



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

**Metro Lake Union Facilities North Site  
former Chevron Terminal #100-1327  
also called King County Department of Transportation  
Metro Facilities North Site**

**Periodic Review Report  
Responsiveness Summary**

**Cleanup Site ID #1275  
Facility Site ID #2217**

**Northwest Region Office**

**TOXICS CLEANUP PROGRAM**

**February 2015  
Publication No. 15-09-208**

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Review Comment #1  
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## 1. SITE INFORMATION

### Site Location and Background

Metro Lake Union Facilities North Site is also called King County Department of Transportation Metro Transit Division Facilities North Site and former Chevron Bulk Petroleum Terminal #100-1327 (Site). The Site is located at 1602 N. Northlake Way, and north of Lake Union and west of Gas Works Park in Seattle, Washington. The Site location is shown in the Fact Sheet attached in Appendix A.

The Site operated as a bulk petroleum terminal from 1925-1927 to the 1980s first owned and operated by former Standard Oil of California and then Chevron Products USA. The Site was purchased by King County Metropolitan Services in 1972 and operated as a transit bus fueling facility. Petroleum soil and groundwater contamination were discovered in 1986 and remedial investigation work began shortly after and cleanup action began in 1999. Cleanup actions at this Site are mostly completed with compliance monitoring estimated to continue to 2017. Groundwater compliance monitoring will be re-evaluated by Ecology in 2017.

KCDT Metro Transit (Metro) and Chevron Products USA (Chevron) entered a legal agreement called a Consent Decree with the Department of Ecology (Ecology) to implement Site cleanup action in 1999. The Periodic Review Report summarizes Site cleanup activities from 1999 through 2014 and current Site conditions. You may review Site history and cleanup progress in the Site Fact Sheets in Appendix A or more details in the Periodic Review Final Report on the Site webpage.

### The Periodic Review Report

The public was invited to review and comment on the Periodic Review Report Draft for the Metro Lake Union Site in July 2014 and the comment period extended from July 25 to August 25, 2014. Ecology received two comments and no change was recommended for the review report. Now the report is final and available on the Site webpage at:

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=1275>

Hard copy of the Periodic Review Final Report may be read and reviewed at the Wallingford and Fremont Public Libraries and at the Ecology Northwest Regional Office by appointment and contact Sally Perkins at [sally.perkins@ecy.wa.gov](mailto:sally.perkins@ecy.wa.gov) or telephone at 425-649-7249. You may download the final report from the Site webpage listed above.

The Periodic Review Report describes the Site cleanup process and cleanup actions completed to date. The cleanup actions are required by a legal agreement called the Consent Decree, and almost all actions have been achieved. There are specific locations where specific cleanup actions continue. The soil cleanup actions at the former North Yard will be completed in 2015 by Touchstone NLU.



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Cleanup actions for soils outside of the North Yard and all underlying groundwater will be completed by Metro and Chevron, and are estimated to be completed in 2015-2017. Groundwater compliance monitoring continues and will be re-evaluated by Ecology in 2017.

Touchstone NLU cleanup action closure report draft is extended later this year and after Ecology review and approval, it will be posted on the webpage for public review and comment. There will be a public comment period on the closure report later in 2015.

The Metro/Chevron cleanup actions are estimated to be completed in 2015 – 2017 with compliance monitoring. The Metro/Chevron cleanup action closure report draft is estimated in 2017 and will be available for public review and public comment period.

## 2. The Responsiveness Summary

Ecology prepares a Responsiveness Summary to document the public comment process with Ecology's outreach to inform the public, the neighborhood and businesses in the area. The Responsiveness Summary lists Ecology's outreach and the comments received with Ecology's response to each comment.

The outreach process included announcement in the Site Register and Ecology calendar in addition to a Fact Sheet posted at several locations including the Site construction reader board at the Site, the Wallingford and Fremont Public Libraries, and Ecology's Site webpage. These notices are listed in Appendix A.

The Periodic Review Draft for the Metro Lake Union Site was published for public review and comments via ecopy and hard copy and used several types of notice to announce the public comment period and Periodic Review Draft. The Review Draft was posted on the Ecology site webpage and hard copies at the Wallingford and Fremont Public Libraries in Seattle and Ecology's Northwest Regional Office in Bellevue. The comment period was held from July 25 to August 25, 2014.

