	Arsenic	3.1 – 4.2	16	0/4
	Barium	78.9 - 161	400	0/4
	Chromium	9.3 – 27.4	1,500	0/4
	Lead	7.8 – 12.9	1,000	0/4
	Mercury	0.014 – 0.039	2.5	0/4
	Selenium	ND – 3.1	1,500	0/4
pH	pH	7.2 - 8		

SURFACE WATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Semivolatile Organic Compounds (SVOCs)	TICs	ND – 23.6	NS	
Metals	Barium	15.1 – 31.4	1,000	0/4
	Chromium	1.4 – 4.22	50	0/4
	Lead	7.4 - 302	50	1/4
	Silver	ND – 8.26	50	0/4
pH	pH	6.88 – 8.24		

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Acetone	ND - 22	50	0/3
	Benzene	ND – 4.2	1	1/3
	Bromodichloromethane	ND - 0.75	50	0/3
	Chloroform	ND - 6.1	7	0/3
	2-Butanone	ND – 4.2	50	0/3
	Cyclohexane	ND – 1.8	NS	0/3
	Toluene	ND - 6	5	1/3
	m/p-Xylenes	ND – 3.2	5	0/3
	o-Xylene	ND – 1.4	5	0/3

Semivolatile Organic Compounds (SVOCs)	3+4-Methylphenols	ND – 2.5	1	1/3
	Bis(2-ethylhexyl)phthalate	ND – 4.1	5	0/3
	TICs	ND - 23	NS	
GROUNDWATER	**Contaminants of Concern**	**Concentration Range Detected (ppb)[a]**	**SCG[b] (ppb)[a]**	**Frequency of Exceeding SCG**
Metals	Barium	43.7 - 87	1,000	0/3
	Chromium	2.56 – 2.87	50	0/3
	Lead	ND – 6.74	25	0/3
	Silver	ND – 2.42	50	0/3
pH	pH	7.11 – 7.97		

SUB-SLAB	**Contaminants of Concern**	**Concentration Range Detected (ppm)[a]**	**SCG[b] (ppm)[a]**	**Frequency of Exceeding SCG**
Metals	Lead	12.1 - 174	1,000	0/4

