

# UPDATE

## A Message to Northwest Michigan Residents



**David Mengebier**  
President  
CMS Land Company

**W**ELCOME TO the latest update on the Little Traverse Bay Environmental Project. At CMS Land Company, we believe that sharing information about this project with those who call Northwest Michigan home is important so you can track the achievements, developments and pending decisions that guide our work in protecting the bay.

February marked the five-year anniversary of the Little Traverse Bay Environmental Project, and this issue includes a look back at the history, progress and results of our efforts. Please take a few minutes to review this information.

Before sharing recent news and upcoming developments, I want to take a minute to look back at some key accomplishments in 2009. Last summer was a very important time in the life of this project. In June, after years of work and millions spent, Resort Township's East Park reopened to the public. The solutions installed at East Park have worked well, the environmental results have been impressive and local residents now have access to a world-class public park and amazing recreational bike path.

Water monitoring results at the project verified that pH readings across the entire site are predominantly below the action level of 9.0. We continue work in the few areas where readings are sometimes above the standard. These results are good news and build on months of increasingly positive results. In addition, these findings mark a dramatic contrast to the dozens of pH readings above 9.0 that were recorded in 2005, before CMS Land began implementing environmental remedies at the site. Additionally, we estimate that when the installation of all proposed remedies is complete, the amount of mercury making its way to the lake will be reduced by about 80 percent to approximately 10 grams for an entire year. That's about equal to the weight of two nickels.

With these project landmarks reached in 2009, it is important that we focus this year's efforts on finding a permanent solution to water treatment and disposal as part of the environmental solutions installed to protect the bay. Much of this update is dedicated to information about this next crucial step.

As you will read in this issue and probably saw in our year-end informational campaign in the local newspapers, CMS Land has researched a number of options for safely and economically disposing of the millions of gallons of water collected at the site. Two options, sending water to the City of Petoskey's wastewater plant for treatment and release, or treating and releasing the water on site, appear most promising. Treating the water on site and releasing it to the bay seems to be the best option; here is why:

- On-site treatment using the best available technology will reduce the amount of mercury in the water by up to 90 percent.

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The reopening of Resort Township's East Park last June demonstrates the environmental progress that has been made at both the park and the Bay Harbor development.



## Five Years of Work

*Installed remedies at East Park and Bay Harbor have resulted in significant environmental improvements*

**F**EBRUARY 22, 2010 MARKED the five-year anniversary of CMS Land Company agreeing to address environmental issues associated with cement kiln dust piles that were left abandoned on the shores of Lake Michigan.

In February 2005, CMS Land signed an Administrative Order of Consent (AOC) with the U.S. Environmental Protection Agency (EPA). In the AOC, CMS Land agreed to address environmental concerns associated with water coming in contact with the cement dust piles.

CMS Land signed the AOC despite the fact that the company had signed a legally binding agreement with the state of Michigan in 1994 to redevelop the site as a brownfield, meaning as long as CMS Land met the conditions of the agreement, it would not be legally liable for the sites pre-existing environmental conditions. The former owner had ceased cement manufacturing decades earlier, and the site was abandoned. The cement piles had been left unprotected from the wind, rain and snow and the environmental blight was evident for all to see.

Beginning in 1994, the site was cleared and the cement dust piles were consolidated, capped and transformed into Resort Township's East Park and the Bay Harbor Resort. This develop-

### Almost 17,000 truck loads of water have left the site for delivery to licensed water disposal sites.

ment alone significantly improved the environmental landscape and won several awards for transforming a brownfield site into a resort and golf course that draws visitors from around the world.

Just as the original development was a massive undertaking and resulted in dramatic improvements, work over the past five years also has been extensive and resulted in additional environmental protections. While the time and cost associated with the current remediation efforts have been substantially more than



