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# PROPOSED RECORD OF DECISION AMENDMENT

## GASTOWN MGP TONAWANDA SITE

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City of Tonawanda / Erie County / Registry No. 915171 / January 2013

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Prepared by the New York State Department of Environmental Conservation  
Division of Environmental Remediation

### 1.0 INTRODUCTION

On March 30, 2007, the New York State Department of Environmental Conservation (Department) signed a Record of Decision (ROD) which selected a remedy to clean up the Gastown MGP Site. Since that time, a new technology has been successfully implemented at sites with similar space constraints which would allow the site to be remediated with significantly less impact to the current site occupants and to the surrounding neighborhood. The Department is proposing this amendment to the ROD calling for a far smaller portion of the site to be excavated, with most of the contaminated soils at the site stabilized in place with a technique known as in-situ stabilization (ISS).

**A public comment period has been set for January 14 through February 28, 2013 to provide an opportunity for you to comment on these proposed changes. A public meeting is scheduled for February 5 at City Hall, Tonawanda beginning at 7 PM.**

At the meeting, a description of the original ROD and the circumstances that have led to proposed changes in the ROD will be presented. After the presentation, a question and answer period will be held, during which you can submit verbal or written comments on the proposal. We encourage you to review this summary and attend the meeting.

Written comments may also be sent to:

Richard Dana, Project Manager  
NYS Dept. of Environmental Conservation  
Division of Environmental Remediation  
625 Broadway, Albany New York 12233-7014  
phone number: 518-402-9662

Comments will be summarized and responses provided in a Responsiveness Summary.

The information here is a summary of what can be found in greater detail in reports that have been placed in the Administrative Record for the site. These documents are available at the following repositories:

City of Tonawanda Public Library  
333 Main Street  
Tonawanda, NY 14150  
Mon, Tues, Thurs 10AM -8 PM  
Fri 10AM-4 PM; Sat 10AM -2 PM

NYSDEC Central Office  
625 Broadway  
Albany, NY 12233-7014  
Attn: Richard Dana, CPG  
email: rhdana@gw.dec.state.ny.us

NYSDEC Region 9 Office  
270 Michigan Avenue  
Buffalo, New York  
(716) 851-7220  
by appointment only

The Department may modify or reject the proposed changes based on new information or public comments. Therefore, the public is encouraged to review and comment on this proposal.

## **2.0 SITE INFORMATION**

### **2.1 Site Description**

**Location:** The Gastown MGP Tonawanda Site is located in a small industrial area surrounded by residential neighborhoods in the City of Tonawanda, Erie County (see Figure 1).

**Site Features:** The site, which is flat, is occupied by a complex of commercial buildings. The site is bounded to the west and south by a railroad embankment, to the north by Tonawanda Creek, a part of the NYS Barge Canal system and to the east by the Gastown Sportsmen's Club.

**Current Zoning/Use(s):** The site is zoned for commercial and industrial use. The buildings on the site are used by a number of small businesses.

**Historic Use(s):** A manufactured gas plant (MGP) was operated at this site by the Tonawanda Gas Light Company, starting in 1884. In 1923 the production facilities were dismantled, however, the plant site continued to be used as a booster and storage facility.

**Site Geology and Hydrogeology:** There are four geologic units below the site. The first encountered unit below the ground surface (bgs) is man-made fill, ranging in thickness from a few inches to 22 feet. A recent alluvium deposit, made up largely of interbedded layers of sand and silt, lies beneath the fill. Most of the lateral migration of tar has taken place in this unit, which extends down to a depth ranging from 12 to 24 feet bgs. Underlying the alluvium is a layer of coarser sand and gravel, which in turn is underlain by a red clay, which is the hydraulic base (confining layer) at this site.

Depth to groundwater is typically 6 feet. Groundwater flow is primarily to the north, towards Tonawanda Creek. There are also components of groundwater flow both to the east and to the west. This groundwater flow pattern has resulted in the migration of contamination in three directions.

### **2.2 Nature and Extent of Site Contamination**

The primary contaminants of concern at this site are related to coal tar, a condensate from the gas manufacturing process. Coal tar contains BTEX compounds (benzene, toluene, ethylbenzene, and xylene) and PAHs (polycyclic aromatic hydrocarbons). Investigations have shown coal tar and contaminated groundwater present at the site extending to the north, east, and west. Coal tar has also been observed in the sediment in Tonawanda Creek, and contamination exceeds applicable sediment standards. No site-related contamination has been observed in surface water at levels above applicable standards. Contaminated groundwater and NAPL (non-aqueous phase liquid) have entered the basement sump of the Gastown Sportsmen's Club.