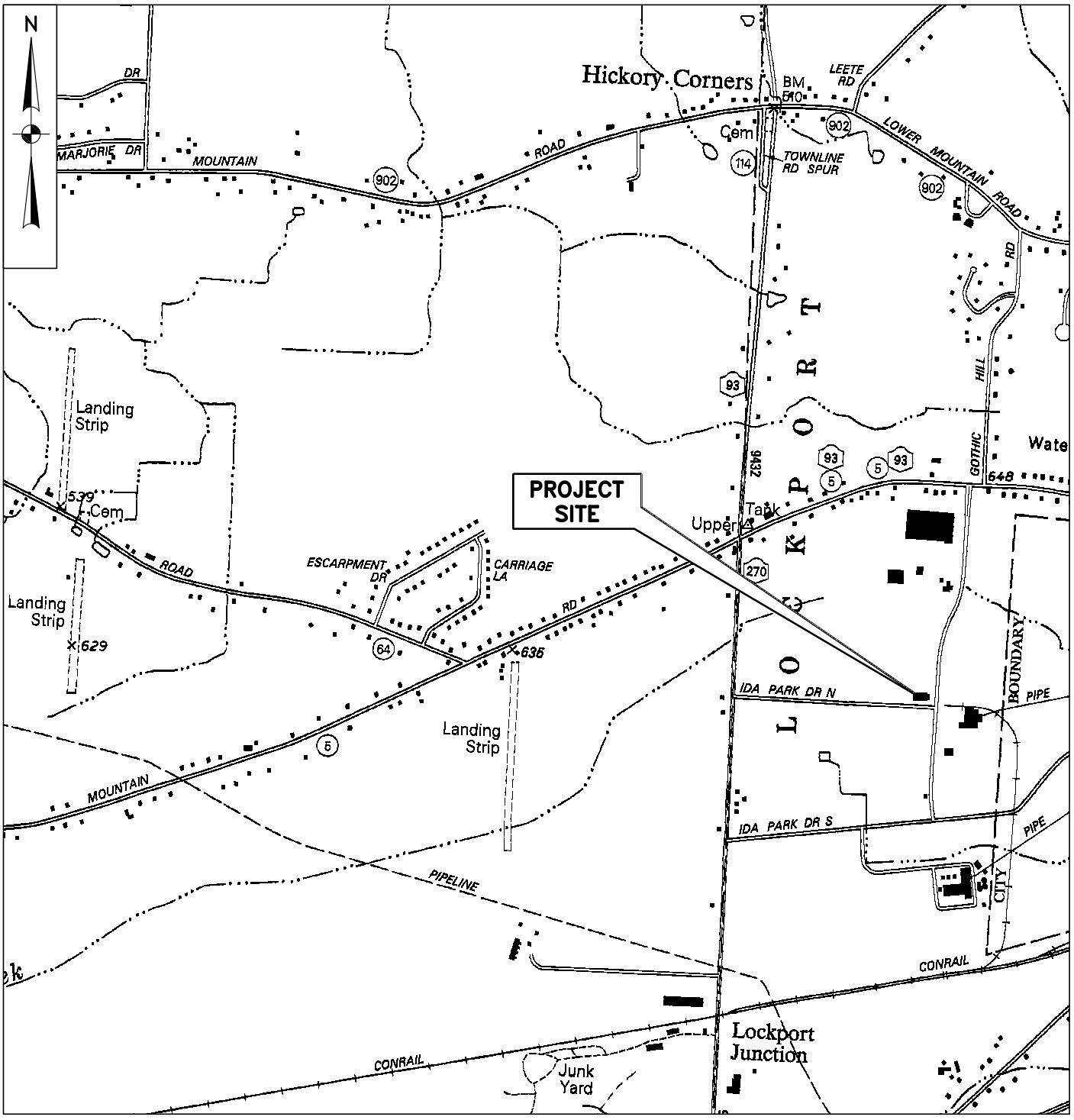
[a] ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water;
ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
ug/m^3 = micrograms per cubic meter

[b] SCG = standards, criteria, and guidance values for surface and sub-surface soil are from 6NYCRR Part 375.68(b) Environmental Remediation Programs December 2006 Edition using the Commercial Soil Cleanup Objectives, SCG for groundwater were derived from NYS Ambient Water Quality Standards TOGS 1.1.1 (Source of Drinking Water, Groundwater); for soil samples analyzed for TCLP metals 40 CRF Part 261.24 is the source of the regulatory value, which lists the maximum contaminant levels for the toxicity characteristic for determining if a solid waste is defined as a hazardous waste.

[c] The EPA sample results were obtained from July 22, 1999 *Delineation of Lead Contamination by X-Ray Fluorescence* letter report prepared by Roy F. Weston Inc. The highest concentration of lead detected during the EPA sampling was 1,180 ppm at CC3. Sample SS-10 was collected August 2008 from the same location as CC3 and revealed a lead concentration of 48.4 ppm.