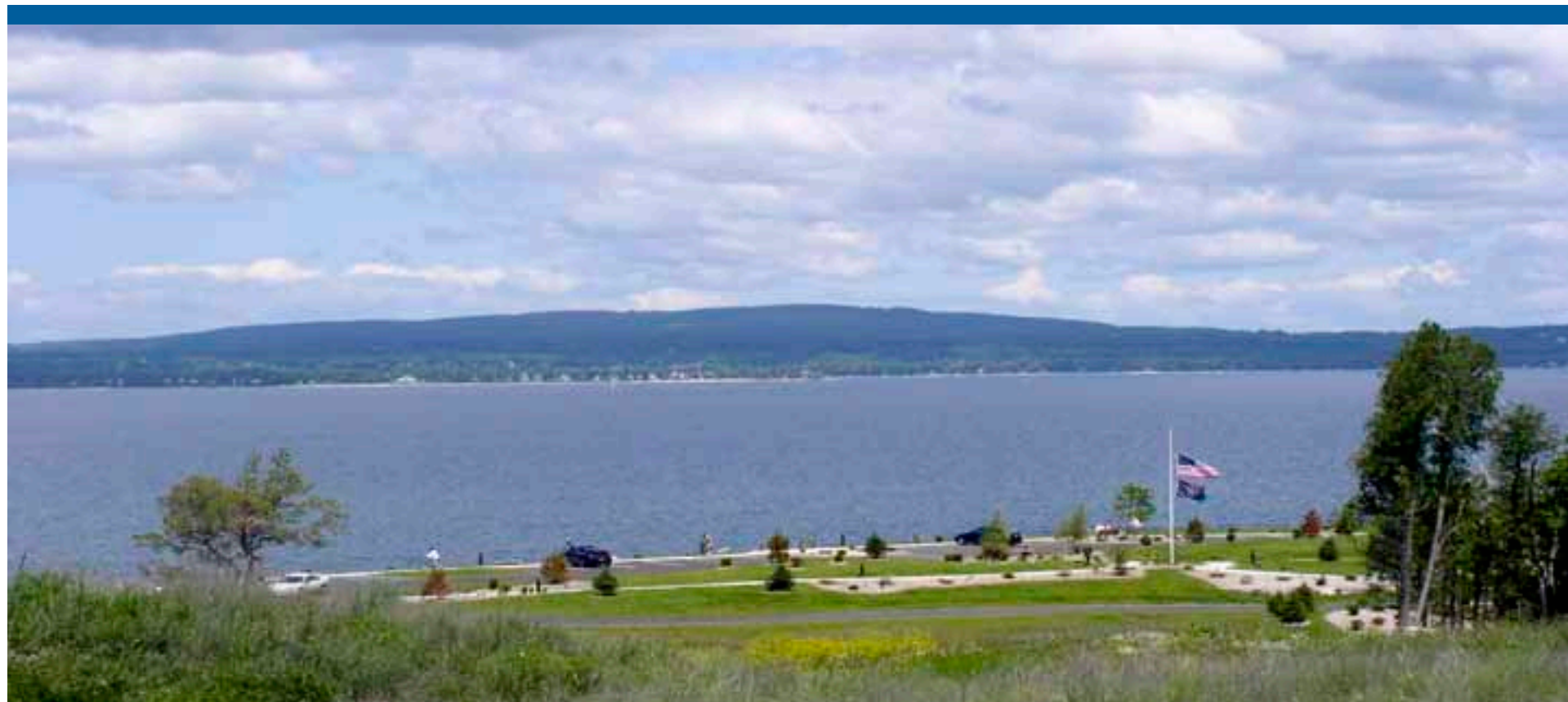
With more than 500 bores, wells, probes, and screens installed, and more than 7,000 water readings taken, East Park and Bay Harbor are perhaps the most studied pieces of property in northern Michigan.

anticipated, the amount of work completed and progress made has been impressive.

Below are key accomplishments and work completed over the past five years.

- More than 3,000 feet of collection lines have been installed below ground along the lake shoreline to intercept water before it makes its way to the lake. This is in addition to the original 1,200 foot-long water collection line that was installed in 1997.
- Almost four miles of force main has been installed below ground to move the collected water from the shore to water treatment facilities located along U.S. 31.
- More than four miles of fiber optics have been installed to control the movement and flow of water from the shore to the treatment facilities.
- More than 60,000 square yards of water-proof liner, the equivalent of more than nine football fields, was installed over East Park to minimize water infiltration into the cement dust pile upon which the park was built.
- More than 26,000 pounds of material was removed or brought in to address environmental conditions in Village Harbor Lake. That's about 300 truck loads of waste and rebuilding material that either left or entered the site during this effort.
- More than 150 monitoring wells and screens

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## Water Disposal Options Evaluated

**A** MAJOR UNRESOLVED issue for the Little Traverse Bay Environmental Project is how to dispose of the millions of gallons of water CMS Land is intercepting before it enters the bay. CMS Land has stated consistently that it is critical to secure a local water disposal solution rather than continuing to truck the collected water for disposal.