### **2.3 Summary of Human Exposure Pathways**

Access to the site is unrestricted. However, contact with contaminated soil or groundwater is unlikely unless people dig below the ground surface. Coal tar entering the sump at the Sportsman's Club is collected and managed to prevent exposures. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination.

Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion.

Soil vapor intrusion sampling was conducted at on-site and off-site buildings and identified elevated levels of volatile chemicals beneath some structures but not in indoor air. Sub-slab depressurization systems (systems that ventilate/remove the air beneath the building) have been installed in those buildings to prevent the indoor air quality from being affected by the contamination in soil vapor beneath the buildings.

## **2.4 Summary of Environmental Assessment**

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

The Fish and Wildlife Impact Analysis, which is included in the Remedial Investigation (RI) report, presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors. The following environmental exposure pathways and ecological risks have been identified:

Sediments in Tonawanda Creek contain levels of PAHs and BTEX that are considered toxic to bottom-dwelling wildlife. This results in potential impacts to wildlife living and/or feeding in the Creek.

Site contamination has also impacted the groundwater resource in the upper, unconsolidated aquifer.

## **2.5 Original Remedy**

In the original ROD, the Department selected Alternative 3, Partial Excavation and Collection Trenches, as the remedy for this site. The elements of that selected remedy are as follows:

1. A remedial design program will be developed to provide the details necessary to implement the remedial program.
2. Soils containing visible evidence of MGP tar and/or containing total PAHs greater than 500 parts per million (ppm) will be removed from the portions of the site and the property owned by the NFTA. Three buildings which are located above substantial amounts of contaminated material will be demolished to permit access. Excavation in the vicinity of the fiber optic cable will be coordinated with the owner of that line. Any MGP tar left beneath the railroad embankment, cable or buildings will be isolated from the clean backfill by an appropriate barrier. Excavation will be performed in a manner which will adequately control vapors and odors.
3. Underground collection trenches will be constructed around the Sportsmen's Club and also west of the site. MGP tar in the vicinity of these trenches will be extracted to the extent possible, and prevent further migration of the tar. The trenches will also prevent contaminated groundwater from entering these off-site buildings.
4. Sediment between the shore and the navigational channel east of the railroad bridge will be removed. The exact extent will be determined during the remedial design program.

5. Although no current impact to indoor air has been noted to date, sub-slab depressurization systems were provided for the five residential dwellings west of the site, and will continue to be maintained. Soil gas quality will be monitored at the Open Bible Baptist Church School. The sub-slab depressurization systems were installed since the original ROD was executed.
6. Since the remedy results in contamination above unrestricted levels remaining at the site, a Site Management Plan (SMP) will be developed and implemented. The SMP will include the institutional controls and engineering controls to: (a) address residual contaminated soils that may be excavated from the site during future redevelopment. The plan will require soil characterization and, where applicable, disposal/reuse in accordance with Department regulations; (b) evaluate the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) provide for the operation and maintenance of the components of the remedy; (d) monitor the groundwater and soil gas; (e) identify any use restrictions on site development or groundwater use; and (f) provide a groundwater monitoring program including installing monitoring wells and sampling them on a periodic basis. Analysis will include BTEX and PAHs. This monitoring program and the effectiveness of the remedy will periodically be re-evaluated.
7. The SMP will require the responsible party or property owner to provide an Institutional Control/Engineering Control (IC/EC) certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department annually or for a period to be approved by the Department, which will certify that the institutional controls and engineering controls put in place are unchanged from the previous certification and that nothing has occurred that would impair the ability of the control to protect public health or the environment or constitute a violation or failure to comply with any operation and maintenance or soil management plan.

Imposition of an institutional control in the form of an environmental easement that will: (a) require compliance with the approved site management plan, (b) limit the use and development of the property to commercial or industrial uses only; (c) restrict use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Erie County Department of Health; and (d) require the property owner to complete and submit to the Department IC/EC certification.