ND Compound not detected
NS No Standard

FIGURES



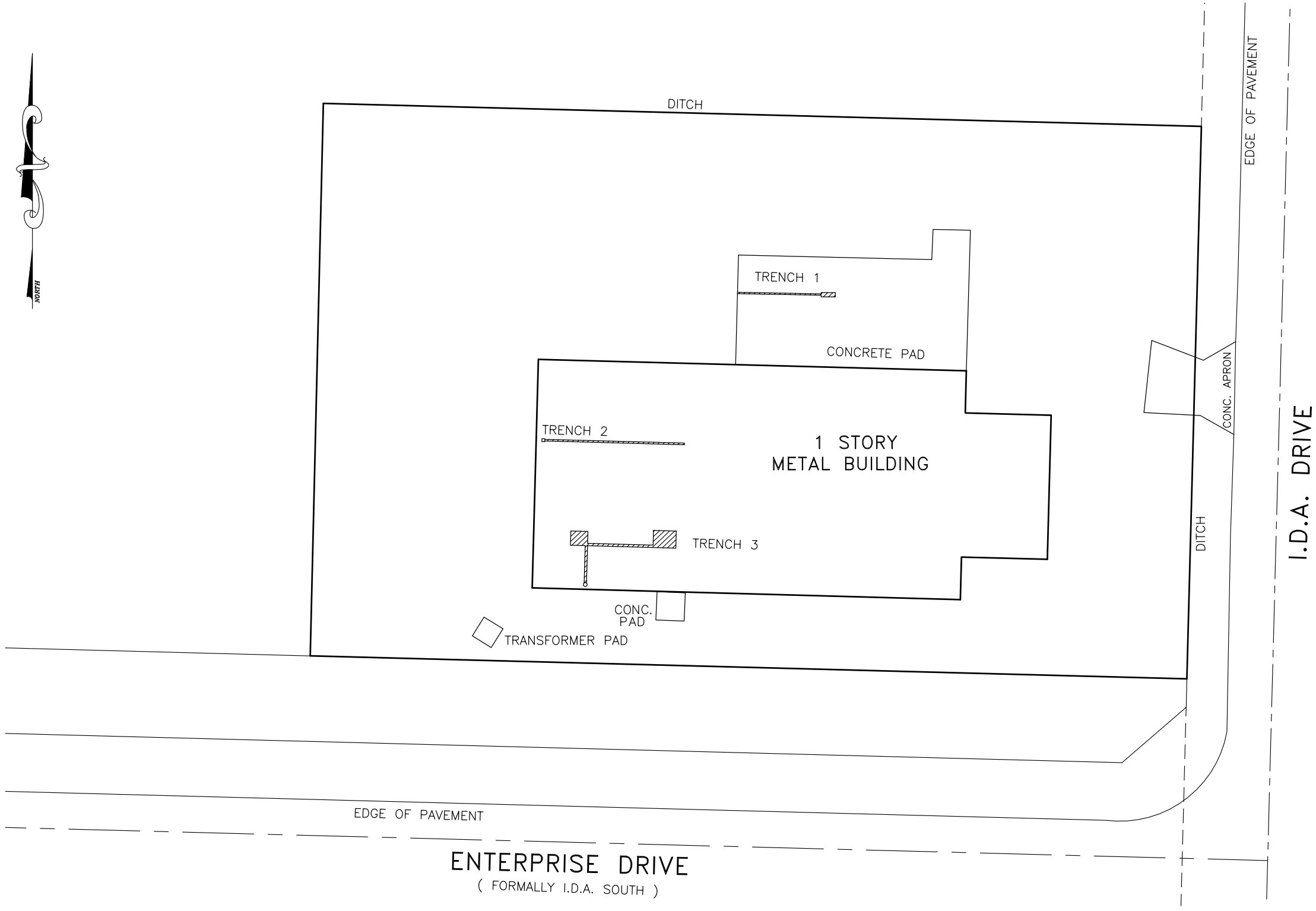
U.S.G.S LOCKPORT QUADRANGLE
CAMBRIA QUADRANGLE

PROJECT SITE LOCATION MAP

TVGA CONSULTANTS
620 MAIN STREET
BUFFALO, NEW YORK 14202-1906
P. 716.849.8739
F. 716.856.0981
www.tvga.com

FINAL ENGINEERING REPORT
FORMER ELECTRUK BATTERY SITE
4922 IDA DRIVE
LOCKPORT, NEW YORK 14094

PROJECT NO. 2007.0262.00	SCALE: 1" = 500'	DATE: SEPTEMBER 2009	FIGURE NO. 1



LEGEND

HATCHED AREAS REPRESENT SURFACE WATER AND SEDIMENT REMOVAL AND FLOWABLE FILL BACKFILL EXTENTS.