In late 2009, CMS Land ran a series of updates in local newspapers outlining the benefits and drawbacks of various water disposal options. A brief description of each option is provided below. Please visit [www.protectingourbay.com](http://www.protectingourbay.com) for more details.

### OPTION #1:

**Continue trucking water to the Grand Traverse Water Treatment Facility for treatment and disposal into Grand Traverse Bay**

Of the approximately 160,000 gallons of water now collected each day, about 60,000 gallons is taken by tanker truck to the Grand Traverse Water Treatment Facility where it is treated, mixed with other waste water and released into the bay.

The required round trips add to congestion and wear on local roads, consume thousands of gallons of diesel fuel, and raise safety concerns.

Environmental protections also are somewhat offset by the negative environmental impacts of truck traffic emissions.

### OPTION #2:

**Truck water to deep injection wells in either Antrim or Otsego counties**

#### Antrim County

Both the Michigan Department of Environmental Quality (MDEQ), now the Michigan Department of Natural Resources and Environment, and the U.S. Environmental Protection Agency (EPA) approved construction of the Antrim County well.

The proposal to install a well in Antrim County is scientifically sound and reduces the amount of mercury going to the bay, but is not a local solution and does not address traffic, trucking and cost issues.

This issue is under litigation. CMS Land Company asked that the trial be postponed while it tried to work out a consensus with various stakeholders as to the best local solution to the disposal problem.

#### Otsego County

Currently, approximately 60 percent of the water collected at the project site is trucked to an Otsego County deep injection well, which is similar to the one proposed for Antrim County.

While this well has a track record of safe disposal, using the Otsego well as a long-term option is not a local solution, and requires the continued trucking of water significant distances.

When combined with the mileage of sending water to Grand Traverse County for disposal, more than 500,000 miles are driven every year to do what can be accomplished locally.

Since the inception of hauling, disposal trucks have driven almost two million miles on Michigan roads.

### OPTION #3:

**Dispose of the collected water in a deep injection well in Emmet County**

In contrast to the previously discussed well locations in Antrim and Otsego counties, there is very limited well data available in Emmet County, making a local disposal well application much more difficult scientifically.

Honoring a request from the Michigan Department of Natural Resources and Environment, CMS Land submitted a permit application on Oct. 30, 2009 to investigate a local site.

A well near the project site would be a local solution and ease trucking and congestion concerns. When local geology favors a well, which is properly sited and constructed, disposal wells have a proven track record of safe disposal.

However, the lack of local scientific data opens questions about the likelihood of successfully drilling a disposal well in Emmet County.



Although it's hard to believe now, East Park (above) and Bay Harbor were once the site of an abandoned cement factory (left).

### OPTION #5:

**Secure National Pollutant Discharge Elimination System (NPDES) permits**

In late 2009, CMS Land submitted two separate NPDES applications for the water collected at Resort Township's East Park and the Bay Harbor development.

A permit application was submitted for the development area that calls for using the best proven technology to remove about 90 percent of the mercury contained in the water.

The mercury concentration will be reduced from about 110 parts per trillion (ppt) to about 10 ppt before release to the lake. For reference, the state standard for mercury discharge to Lake Michigan is 1.3 ppt while the federal standard for drinking water is 2,000 ppt.

Because proven technology is not able to reduce the mercury content to 1.3 ppt, regulators would need to approve a variance to allow discharge to the lake.

CMS Land also applied for an NPDES permit to reduce the alkalinity (pH) of the water collected at East Park, mix it with clean ground water and then release it to Lake Michigan.

Scientific analysis indicates that the mixed water will meet mercury standards for release to the bay. CMS Land continues to investigate scientific processes that may prove to be even more effective in removing mercury in the future.

### OPTION #4:

**Send collected water to the Petoskey water treatment system**

Discussions with City of Petoskey officials have been taking place over the past two years in an effort to develop a plan that would allow water to be sent to the city's water treatment facility for treatment and release into the bay.

However, despite the extensive study by city and CMS Land representatives, a number of technical challenges still need to be addressed before this option can be considered viable.

Technical issues include reaching agreement on how much project water the city can accept.