### **3.0 DESCRIPTION OF PROPOSED CHANGES**

#### **3.1 New Information**

On March 30, 2007, the Department signed a Record of Decision (ROD) which selected a remedy to clean up the Gastown MGP Site (now known as the Gastown MGP Tonawanda Site). Since that time, a new technology has emerged which allows a site to be remediated with significantly less impact on the current site occupants and on the surrounding neighborhood. The Department is proposing this amendment to the ROD that would require a far smaller portion of the site to be excavated, with most of the contaminated soils at the site stabilized in place with a technique known as in-situ stabilization (ISS). Below, the performance, scope and cost of the proposed remedy modifications are addressed.

Since the ROD was finalized more than five years ago, significant experience has been gained regarding the use of in-situ stabilization as a technique for immobilizing in place highly contaminated coal tar

wastes. In brief, the ISS technique involves thoroughly mixing the contaminated soils with a cement-based slurry. When the slurry hardens, the soil is transformed into an impermeable mass which is significantly stronger than the original soil, yet still amenable to excavation if this proves to be necessary in the future. Utility companies have now successfully employed ISS techniques at eight former MGP sites across New York State. In general, source areas and contaminated subsurface structures are still excavated, with ISS techniques used to stabilize and immobilize tar contamination which has already migrated away from the source areas. The net effect is to reduce the disruption of activities on the site and the surrounding areas by reducing truck traffic, reducing construction noise and vibration impacts, and shortening the length of time required to complete remediation. In most cases, significant cost savings are also realized.

At the Gastown MGP Tonawanda Site, the use of ISS in place of excavation for all but the former gas holder would decrease disruption to the on-site businesses and residential neighbors while allowing treatment of a larger volume of NAPL-contaminated soil than would be reached by excavation alone. In particular, a 15-foot wide strip of the west side of the site lies along an active railroad track. Due to potential structural complications with the embankment, it was not originally slated for excavation. The use of ISS techniques would allow for treatment of this material, some of which contains mobile liquid coal tar at depth.

The use of ISS for all but the former gas holder would reduce the amount of excavated material by 18,000 cubic yards, 68% of the estimated excavation volume, and would reduce the amount of clean backfill imported by 32,000 tons, or 81%. As a result, the number of truck loads hauled through this primarily residential neighborhood would decrease significantly.

As noted in the original ROD, the first step in implementing the remedy was a pre-design investigation to more precisely define the area to be remediated. This investigation has been completed and found that the extent of off-site contamination beyond the railroad track along the western site boundary was significantly smaller than originally estimated. To the west of the railroad grade, NAPL-saturated soil was found in only two of the more than 20 soil borings completed. This prompted a recalculation of the extent of remediation warranted in this area. The ROD amendment would eliminate approximately 600 feet of NAPL collection trenching in the area west of the railroad grade. In its place, two NAPL collection wells would be installed.

The original ROD called for an extensive excavation across the footprint of the former MGP site, progressing as far west as possible without compromising the stability of the adjacent railroad embankment. The area to be excavated is in current use as a driveway and parking area for a number of small businesses, and the excavation would require temporary relocation of some or all of these businesses. The true cost and complexity of moving eight small businesses was not evident until the recent (2012) receipt of estimates from two rigging companies. What was estimated at \$503,747 in the original ROD is now estimated at \$1.27 million.

The proposed ROD amendment would reduce the overall cost by \$12,558,007 or 48% over the original ROD remedy costs, in 2011 dollars. It would reduce the Department's oversight costs as well, since the overall length of time to complete the field work would be reduced from 10 months to seven months.

### **3.2 Proposed Changes**

The ROD amendment would eliminate all deep excavation with the exception of removal of the former gas holder and its contents. Instead, in situ stabilization (ISS) would be used to remediate contaminated

soil. Figure 2 shows the location of the gas holder and the extent of the proposed ISS.

The ROD amendment would eliminate approximately 600 feet of NAPL collection trenching to a depth of 22 feet in the area west of the railroad grade. In its place, two NAPL collection wells would be installed.

Unlike the original ROD which has all on-site businesses relocating, the proposed ROD amendment would require temporary relocation of only three of the businesses, those in Buildings E, F, G, and H (see Figure 3) and significantly lessen disruption to the businesses that would remain on-site during the remedial activities.