TRENCH LOCATION MAP

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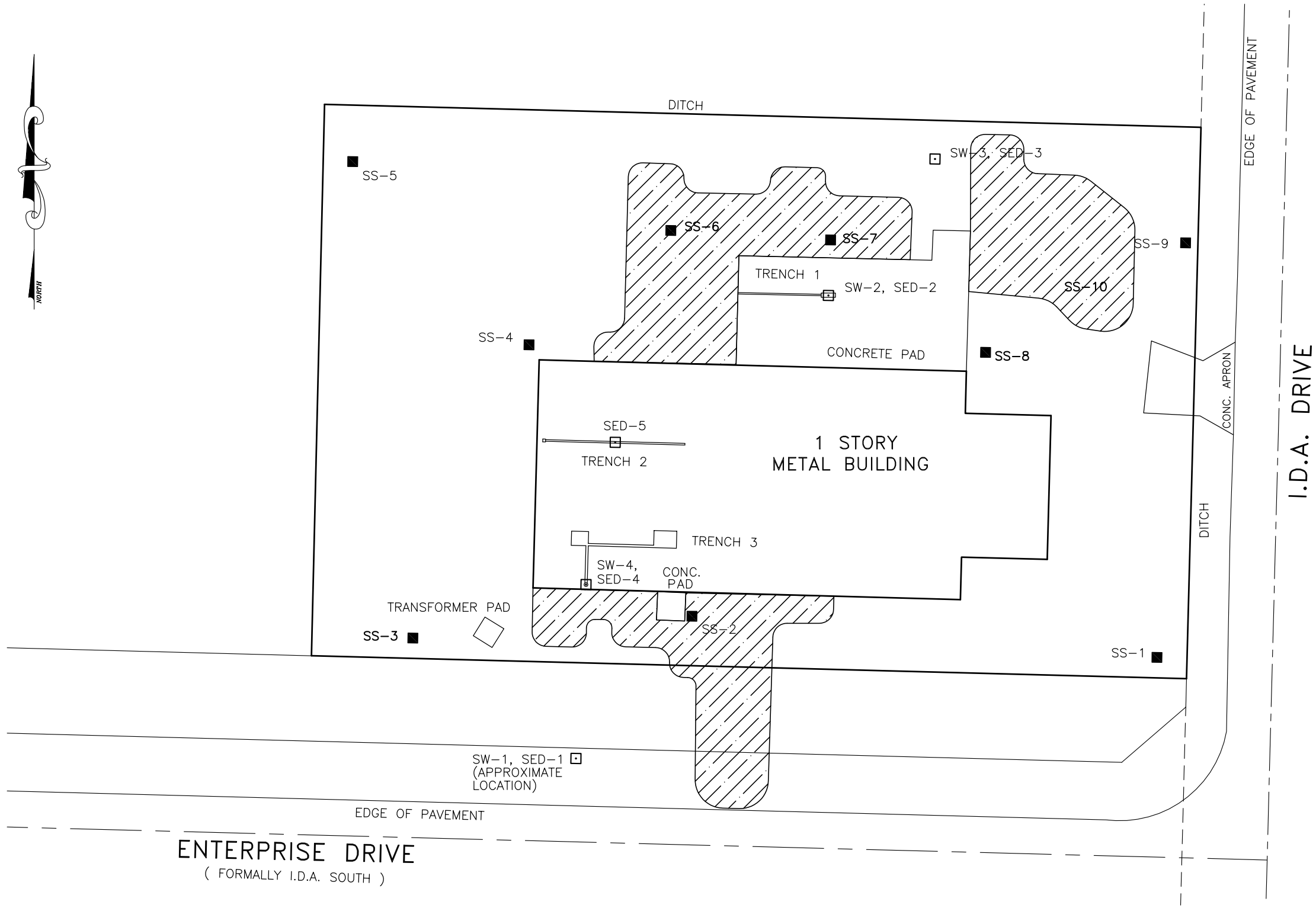
4922 IDA DRIVE
LOCKPORT, NEW YORK 14094