Additional challenges, from the CMS Land perspective, include:

- the extent of required infrastructure improvements
- the ability and necessity of installing a dedicated pipeline along an already crowded right of way on U.S. 31 to transport the collected water to the treatment plant
- the ability to install a million gallon water storage tank above the wastewater treatment facility.

### CONCLUSION:

CMS Land believes the City of Petoskey water treatment plant or the NPDES permits are the best options for local disposal of water with the NPDES permits being the preferred option. The mercury content in the water collected at Bay Harbor actually would be reduced by about 90 percent, making the NPDES permits the most environmentally friendly of these two options.

An additional benefit is that NPDES permits must be reviewed every five years and require that contaminant reduction measures be implemented if required and possible. The NPDES option is relatively economical and would be a local solution to a local problem. In addition, removing the majority of the tanker trucks from the roads and relieving local traffic congestion and public safety concerns are key benefits associated with this option.

## Frequently Asked Questions

**A**S PART OF THE environmental effort at Resort Township's East Park and the Bay Harbor development, CMS Land Company now collects an average of 160,000 gallons of ground water a day.

The water is treated to lower the pH level to an alkalinity similar to milk of magnesia. About 15 truck loads a day are sent to two licensed disposal sites.

One is a deep injection disposal well near Johannesburg and the second is the Grand Traverse septage facility where the water is treated and ultimately discharged to Lake Michigan. Below are answers to questions we often hear about water disposal.

*I see those trucks on the road all the time. Are you going to continue to truck water out of the community for disposal?*

Hopefully not for the long term. Because the water must be disposed of in accordance with law, water trucks do run 24 hours a day, seven days a week 365 days a year.

Trucking the water is not a realistic long-term remedy because of its increased public safety and transportation concerns, wear on local and regional roads, environmental concerns associated with the use of diesel fuel and braking, and the high cost.

Additionally, trucking water is not a local remedy to a local concern.

*What are the local options for water disposal?*

Three different options are being aggressively researched and reviewed. Those options are:

- 1) Secure National Pollutant Discharge Elimination System (NPDES) permits that will allow CMS Land to treat the water and release it to the lake
- 2) Pipe the water to the City of Petoskey's water treatment system for treatment and discharge to the lake
- 3) Secure a permit to drill a local well and see if the geology is suitable for a deep injection disposal well

*Is there one option that CMS Land favors?*

All of the options have benefits and challenges associated with them.

CMS Land believes NPDES permits are the best option because, where possible, CMS Land will utilize the best proven technology to lower the amount of mercury in the collected water before the water is released to the lake.

This is in contrast to many other Great Lakes sites that mix clean and contaminated water to meet the water discharge standards.

*What is the status of the proposed Antrim County deep injection disposal well?*

The U.S. Environmental Protection Agency and Michigan Department of Natural Resources and Environment both approved permits for the well. However, legal proceedings against the well were initiated.

The proceedings are currently on hold to allow time for CMS Land and the other parties to seek consensus concerning water disposal. The approved permit was recently extended until 2011.

*What is the status of the proposed deep injection disposal well in Emmet County?*

### The Long-term Water Disposal Plan

Over the last several weeks, CMS Land has used this space in the newspapers for a special series of updates. Why? Because work at the Little Traverse Bay Environmental Project has reached an important point and residents should know about the options being considered for the future.

**Let's look back.**

- Contaminants in cement kiln dust were left behind at the old cement plant that operated for decades along the Lake Michigan shoreline.
- CMS Land controls these contaminants and protects the bay by collecting, treating and disposing of millions of gallons of groundwater that would otherwise enter the lake.
- Environmental efforts have been successful, as seen this summer with the reopening of Resort Township's East Park and the progress demonstrated at Bay Harbor.
- Collection of this water will go on for the foreseeable future.

#### A Solution for Northwest Michigan

	Trucking	Injection Wells*	Local Injection Well	City of Petoskey	Local Discharge
Local Solution			✓	✓	✓
Supported by Science			✓	✓	✓
Reduces Mercury			✓	✓	✓
Relieves Traffic Congestion			✓	✓	✓
Minimizes Local Disruption			✓	✓	✓
Economical			✓	✓	✓
Protects the Bay & Human Health			✓	✓	✓

\*Antrim and Otsego Counties

Continue driving about 300,000 miles a year to truck water to the Grand Traverse Water Treatment Facility for treatment and release into the bay.

