DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo code (CA750)
Migration of Contaminated Groundwater Under Control

Facility Name: **General Electric – Buffalo Service Shop**
Facility Address: **175 Milens Road, Tonawanda, NY**
Facility EPA ID #: **NYD067539940**

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EIs) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EIs developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EIs are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   X If yes - check here and continue with #2 below.

   _____ If no - re-evaluate existing data, or

   _____ If data is not available, skip to #8 and enter "IN" (more information needed) status code.

BACKGROUND

The GE Buffalo Service Shop is located at 175 Milens Road in Tonawanda, New York. The site is fifteen miles north of downtown Buffalo and approximately two miles east of the Niagara River. The site is not in the floodplain of the Niagara River. The Buffalo Service Shop property encompasses 5.3 acres and includes a 69,000 square foot one-story building. GE built the slab-on-grade building in 1968 and expanded the building to the south in 1978. The site is in an urban area that includes some commercial business and other industries. The geographic location of the service shop is shown on the site location map presented as Figure 1. The general layout of the service shop is presented on Figure 2.

The Buffalo Service Shop is zoned as commercial/industrial and operates as an industrial facility. The service shop is involved in the repair of industrial equipment including electric motors, transformers, turbines, pumps and compressors, etc. In May 1996, the New York State Department of Environmental Conservation (Department) issued a 6NYCRR Part 373 Hazardous Waste Management Permit (373 Permit) to the GE Buffalo Service Shop. The permit allowed the facility to store hazardous wastes that contain volatile organic compounds (VOCs), metals and/or PCBs. In the past, the Buffalo Service Shop received equipment from other GE facilities containing PCBs for repair and the hazardous wastes generated during the repair operations were stored for greater than 90 days prior to their shipment off-site for disposal. These hazardous waste drums were stored in designated hazardous waste storage areas until arrangements for disposal or treatment at authorized hazardous waste management facilities were made. There has been no treatment or disposal of hazardous or solid wastes at the facility. The Department reviewed the Closure Certification Reports for the RCRA Container Storage Area (CSA) and the PCB CSA. Based on the reports the CSAs were clean closed in 2002 and 2004, respectively, in accordance with Department approved closure plans and GE's 373 Permit. Authorization to operate the units as permitted CSAs was terminated, April 3, 2006 and May 30, 2006 respectively. Currently, the Buffalo Service Shop receives equipment containing PCBs for repair and the generated wastes are stored on site for less than 90 days before being shipped for off-site disposal.

GE has completed the investigation of past releases, has performed interim corrective measures and has evaluated potential corrective measures to address the past releases. GE performed interim corrective measures to remove the sediments from the on-site manhole STMH-3 and the off-site manhole MH-1 and to remove the sediments and bank soils in select areas of Two Mile Creek. The Department is in the process of selecting the final remedy for the facility through the Statement of Basis. The proposed final corrective measures for the facility are to excavate soils greater than 1ppm for PCBs and dispose of the soils off-site. The proposed final corrective measures will remediate the past releases and will be protective of human health and the environment. After public review and comment of the Statement of

Basis, the Department will renew the GE Buffalo Service Shop 373 permit. The permit will be the mechanism to implement the final corrective measures and post-remedial activities for the facility.

2. Is **groundwater** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

_____ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

__X__ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not known or reasonably suspected to be "contaminated."

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale:

An RFI was completed on April 2, 1999 that evaluated the nature and extent of contamination at the facility. Shallow groundwater at the facility is 6 to 8 feet below ground surface (bgs) in areas where the native soils were excavated and backfilled. The fill by the former rinse water tank excavation area and along the sewer lines on the east side of the building has contaminated soils. Monitoring wells MW-2 and MW-3 were installed in the fill near the sewer lines and former rinse water tank excavation to monitor the shallow groundwater. Both wells showed levels of VOCs and PCBs above the New York State groundwater standard. The rate of groundwater percolation from the fill to the native clay soil is expected to be very low due to the approximately 13 feet of low-permeability clay that separates the shallow groundwater and the underlying groundwater table.