PROJECT NO. 2007.0262.00	SCALE: 1" = 40'	DATE: SEPTEMBER 2009	FIGURE NO. 2



LEGEND

- ■ SURFACE SOIL (SS) LOCATION
- ⊡ SURFACE WATER (SW) / SEDIMENT (SED) LOCATION
- ▨ HATCHED AREAS REPRESENT AREAL EXTENT OF SUSPECTED SURFACE SOIL CONTAMINATION

NOTES:

- SOIL RESULTS ARE REPRESENTED IN mg/Kg,
- THE AERIAL EXTENT OF SUSPECTED SURFACE SOIL CONTAMINATION ARE BASED ON THE RESULTS OF THE 1999 USEPA REMOVAL ACTION SAMPLING INCLUDED IN FIGURE 4.

AREAS OF REMAINING CONTAMINATION

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PROJECT NO. 2007.0262.00	SCALE: 1" = 40'	DATE: SEPTEMBER 2009	FIGURE NO. 3

APPENDIX A

SURVEY MAP, METES AND BOUNDS

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law.

THE ENGINEERING AND INSTITUTIONAL CONTROLS for the Easement are set forth in more detail in the Site Management Plan ("SMP"). A copy of the SMP must be obtained by any party with an interest in the property. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@gw.dec.state.ny.us.

ENGINEERING / INSTITUTIONAL CONTROLS

Please show location of engineering controls with measurements in survey drawing with corresponding keys and decription of all Engineering Controls and Institutional Controls covering subject site (see example attached) (subject to Project Manager's comments)

- Soil Cover – Any breach of the natural site cover, including for the purposes of construction or utilities work, must be replaced or repaired according to the Site Management Plan (SMP). Site soil excavated and removed from the property must be managed, characterized, and properly disposed of in accordance with the NYSDEC regulations and directives. Guidelines for management of subsurface soils/fill and long-term maintenance of the natural site cover is provided in the SMP.
- Land Use – The use and development of the site is limited to Commercial and Industrial uses only.

ENVIRONMENTAL EASEMENT AREA ACCESS

THE DEC OR THEIR AGENT MAY ACCESS THE ENVIRONMENTAL EASEMENT AREA AS SHOWN HEREON THROUGH ANY EXISTING STREET ACCESS OR BUILDING INGRESS/EGRESS ACCESS POINT.

SCHEDULE 'A' - DEED DESCRIPTION & ENVIRONMENTAL EASEMENT AREA DESCRIPTION

CHICAGO TITLE INSURANCE COMPANY, COMMITMENT NO. 1115-25074
DATED AUGUST 5, 2011.

ALL THAT TRACT OR PARCEL OF LAND, SITUATE IN THE TOWN OF LOCKPORT, COUNTY OF NIAGARA AND STATE OF NEW YORK, BEING PART OF LOT 12, TOWNSHIP 14, RANGE 7 OF THE HOLLAND LAND COMPANY'S SURVEY, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE WEST LINE OF LANDS DEDICATED TO THE TOWN OF LOCKPORT BY INSTRUMENT RECORDED IN LIBER 1868 OF DEEDS AT PAGE 268, DISTANCE 10 FEET NORTHERLY FROM THE INTERSECTION WITH THE NORTH LINE OF LANDS DEDICATED TO THE TOWN OF LOCKPORT BY INSTRUMENT RECORDED IN LIBER 2287 OF DEEDS AT PAGE 49;

THENCE NORTHERLY ALONG THE WEST LINE OF I.D.A. DRIVE, A DISTANCE OF 193.99 FEET TO A POINT;