## **4.0 EVALUATION OF PROPOSED CHANGES**

### **4.1 Remedial Goals**

Goals for the cleanup of the site were established in the original ROD and would remain unchanged. The goals selected for this site are to eliminate or reduce to the extent practicable:

- the presence of NAPL and MGP-related contaminants as the sources of soil, groundwater and soil gas contamination;
- migration of NAPL and MGP-related contaminants that would result in soil, groundwater or soil gas contamination;
- the release of contaminants from NAPL in on-site soil into groundwater that result in exceedances of groundwater quality standards;
- the potential for ingestion of groundwater with contaminant levels exceeding drinking water standards;
- the potential for ingestion/direct contact with contaminated soil;
- impacts to biota from ingestion/direct contact with sediments; and
- the release of contaminants from subsurface soil under buildings into indoor air through soil gas migration and intrusion.

Further, the remediation goals for the site include attaining to the extent practicable:

- ambient groundwater quality standards; and
- recommended soil cleanup objectives as defined by 6 NYCRR 375-6.

### **4.2 Evaluation Criteria**

The criteria used to compare the remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6 NYCRR Part 375). For each criterion, a brief description is provided.

**The first two evaluation criteria are called threshold criteria and must be satisfied in order for an alternative to be considered for selection.**

1. **Protection of Human Health and the Environment.** This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

The proposed changes allow the Department to increase the volume of contaminated soil remediated through the use of ISS. This improvement will take place along the western site boundary, where the original excavation remedy was limited by proximity to the railroad embankment, but where ISS can be safely implemented.

In all other aspects, the proposed amendment to the ROD is equally protective of human health and the environment. Although less contaminated material will be physically removed from the site under the revised remedy, the stabilized material which remains on-site will pose no risk of migration because of the stabilization process.

2. **Compliance with New York State Standards, Criteria, and Guidance (SCGs).** Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

Both the original remedy and the proposed amendment meet SCGs. The ISS technique is highly effective at preventing contact between site contaminants and groundwater, so the substitution of ISS for excavation should have the same positive impact on groundwater quality in the areas to be treated. Groundwater quality along the western site boundary, where ISS can be applied in an area where excavation could not, would improve more under the revised remedy than it would under the original remedy.

**The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.**

3. **Short-term Effectiveness.** The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

The amended ROD remedy will significantly mitigate short-term impacts to the community, with truck traffic through the community reduced by 68%, and three months less disruption and noise. The amended ROD remedy will also create fewer impacts to the small businesses on-site, because only three will be required to temporarily relocate and those that remain will see significantly reduced impacts on their businesses.

4. **Long-term Effectiveness and Permanence.** This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

The ROD amendment remedy would eliminate approximately 600 feet of NAPL collection trenching to

a depth of 22 feet in the area west of the railroad grade. In its place, two NAPL collection wells would be installed. Since the ROD was finalized, the estimate of contamination under the railroad grade and extending into the residential neighborhood to the west has been drastically revised downward based upon the pre-design investigation. To the west of the railroad grade, NAPL-saturated soil was found in only two of the more than 20 soil borings completed. In boring DP-35 there is a 0.1 foot thick NAPL-saturated seam at a depth of 21 feet, and in boring DP-24 there is a 0.2 foot saturated seam at 21 feet, and a second seam 0.1 foot thick at 13.5 feet. This recalculation of contamination to the west warrants a recalculation of the extent of remediation warranted. The two NAPL collection wells will be placed where borings DP-35 and DP-24 were drilled, and are shown on Figure 1.

The magnitude of the remaining environmental risks will be slightly less with the amended ROD remedy, since more soil will be remediated along the western site boundary. Some contaminated soil will still remain, largely beneath the railroad embankment where human and environmental exposure is unlikely. The adequacy of the engineering and/or institutional controls intended to limit the risk will not change in any significant way with the amended ROD remedy. The reliability of these controls also will not change.

5. **Reduction of Toxicity, Mobility or Volume.** Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

The amended ROD remedy will not lead to any significant change in the reductions in toxicity or mobility. Both excavation and in-situ treatment are highly effective in achieving these reductions. The ISS monolith to be created under the amended ROD remedy will micro-encapsulate the contaminants rendering them essentially inert, though they will remain in place. The volume of material increases somewhat because the ISS process often results in “swelling” of the treated soil beyond its original volume. It is anticipated that some volume of treated soil will be transported off-site for proper disposal.