A well (MW-4) was installed down gradient of the former rinse water tank excavation in the fill to monitor the shallow groundwater. Based on the results from MW-4 sampling, PBCs and VOCs were not detected in the down-gradient shallow groundwater. The underlying groundwater in the native soils for the facility is at 22 to 25 feet bgs. A well (MW-5) was installed near the former rinse water tank excavation to monitor the underlying groundwater. Based on results from MW-5 sampling the underlying groundwater does not contain PCBs or VOCs. Based on sampling, it appears the impacted groundwater is only located in the shallow groundwater in the fill by the former rinse water tank excavation and sewer lines and does not appear to be migrating.

There are no private wells surrounding the facility; the local community is supplied with public water. The Department has determined that groundwater is not a media of concern at the site and does not represent a significant threat to the public health or the environment.

References:
RCRA Facility Investigation April 2, 1999

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

   _____ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

   _____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) - skip to #8 and enter "NO" status code, after providing an explanation.

   _____ If unknown - skip to #8 and enter "IN" status code.

Rationale:

References:

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

   _____ If yes - continue after identifying potentially affected surface water bodies.

   _____ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

   _____ If unknown - skip to #8 and enter "IN" status code.

Rationale:

References:

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase

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[2]"existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

[3]As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

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_____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter "IN" status code in #8.

Rationale:

References:

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR
2) providing or referencing an interim-assessment,[5] appropriate to the potential

[4]Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

[5]The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter "IN" status code.

Rationale:

References:

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

_____ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

_____ If no - enter "NO" status code in #8.

_____ If unknown - enter "IN" status code in #8.

Rationale:

References:

8. Check the appropriate RCRAInfo status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

__X__ YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the GE Buffalo Service Shop, EPA ID# NYD067539940, located at 175 Milens Road, Tonawanda, New York. Specifically, this determination indicates that the migration of known or reasonably suspected to be "contaminated" groundwater is under control, and that monitoring will be conducted, as necessary, to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater". This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

_____ NO - Unacceptable migration of contaminated groundwater is observed or expected.

_____ IN - More information is needed to make a determination.

Completed by: Jessica LaClair Date: 3-28-2011
Jessica LaClair
Environmental Engineer 1

