Legacy Management for Institutional Controls

LandWatch monitors for safe reuse of contaminated properties certified for "conditional reuse" by helping to assure that these conditions, known as institutional controls and engineering controls, remain met. Effective implementation of these controls protects the public and the environment, satisfies federal and state statutes, and limits landowner liability. The system now is applied at approximately 1,000 sites, in 35 states, spanning more than 500,000 acres from small corner gas stations to large federal facilities and Superfund sites.

After years of refinement, the LandWatch efficiently searches and sifts the "electronic trail" of hundreds of land activity and land uses to, as some have put it, "get the right information to the right people at the right time" and in doing so helps to prevent or swiftly stop land actions that would be unsafe and/or trigger liability exposure at IC sites.

Why LandWatch?

More and more cleanups rely on institutional controls or "ICs" and the monitoring of ICs is more important than ever. Every day, property is bought and sold, leased, foreclosed, or made the subject of bankruptcy. People and companies build new buildings, excavate and grade for new construction, parking garages, houses, and pools. Municipalities and utility companies dig to repair or lay utility lines and to fix streets. New daycares become licensed for occupancy, and hospitals, schools, and elder care homes get sited. And the list goes on and on.

For reasons as varied as IC stakeholders, all involved need "the right information at the right time" and, thus, need to know how ever-occurring land activities compare to the increasingly prevalent ICs. Those building or digging need to know that ICs exist, the activities they prevent, the disposal obligations assumed, and the residual risks they pose. Regulators need to know, so they can enforce ICs or otherwise assure compliance. Landowners and responsible parties need to know to both keep people safe and to avoid liability exposure, which could trigger the need for more cleanup or a demand to compensate those unwittingly exposed to site risks. Local governments need to know so they can be properly informed when planning for land use and issuing permits. With the knowledge that IC monitoring and alerting provides, LandWatch helps prevent or swiftly stop unsafe activities.

- A regulatory agency uses LandWatch to achieve its mandate to show the locations of institutional controls.
- Another regulatory agency uses LandWatch to monitor land activities across a state-wide portfolio of institutional controls to ensure compliance.
- A responsible party uses LandWatch to manage a institutional controls at a site that spans hundreds of parcels.
- Another responsible party helps assure compliance across portfolio of institutional controls applied to satisfy cleanup obligations.
- A local government uses LandWatch to deliver on commitments for safe redevelopment of contaminated land.

How Does LandWatch Work?