6. **Implementability.** The technical feasibility and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

Since the original ROD was finalized more than five years ago, significant new information has been developed relating to the cost, reliability, and effectiveness of ISS as a technique for immobilizing in place highly contaminated coal tar wastes. Use of ISS in place of excavation for all but the holder would reduce costs, decrease disruption to the on-site businesses and residential neighbors, and allow a slightly larger volume of NAPL-contaminated soil to be addressed. ISS has been used effectively in New York State at numerous sites containing high levels of coal tar wastes, including former MGP sites in Nyack, Sag Harbor, Norwich, Poughkeepsie, White Plains, Elmira and soon, Hempstead.

Using ISS on all but the holder, eliminates the technically challenging task of installing sheet piles close to occupied buildings without causing settling, cracking or other deleterious effects. ISS will also significantly lessen the challenges of preventing airborne contamination from leaving the site and entering the adjacent, close by residential neighborhoods. Though in-situ stabilization is in some ways more technically demanding than excavation, the technical challenges are all well understood and implementable.

The use of ISS for all but the holder also would reduce the amount of excavated material by 18,000



cubic yards, or 68%, and the amount of clean backfill imported by 32,000 tons, or 81%; thereby reducing by a similar percentage the anticipated truck traffic through this primarily residential neighborhood.

The use of ISS has the advantage of assuring our ability to address a 15-foot wide strip of the site along the west border, which lies adjacent to an active rail line. The use of ISS in lieu of excavation adjacent to the railroad embankment will assure that NAPL (at a depth of up to 22 feet) will be addressed by the remedy

7. **Cost-Effectiveness.** Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The proposed ROD amendment would reduce the overall cost by \$12,558,007 or 48% over the original ROD remedy costs. It would reduce the Department's oversight costs as well, since the overall length of time to complete the field work would be reduced from ten months to seven months.

**This final criterion is considered a modifying criterion and is considered after evaluating those above. It is focused upon after public comments on the proposed ROD amendment have been received.**

8. **Community Acceptance.** Concerns of the community regarding the proposed changes are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the final remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

Unlike the original ROD which has all on-site businesses relocating, the proposed ROD amendment would require temporary relocation of only three businesses and would cause significantly less disruption to the businesses that would remain during the remediation. Opposition to relocation and the disruption has been expressed in writing in letters (June 2011) from five of the businesses scheduled in the original ROD for temporary relocation. The letters urge the State to consider amending the ROD to reduce disruption and loss in business. The original ROD Responsiveness Summary noted that the Department would "strive to plan and phase the project to allow as many of the current businesses to remain on-site as possible."

Under the original ROD, remediation included approximately 600 feet of collection trench dug to the confining layer, 90 percent of the digging being in residential front, side and back yards. The pre-design investigation suggested that the 600 foot trench could have negligible impact on the ability to recover NAPL. Therefore, the disruption to residents caused by the installation of a 22 foot deep trench no longer can be justified on the basis of meeting remediation objectives. In place of the collection trench, the ROD amendment proposes the installation of two NAPL collection wells.

## **5.0 SUMMARY OF PROPOSED CHANGES**

The Department is proposing to amend the Record of Decision (ROD) for the Gastown MGP Tonawanda Site. The proposed changes include:

Instead of a large, deep excavation, ISS will be used in all areas except the former gas holder, which will be removed along with its contents as well as immediately adjacent contaminated soils. The ROD amendment would eliminate approximately 600 feet of NAPL collection trenching to a depth of 22 feet in the area west of the railroad grade. In its place, two NAPL collection wells would be installed. Unlike the original ROD, which has all on-site businesses relocating, the proposed ROD amendment would require temporary relocation of only three of the businesses, and would cause significantly less disruption to those remaining during the remediation.

The estimated present worth cost to carry out the amended remedy is \$13,575,090. The estimated present worth to complete the original remedy was \$26,133,097. The cost to construct the amended remedy is estimated to be \$11,066,875 and the estimated average annual cost for 30 years is \$163,163.