THENCE WESTERLY AT RIGHT ANGLES, A DISTANCE OF 308.25 FEET TO A POINT;

THENCE SOUTHERLY AT INTERIOR ANGLE OF 89°51'06". A DISTANCE OF 193.99 FEET TO A POINT;

THENCE EASTERLY AT INTERIOR ANGLE OF 90°08'54" AND PARALLEL WITH THE NORTH LINE OF LANDS DEDICATED BY THE LATTER DEDICATION HERINABOVE DESCRIBED, A DISTANCE OF 307.75 FEET TO THE POINT OF BEGINNING.

CONTAINING 1.37 ACRES MORE OR LESS.

GENERAL NOTES

1. ALL ELEVATIONS BASED ON NAVD88 DATUM. BENCHMARK DESCRIPTION NORTH BONNET BOLT OF FIRE HYD AT SOUTHWEST CORNER OF I.D.A. DRIVE AND ENTERPRISE DRIVE. ELEVATION = 630.34 SEE MAP FOR LOCATION.

2. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED THOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF EXCAVATION.

3. NO ENVIRONMENTAL ENGINEERING CONTROLS PROPOSED FOR SUBJECT PROPERTY.

CERTIFICATION

TO: THE PEOPLE OF THE STATE OF NEW YORK ACTING THROUGH ITS COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

THE TOWN OF LOCKPORT

CHICAGO TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NPS IN 2005. PURSUANT TO THE ACCURACY STANDARDS AS ADOPTED BY ALTA AND NPS AND IN EFFECT ON THE DATE OF THIS CERTIFICATION, UNDERSIGNED FURTHER CERTIFIES THAT IN MY PROFESSIONAL OPINION AS A LAND SURVEYOR REGISTERED IN THE STATE OF NEW YORK, THE RELATIVE POSITIONAL ACCURACY OF THIS SURVEY DOES NOT EXCEED THAT WHICH IS SPECIFIED THEREIN.

DATE OF SURVEY: JULY 15, 2009
LAST REVISION: SEPTEMBER 8, 2011

DOUGLAS R. HAGER, P.L.S. NEW YORK STATE LICENSE NO. 050204

FORMER ELECTRUK BATTERY
ERP SITE # E932132
4922 I.D.A. DRIVE
LOCKPORT, NEW YORK

EASEMENTS OF RECORD

THIS SURVEY HAS BEEN REVISED WITH THE BENEFIT OF ABSTRACT SEARCH NO.1115-00450 DATED MAY 27, 2011, AND TITLE REPORT COMMITMENT NO. 1115-25074 DATED AUGUST 5, 2011 AS PREPARED BY CHICAGO TITLE INSURANCE COMPANY.

THE ITEMS IN SCHEDULE B AFFECT THE PARCEL SHOWN HEREON:
ITEM 3: 15' UTILITY EASEMENT TO NEW YORK STATE ELECTRIC & GAS AND NEW YORK TELEPHONE BY LIBER 2268 OF DEEDS AT PAGE 242 AS SHOWN.

ZONING

ZONED INDUSTRIAL

MINIMUM LOT AREA:	1 ACRE
MINIMUM LOT WIDTH:	200 FEET
FRONT SETBACK:	50 FEET
SIDE YARD SETBACK:	25 FEET
SIDE YARD SETBACK: (ABUTTING TO NON-INDUSTRIAL DISTRICT)	50 FEET
REAR SETBACK: (ABUTTING TO NON-INDUSTRIAL DISTRICT)	10 FEET
REAR SETBACK:	100 FEET
DRIVEWAYS FROM SIDE:	10 FEET
MAXIMUM HEIGHT OF BUILDINGS:	50 FEET
MAXIMUM LOT COVERAGE:	85%

FLOOD NOTE

ZONE 'X' (DETERMINED TO BE OUTSIDE THE 500 YEAR FLOODPLAIN)