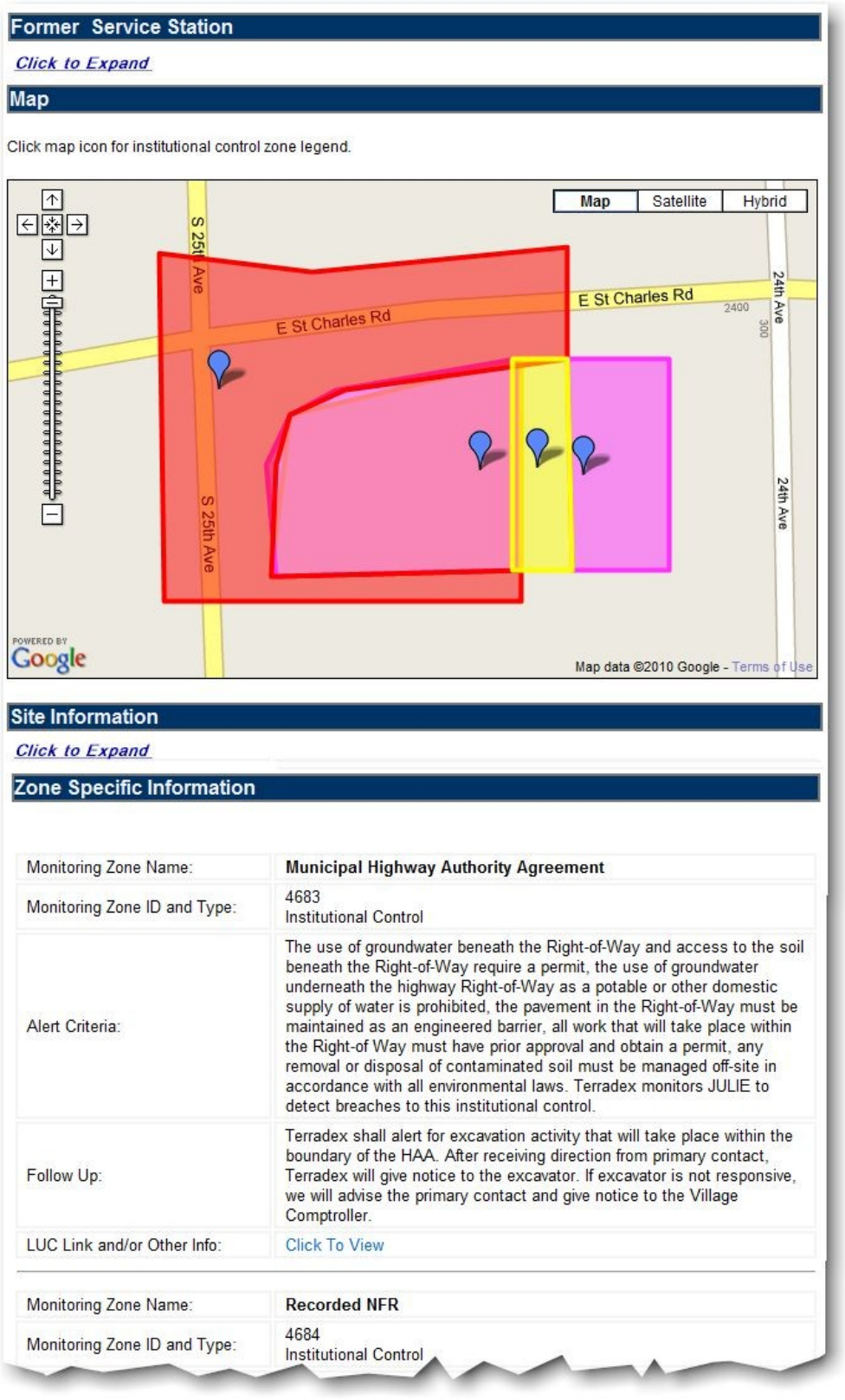
LandWatch works as an IC file cabinet and an IC smoke alarm, by continually sifting through hundreds of sources of land activity and land sales information to find any that might conflict with ICs. And after years of refinement, this process increasingly becomes more and more efficient. An entire year of continuous IC monitoring typically costs about the same as a one-time site visit.

Site Set-Up and Mapping

Whether a single site, a national portfolio, or a state-wide IC universe, Terradex builds web-based maps of "my sites" and for each one, individual site sentinels contain all the core IC information needed for IC management. The site sentinels draw upon web-accessible IC registries or maps, but takes them further to prepare site maps and IC details with the level of specificity needed for IC monitoring. It maps the boundaries of the ICs (often there are many ICs). It inventories the restrictions within each boundary. It identifies activities of potential concern, such as, excavations below 10 feet, land sales, or zoning changes (often all qualify as of concern). It prepares an "alert list," typically a client-specified list of those who need to be notified, as well as their role in the case of an alert. Finally, setup maps "Soft ICs" if they exist. This IC file cabinet holds the crucial IC information and serves as the platform against which IC monitoring occurs.

IC Monitoring and Alerts

With the exception of illegal activities, nearly all land activity and sales involve an "electronic trail" that LandWatch continuously monitors. Depending on the IC, the various pieces of "electronic trail" data prove more or less relevant and valuable, often leading to a customized monitoring list for each site. As Table 1 summarizes, these "electronic trail" sources divide into (1) Sales and Transaction Monitoring and (2) Activity, Use, and Occupancy Monitoring, with new sources arising all the time. Even when ICs run with the land, new owners often remain unaware (or less aware) and regulators often demand notice of land sales, thus Sales and Transaction Monitoring alerts parties to the transaction and/or regulators and responsible parties so that all become aware of the transaction and the IC restrictions that flow (or may not flow) to the new owners or interest holders. During the time between transactions,