The elements of the proposed amended remedy are as follows:

1. A remedial design program would be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:
  - Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
  - Reducing direct and indirect greenhouse gas and other emissions;
  - Increasing energy efficiency and minimizing use of non-renewable energy;
  - Conserving and efficiently managing resources and materials;
  - Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
  - Maximizing habitat value and creating habitat when possible;
  - Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
  - Integrating the remedy with the end use where possible and encouraging green and sustainable re-development. (unchanged from the original ROD)
2. Demolition of buildings E, F, G, and H. (unchanged)
3. Shallow soil excavation to 6 feet below grade in the west yard, east yard, a portion of Niagara Frontier Transportation Authority (NFTA) property between the east yard and the fiber optic line, and under the demolished buildings to create a clean utility zone from 0 to 4 feet below grade. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site. (unchanged)
4. A site cover will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required, it will be a minimum one foot soil meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the uppermost six inches of soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for

the identified site use as set forth in 6 NYCRR Part 375-6.67(d). (modified from the original ROD)

5. Removal of the relief holder and underlying material to the top of clay. This will constitute a complete removal because the clay forms a barrier to vertical migration of contamination. Backfill material will meet the criteria listed in Section 3 above. The required cover will also meet the criteria listed in Section 3 above. (unchanged)
6. In-situ solidification/stabilization is a process that uses a solidifying or stabilizing agent to bind the soil particles in place creating a low permeability mass. The contaminated soil would be mixed in place with solidifying or stabilizing agents (typically Portland cement) or other binding agents. The soil and binding agent are mixed to produce a solidified mass resulting in a low-permeability monolith. The solidified mass would then be covered with a soil or gravel cover to prevent direct exposure of the solidified mass to the effects of the freeze-thaw cycle. The resulting solid matrix reduces or eliminates mobility of contamination and reduces or eliminates the matrix as a source of groundwater contamination. ISS is planned for the following areas (see Figure 3):
  - ISS into top of clay in the west yard, east yard, and under the demolished buildings;
  - ISS into top of clay on NFTA property to within 10 feet laterally of the AT&T fiber optic cable; and
  - ISS around the relief holder. (modified)
7. Installation of non-aqueous phase liquid (NAPL) collection trenches at the Gastown Sportsmen's Club property lines and installation of two NAPL collection wells west of the railroad tracks. (modified)
8. Installation of soil vapor intrusion mitigation measures including a vapor barrier or sub-slab depressurization systems (SSDS) at the identified areas west of the railroad tracks, Gastown Sportsmen's Club, and buildings at 126 East Niagara Street (this work has already been completed). (unchanged)
9. Sediment remediation and NAPL collection trench installation along the Canal. Dredging will remove the existing contamination along a hundred foot stretch of the creek bank, extending out a maximum of 75 feet into the creek. Dredging will remove all contaminated sediment, down to the clay layer approximately 5 feet below the sediment surface. The collection trench will prevent any contamination from reaching the creek in the future. (unchanged)
10. Imposition of an institutional control in the form of an environmental easement for the controlled property that:
  - requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
  - allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
  - restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;

- prohibits agriculture or vegetable gardens on the controlled property; and
- requires compliance with the Department approved Site Management Plan. (modified)

11. A Site Management Plan is required, which includes the following:

- a) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed above.

Engineering Controls: The sub-slab depressurization systems and NAPL collection systems discussed above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
  - descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
  - a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
  - provisions for the management and inspection of the identified engineering controls;
  - maintaining site access controls and Department notification; and
  - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- b) a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
- monitoring of groundwater to assess the performance and effectiveness of the remedy;
  - a schedule of monitoring and frequency of submittals to the Department; and
  - monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
- c) an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
  - maintaining site access controls and Department notification; and
  - providing the Department access to the site and O&M records. (unchanged)

## **6.0 NEXT STEPS**

As described above, there will be a public meeting and comment period on the proposed changes to the selected remedy. At the close of the comment period, the Department will evaluate the comments received and prepare a responsiveness summary which will be made available to the public. A notice describing the Department's final decision will be sent to all persons on the site mailing list.