REFERENCE: F.I.R.M. (WWW.FEMA.GOV)
COMMUNITY PANEL NO. 36013 0012 D
EFFECTIVE DATE: OCTOBER 4, 2002

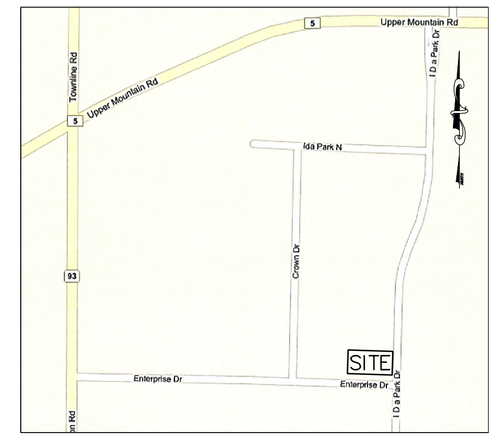
GRAPHIC SCALE

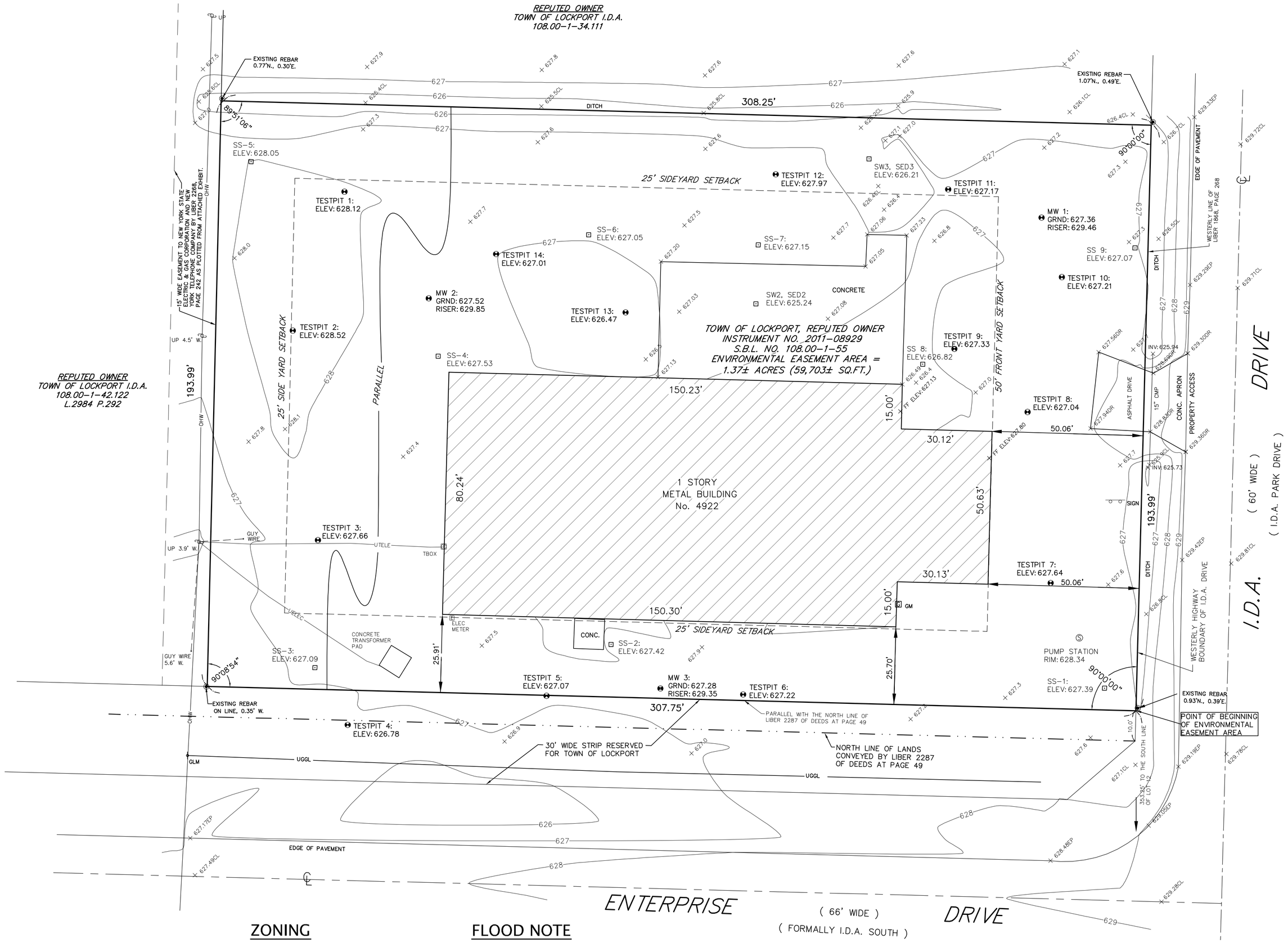
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