Utilize a local deep injection well in Emmet County, an area where there is very limited well data.

Truck the collected water to deep injection wells in Antrim and/or Otsego counties.

Obtain the needed permits to treat the water on site, remove about 90 percent of the mercury from the water, and release the treated water to the bay.

Pipe the collected water to the City of Petoskey Water Treatment Facility for more treatment and safe release into the bay.

**Now, let's look ahead.**

- What is the best long-term solution for disposing of the collected water?
- Does the plan protect human health and Little Traverse Bay?
- Is it a local solution to this local problem?
- Is the solution supported by sound science?
- Does it significantly reduce the mercury levels of the water?
- Does it relieve local road congestion and safety issues associated with the tanker truck traffic?
- Does it minimize disruption to the community, economy and tourism?
- Is the solution economically reasonable?

In our work and in the recent updates in the newspapers, we've tried to answer these questions about the options being reviewed. Take a look at the chart above; some do better than others.

While each option has its benefits and challenges and all will likely generate considerable discussion, CMS Land believes sending water to the City of Petoskey or securing NPDES permits are the most promising options. This is an important moment in time when critical decisions will be made about the future of the local environment. These options are at the center of some of those decisions and we encourage you to become more familiar with all of them. We will continue to keep local residents up to date on our progress.

An informational campaign ran late last year in area newspapers discussing water disposal options. The campaign concluded with the information that provided perspective on the various options.

In contrast to the proposed well location in Antrim County, there is very limited deep geological data available in Emmet County. That raises questions about the likelihood of success for such a well in that area.

While the initial research into an Emmet County disposal well wasn't promising, the Michigan

Department of Natural Resources and Environment asked that CMS Land reexamine the area and submit an application for a local well as part of a thorough exploration of all local options.

CMS Land honored that request and submitted a permit application on Oct. 30, 2009. The application is currently being reviewed.

Trucks like the one pictured have been driven almost two million miles to dispose of water collected at the environmental project. That is equivalent to eight trips to the moon or 78 trips around the world.



## Unintended Consequences

*Local environmental impact of trucks needs consideration*

**F**ROM THE BEGINNING of the Little Traverse Bay Environmental Project, CMS Land has sought a local solution to the challenge of how to best dispose of water collected at the project.

Most agree that a local solution is appropriate. There is little question why, when you look at the effect of the trucking that is currently required.

CMS Land is now collecting about 160,000 gallons of water a day from the collection lines installed along the shoreline. That water currently must be trucked out of the community for disposal. If the current rate of collection continues, it will result in approximately 5,100 trips and in excess of half a million miles driven per year just to dispose of non-hazardous water, something that could, and should, be done locally.

With the purpose of the Little Traverse Bay Environmental Project to improve the local environment, is the required trucking helping to meet that goal?

Each round trip to dispose of the collected water requires about 37 gallons of diesel fuel, which contributes mercury, volatile organic compounds (VOCs), carbon monoxide (CO), nitrous oxide (NOx) and particulate matter

(PM) to the air and roadsides.

Mercury is also found in the truck oil and coolant, and brakes.

Over the past five years, it is estimated that in order to truck the water for disposal, the following contaminants have been released into the environment: more than 26,000 pounds of NOx; more than 1,200 pounds of PM; more than 1,500 pounds of VOCs; and more than 5,900 pounds of CO.

With these facts in mind, the current trucking situation does not align with certain goals outlined by the U.S. Environmental Protection Agency.

The agency has launched a voluntary program titled "Green Remediation" that describes the "practice of considering all environmental effects of remedy implementation and incorporating options to minimize the environmental footprints of cleanup actions."

Among the underlying objectives of "Green Remediation" are to achieve clean up goals and reduce total pollutant and waste burdens on the environment; reduce air emissions and greenhouse gas production; conserve natural resources; and increase sustainability of site cleanups. Continued trucking appears out of line with these goals.

In addition to the effects of

trucking on the environment, the increased tanker traffic adds to the congestion and wear on local roads, and raises safety concerns.

As reported in the local media, officials are seeking a speed study due to steady traffic increases along U.S. 31 and associated safety concerns.

To its credit, the trucking company that moves the water utilizes highly skilled drivers who have not been involved in an accident over the past five years while shipping water.

Nevertheless, as long as trucking continues, the potential for traffic accidents exists, but is completely avoidable if a local water disposal solution were to be approved.