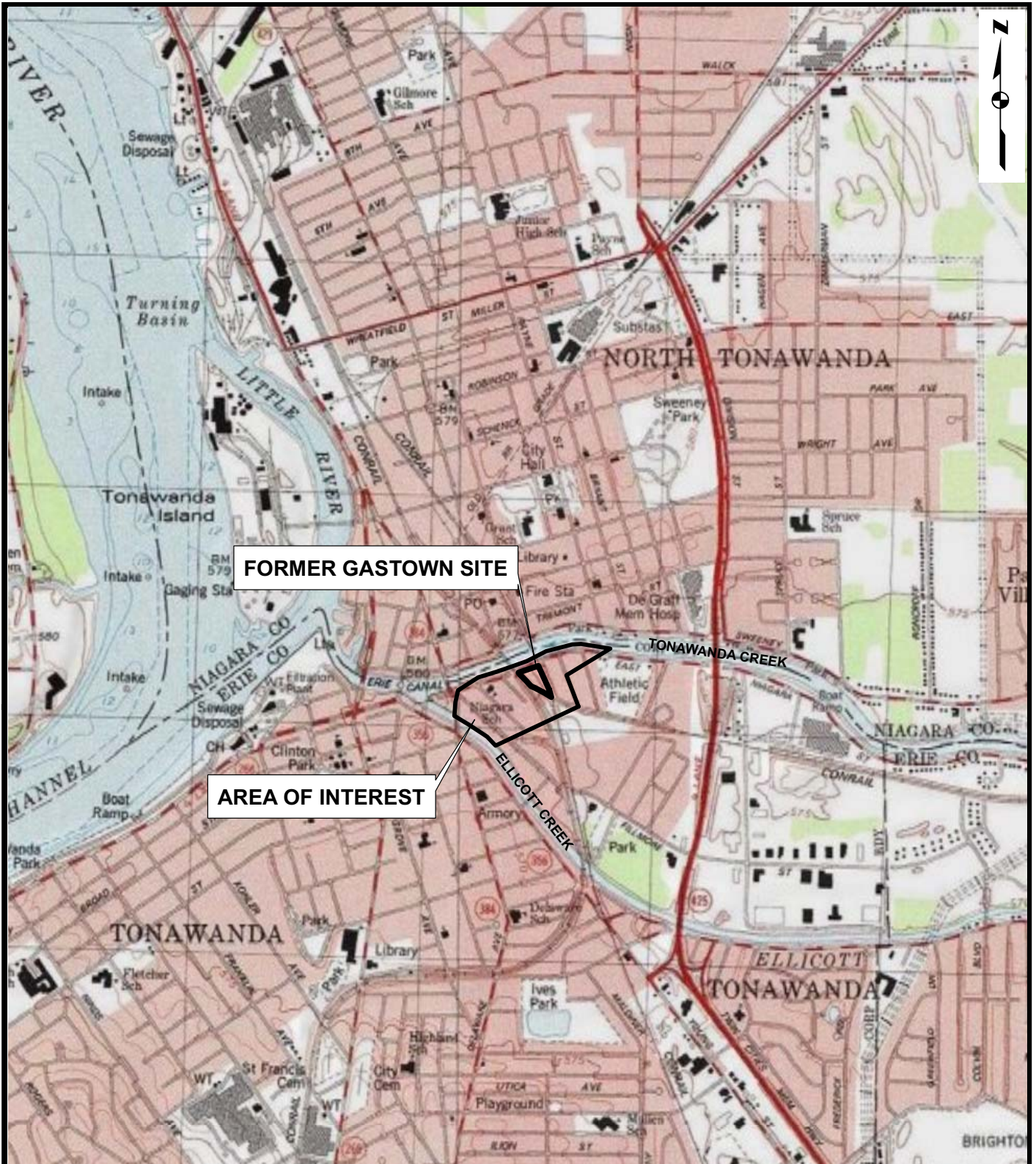
If you have questions or need additional information you may contact any of the following:

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SOURCE:  
1. NATIONAL GEOGRAPHIC, TOPO