Supervisor: Kevin Farrar Date: 3-28-2011
Kevin Farrar
Engineering Geologist 3

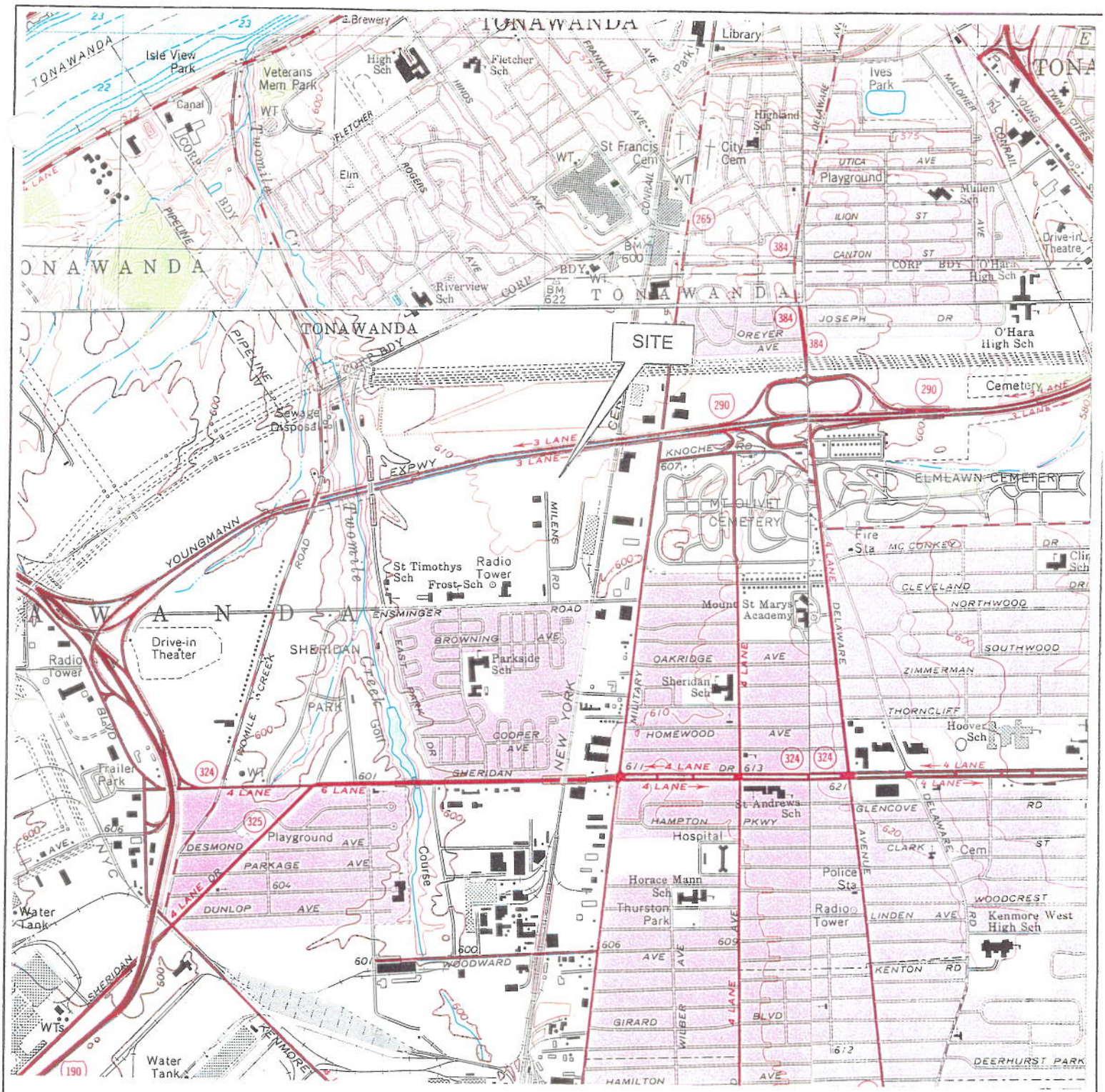
Director: William Daigle Date: 3-28-2011
William Daigle, P.E.
Bureau Director, Remedial Bureau D
Division of Environmental Remediation

Locations where References may be found:

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7013

Contact, telephone number and e-mail:

Jessica LaClair
(518) 402-9821
jalaclai@gw.dec.state.ny.us



CONTOUR INTERVAL = 10 FEET

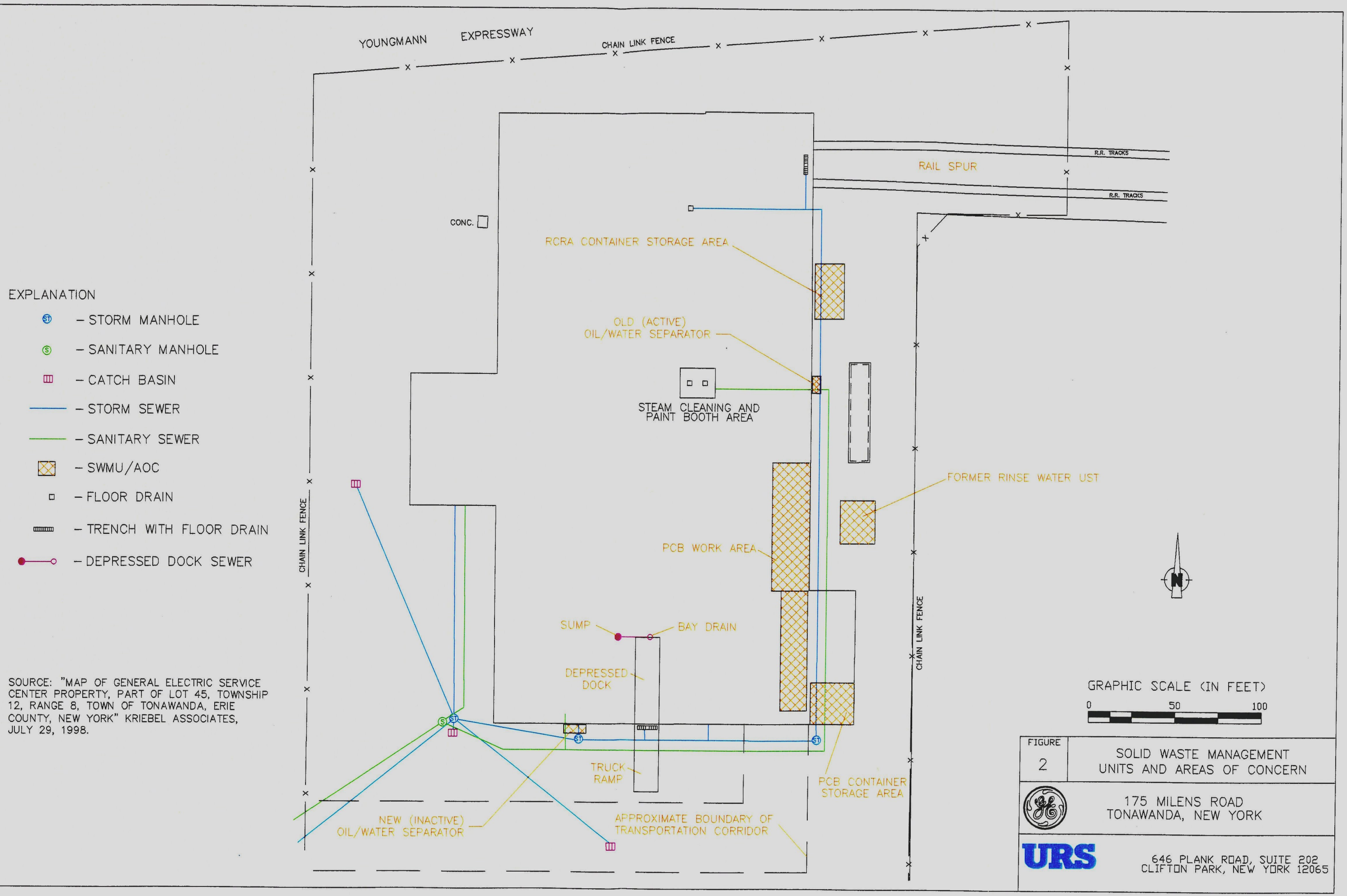
REFERENCE
USGS 7.5 MINUTE TOPOGRAPHIC MAPS:
BUFFALO NORTHWEST QUADRANGLE 1965
BUFFALO NORTHEAST QUADRANGLE 1965
TONAWANDA WEST QUADRANGLE 1980
TONAWANDA EAST QUADRANGLE 1980

QUADRANGLE LOCATION

SCALE: 1" = 2000'

FIGURE 1	SITE LOCATION
	175 MILENS ROAD TONAWANDA, NEW YORK
URS	646 PLANK ROAD, SUITE 202 CLIFTON PARK, NEW YORK 12065

85030-44 03/29/00



SOURCE: "MAP OF GENERAL ELECTRIC SERVICE CENTER PROPERTY, PART OF LOT 45, TOWNSHIP 12, RANGE 8, TOWN OF TONAWANDA, ERIE COUNTY, NEW YORK" KRIEBEL ASSOCIATES, JULY 29, 1998.

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FIGURE 2

SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN

175 MILENS ROAD
TONAWANDA, NEW YORK

URS

646 PLANK ROAD, SUITE 202
CLIFTON PARK, NEW YORK 12065