Trucking this water during the summer increases the congestion on roads. In the winter, the risk continues when the heavy loads combine with snow and icy road conditions, steep hills, and difficulty in gaining and maintaining traction.

Trucking the collected water is the current requirement as part of the Little Traverse Bay Environmental Project. It is not a green solution, nor is it economical or sustainable over the long-term.

This is why CMS Land is anxious to have a local solution in place.

## Five Years of Progress *from front page*

have been installed along the shoreline to measure the effectiveness of the installed collection lines and track mercury levels.

- Almost 350 other types of bores and probes have been drilled into the two locations to determine the footprint, depth and characteristics of the cement dust piles and to develop a groundwater flow model to help determine how water moves through the cement dust piles.
- Almost 7,000 individual readings have been taken along the shoreline to identify the location of any elevated pH levels and more recently to determine the effectiveness of the collection lines.
- Almost 17,000 truck loads of water have left the site for delivery to licensed water disposal sites.
- The trucks have been driven almost two million miles to dispose of the water in accordance with law. That is equivalent to eight trips to the moon or 78 trips around the world.

"This is perhaps the most studied site in northern Michigan," says Gary Kelterborn, director of environmental services for CMS Land. "I have been involved in site remediation with CMS or Consumers Energy for the past 16 years and this is by far the most intensive study of a site I have ever witnessed. In many cases we have gone far above and beyond what is and has been required at other sites."

Another significant number is the amount of money CMS Land has committed to the project. The company has raised the amount of money it has reserved to address the environmental issues four times to the current amount of \$178 million of which \$100 million has been spent to date.

The EPA has indicated that if CMS Land had not agreed to address the situation it likely would have had to search for Potentially Responsible Parties (PRPs) in order to secure financial resources to address the environmental issues. PRPs could have included any group, organization or municipality ever involved in the site. The Michigan Department of Natural Resources and Environment had no mechanism in place to seek remediation costs.

"I am proud of our company for stepping up and making the commitment to address the environmen-

**Importantly, these environmental protections have been accomplished without devastating Bay Harbor, a \$1 billion northern Michigan asset.**

tal concerns rather than litigate the issue and try to avoid any cost," said David Mengebier, CMS Land president. "We have made a tremendous financial investment in installing remedies that have proven to be very effective. We do not, however, have unlimited resources to spend on increasingly diminishing returns. It is imperative that a local water disposal option is agreed upon and approved, and the project is brought to closure in the near future."

Environmental improvement resulting from the installed remedies is apparent and measurable. Public health and safety concerns basically have been eliminated as the alkalinity readings across the vast majority of the site are predominantly below the standard of 9.0 pH. It is estimated that when the installation of all proposed remedies is complete, the amount of mercury that is making its way to the lake across the five miles of shoreline will be reduced by about 80 percent to approximately 10 grams over the course of an entire year. That's about equal to the weight of two nickels. Importantly, these environmental protections have been accomplished without devastating Bay Harbor, a \$1 billion northern Michigan asset.

"This site has come a long way from its development in 1994, to its environmental clean up beginning in 2005, to today," says Mengebier. "From its inception in 1994 and with the additional environmental protections we have installed, the Bay Harbor development and East Park qualify as brownfield redevelopment success stories. The sites have been returned to productive use, attract visitors from around the world, and continue as important economic contributors across northern Michigan."

## A Message to Northwest Michigan Residents *from front page*

- The amount of mercury discharged utilizing the proposed technology will be significantly less than the amounts of mercury discharged from most permitted wastewater treatment sites around the Great Lakes and dramatically less than the mercury standard for drinking water.
- The number of water tanker trucks on the road will be reduced significantly, decreasing the environmental impact associated with trucking, lessening wear to local roads, and reducing safety concerns associated with trucking.
- The permits for treating and releasing water must be reviewed every five years with the requirement to improve performance, if required and possible.

• While deep well injection disposal is a sound and proven remedy for water disposal, there are currently no injection wells in Emmet County. That suggests the area's geology is not suitable for this remedy.

• And, while negotiations continue with the City of Petoskey, it has not been determined if an agreement can be reached for the city's wastewater treatment plant to accept the water CMS Land is collecting.

Throughout this update, there is more information about this proposed solution and other options being examined. Feel free to contact us with any questions and learn more about the improvements planned as part of the Little Traverse Bay Environmental Project.