LEGEND

CONC MON	CONCRETE MONUMENT	TREE NAME	DECIDUOUS TREE
PK	NAIL	TREE NAME	CONIFEROUS TREE
REBAR	REBAR	TRAFFIC MH	TRAFFIC MANHOLE
IP	IRON PIPE	MH	UNKNOWN MANHOLE
HUB AND TACK	HUB AND TACK	CBR	ROUND CATCH BASIN
627.5	GROUND SHOT (HARD)	CB	CATCH BASIN
627.5	GROUND SHOT (SOFT)	STORM MH	STORM MANHOLE
FF=630.5	FIRST FLOOR ELEVATION	SAN MH	SANITARY MANHOLE
UP	UTILITY POLE	CO	CLEANOUT
UP/L	UP/L	TBOX	TELEPHONE BOX
GUY	GUY WIRE	ELEC BOX	ELECTRIC BOX
HYD	HYDRANT	POST	POST
WM	WATER METER	SIGN	TWO POST SIGN
WV	WATER VALVE	SIGN	ONE POST SIGN
GLM	GASLINE MARKER	DEL	DELINEATOR
GM	GAS METER	MB	MAILBOX
GV	GASLINE VALVE	LP	ONE HEAD LIGHT POLE
BUSH NAME	DECIDUOUS BUSH	LP	TWO HEAD LIGHT POLE
BUSH NAME	CONIFEROUS BUSH	LP	THREE HEAD LIGHT POLE
MW/TP	MONITORING WELL / TEST PIT	SS	SOIL SAMPLE

VICINITY MAP
NOT TO SCALE





NO.	REVISION	DATE	BY
2	ADDED ENGINEERING AND ENVIRONMENTAL EASEMENT NOTES	11-9-2011	LRD
1	REVISED PER UPDATED TITLE	9-8-2011	WWW

STATE OF NEW YORK
DOUGLAS R. HAGER
No. 050204
LICENSED LAND SURVEYOR

Designed by:	DRT
Drawn by:	RJW
Checked by:	WWW
Dwg Scale:	Horiz: 1"=20
	Vert:
Field Date:	5/12/08
Office Date:	7/15/09
Job No.	20071062.00
Book:	391
Page:	123
Map No.	59773
File Name:	59773-ALTA.dwg

TVGA CONSULTANTS
1000 MAPLE ROAD
ELMA, NEW YORK 14059-9530
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TOWN OF LOCKPORT NIAGARA COUNTY NEW YORK

ALTA/ACSM LAND TITLE SURVEY
4922 I.D.A. DRIVE LOCKPORT, NEW YORK
PART OF LOT 12, TOWNSHIP 14, RANGE 7
OF THE HOLLAND LAND COMPANY'S SURVEY
SITE E932132

MAP NUMBER:
59773
Sheet 1 of 1