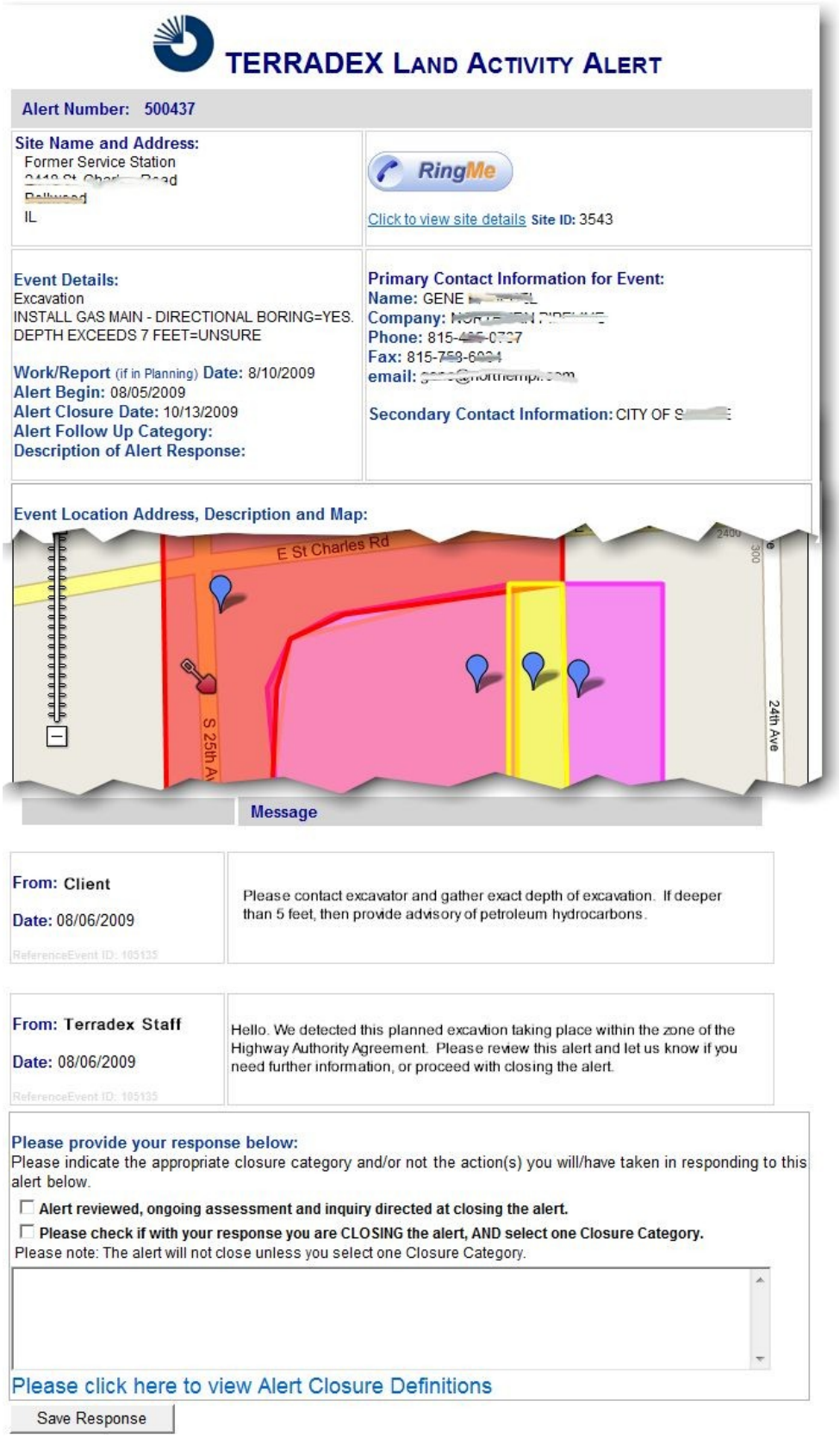
which can be many years, Activity, Use, and Occupancy Monitoring detects land activities, ranging from large scale demolitions and remodeling, to new childcare occupancies, to small repairs of sewer pipes, that could conflict with ICs.