0 1,000 2,000 4,000



SCALE, FEET

UPGRADIENT ASSESSMENT INVESTIGATIONS FINDINGS REPORT  
FORMER GASTOWN MGP SITE  
TONAWANDA, NEW YORK



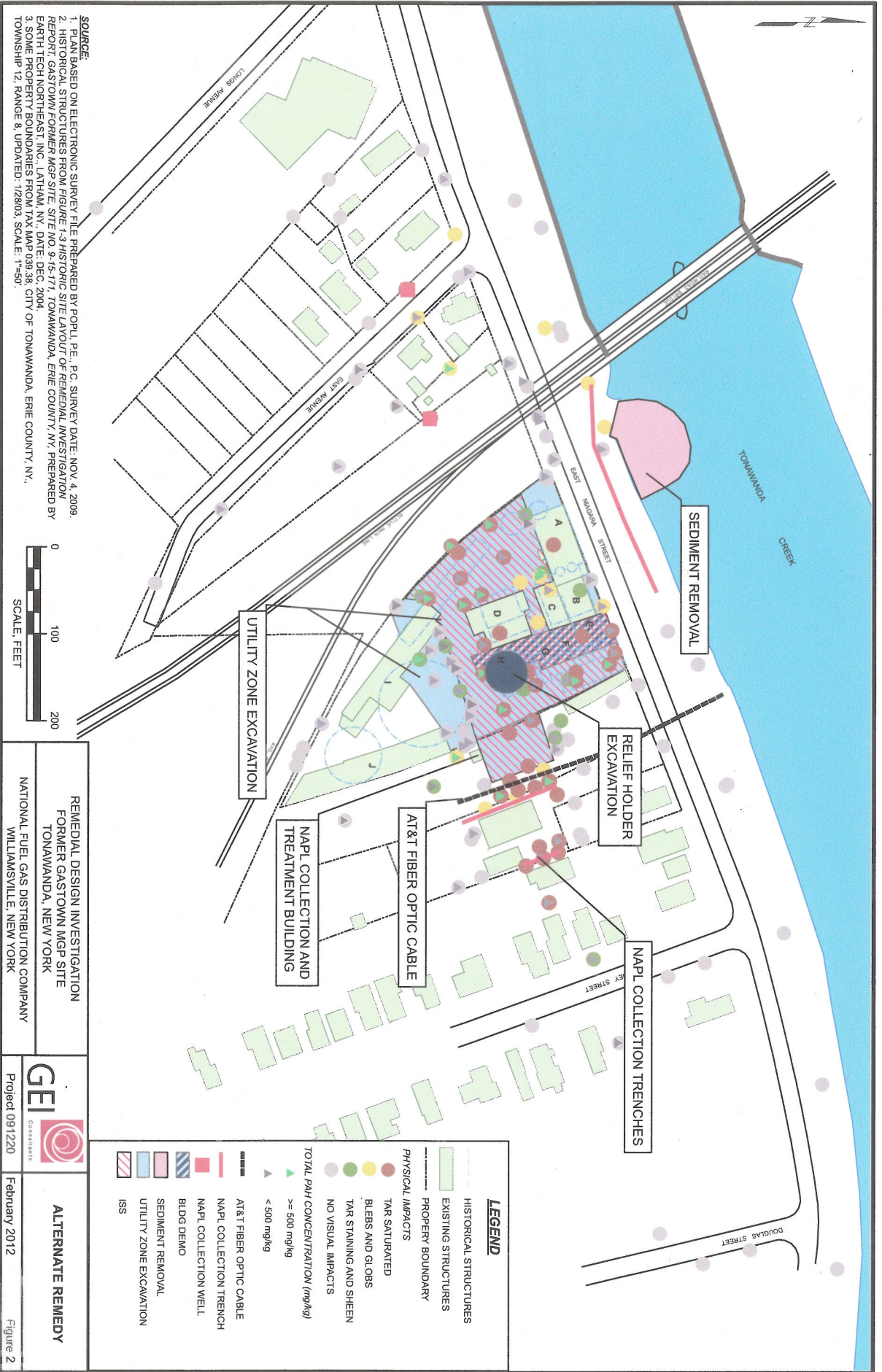
**SITE LOCATION MAP**

NATIONAL FUEL GAS DISTRIBUTION COMPANY  
WILLIAMSVILLE, NEW YORK

Project 09122-0

June 2010


Fig. 1






| <u>Bldg #</u> | <u>Business Name</u>                  |
|---------------|---------------------------------------|
| A & C         | Acme Grinding Service Inc.            |
| B & E         | Niagara Construction Co.              |
| D             | D.L. Moore                            |
| F & G         | Holler Carpentry                      |
| H             | Advanced Electrical Services          |
| I             | Great Lakes Gear Co, Inc.             |
| J             | P & M Facility Management Service     |
| J             | Custom Stone of Western New York LLC. |

**Legend**

 Site Border

 Property Lines (Erie County Tax Parcels)

**Figure 3**  
**LOCATION OF**  
**BUSINESSES AND**  
**PROPERTY LINES**