Terradex applies its patented technology to continually search the web, sift through the "electronic trail", compare it to IC restrictions, and, if a conflict appears to exist, LandWatch sends alerts to a pre-designated list of alert recipients - the site stakeholders for each site. The "alert" usually comes as an e-mail while at the same time remains flagged as "open" until it is "closed" by someone who LandWatch has pre-designated as being authorized to close alerts - typically the environmental professional or responsible party. In addition to alerting these parties, LandWatch often (depending on the site and the activity) sends notice to the person who would conduct the conflicting activity, such as an excavator. This notice goes out as a fax or smart phone message and informs the party of site risks and contact information for more details.

Terradex LandWatch serves as a "smoke alarm," detecting imminent land activities, alerting just to the unsafe activities, and ultimately preventing damage and health impact associated with the breach of an IC.

Compliance Tracking and Reporting

In addition to the smoke alarm, LandWatch records every land activity "event" and all that rise to "alert" status, so users can quickly view and print reports showing the "electronic trail" that was monitored, land activity events at and around the site, alerts (if any), and the resolution of any alerts. This IC compliance record goes into the site's file cabinet, and is used to inform or populate compliance reports and IC certifications. For those with site portfolios (or regulators with jurisdiction over many sites), this record also allows for comparison of trends and performance metrics, helping to show, for example, sites with an apparent greater risk of IC conflicts.



As a business, Terradex's IC monitoring is establishing a key role operating between those parties vested in an IC's success: local government, regulatory agencies, responsible parties and landowners. The service is found most relevant for those parties not having day-to-day contact at the site, and duties encompass remote site portfolios. With the increase of IC sites monitored by Terradex, the monitoring efficiency has increased and fees have lowered. Terradex's business trajectory aligns well with emerging IC duties that can be perpetual and are often underfunded.

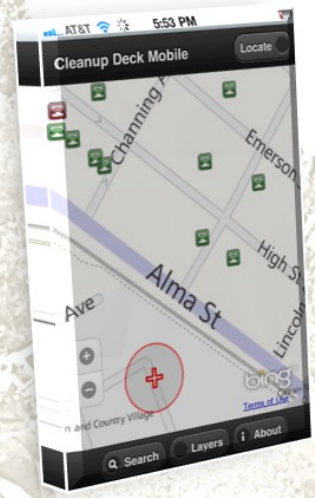
About Terradex

We are a technology company that builds and operates web technologies to protect the environment and human health. Serving a growing niche, our technologies help assure safe reuse of contaminated properties certified for "conditional reuse" by helping to assure that these conditions, known as "institutional controls" remain met.

Acting as an electronic file cabinet, smoke alarm and collaboration platform, our flagship technology, LandWatch, continually sifts through hundreds of sources of land activity data quickly finding, alerting, and offering a communication platform to our partners when activities seem in conflict with institutional control conditions.

As LandWatch and our other related technologies continue to gain momentum, I feel increasingly proud of our creative approaches and accomplishments towards environmental and health protection and look forward to our continued role in this important area. Please explore our site and The Monitor to learn more.

Bob Wenzlau



Introducing the first mobile and desktop web application to query cleanup and IC databases based on your location. Access to state and federal databases from the field to enable contractors and other stakeholders access safe use information from their current location. We see special value to firms sponsoring and directly performing underground construction, and are eager to discuss and shape this application in its early stages.

Founded in 2002, Terradex applies information technology to increase the reliability of institutional controls. Institutional controls are an integral part of health and environmental protection at many contaminated sites. Because cleanup technology cannot always remove contamination to safe levels, institutional controls are used to convey limitations on site use and activity to current and future stakeholders. Until Terradex, the reliability and enforceability of institutional controls was doubted. Tested by USEPA, Terradex is being applied nationwide to at the site, city or state level.