Ecology received two comments on the Periodic Review Report Draft for the Metro Lake Union Facilities North Site and they are:

1. PKMM Remediation Brochure from PKMM Inc (Mr. Tom Douglas) dated July 25, 2014 and describes treatment options for petroleum cleanup action.

*Ecology Response* – Ecology forwarded this information to the responsible parties to Metro Transit, Chevron, and Touchstone NLU; and informed Mr. Tom Douglas, PKMM Inc via telephone.

2. Citizen comments about Site cleanup actions, cleanup levels, relevant pathways for petroleum and chemicals of concern, and points of compliance from Mr. Jeff Parker dated August 5, 2014.

*Ecology Response* – See Appendix B.

In addition, Ecology telephoned each party and prepared a written response. Ecology described the cleanup actions under Washington state Model Toxics Control Act requirements. The Periodic Review Report comments received and Ecology response are attached in Appendix B.



**APPENDIX A.**

**Site Register Notice**

**Site Construction Reader Board**

**Site Fact Sheet - July 2014**

**Site Fact Sheet - September 2014**





## **Cleanup Actions moving Forward at North Edge & Metro Lake Union**

The Washington State Department of Ecology (Ecology) has prepared this fact sheet to update you about new cleanup activities at the former Metro Lake Union North Yard.

This site is now called the Touchstone NLU LLC North Edge and located at 3301 Densmore Avenue N, Seattle and was part of the former King County Metro Transit Facilities North and former Chevron Bulk Fuel Terminal #100-1327.

The Touchstone Site includes an entire city block from Densmore to Woodlawn Avenue North (east to west) and North 34<sup>th</sup> Street to N Northlake Way (north to south) located north of Lake Union and west of Gas Works Park.

Ecology would like to announce progress at four cleanup activities:

- Excavation to begin at North Edge called Touchstone NLU LLC North Edge in September.
- New cleanup action at the Metro Lake Union/Chevron Site at MW-9R location at N Northlake Place.
- Continued groundwater monitoring at the Metro Lake Union/Chevron Site to confirm cleanup progress: summer results posted on website.
- Periodic Review Report is final in September.

### **Touchstone NLU Development and Cleanup Action**

Touchstone NLU began site preparations in July for demolition of the old buildings and will begin excavation in September for the new cleanup and development. This will be the future home of North Edge Technology Center with four levels of office and a public viewing platform and two levels of underground parking. The Touchstone cleanup action will remove petroleum contaminated soils to 20-25

#### **Ask Technical Questions to:**

Maura S. O'Brien - Site Manager  
Washington State Department of  
Ecology Toxics Cleanup Program  
3190 160<sup>th</sup> Ave SE,  
Bellevue, WA 98008  
Phone: (425) 649-7249  
E-mail: [maura.obrien@ecy.wa.gov](mailto:maura.obrien@ecy.wa.gov)

#### **Document Review Locations**

##### **Wallingford Public Library**

1501 N. 45<sup>th</sup> Street  
Seattle, WA 98103  
Phone: (206) 684-4088

##### **Fremont Public Library**

731 North 35<sup>th</sup> Street  
Seattle, WA 98103  
Phone: (206) 684-4084

##### **Washington State Department of Ecology – Northwest Regional Office**

3190 160<sup>th</sup> Ave SE  
Bellevue, WA 98008  
Call for an appointment: Sally Perkins  
Phone: (425) 649-7190  
Fax: (425) 649-4450  
E-mail: [sally.perkins@ecy.wa.gov](mailto:sally.perkins@ecy.wa.gov)

##### **Ecology's Metro Lake Union website**

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=1275>

**Cleanup ID #: 1275**

To request materials in a format for the visually impaired, call Ecology at 425-649-7117, Relay Service 711, or TTY 877-833-6341



## Metro Lake Union Site



feet below ground surface and test to confirm all petroleum has been removed for off-site disposal and treatment with Ecology oversight.

Excavation work is estimated to be completed in December 2014 followed by a final cleanup completion report in January 2015. Development work is estimated to be completed in December 2015 and all reports will be posted on the Ecology site webpage.

Touchstone NLU LLC (Touchstone) entered into a cleanup agreement with Ecology in 2007 and purchased the North Yard from King County Metro Transit in 2009. Touchstone will begin cleanup and development at the same time. The cleanup focuses on the on-property soils to be cleaned up to cleanup standards for unrestricted land use (Model Toxics Control Act Method A).

This cleanup action and development are energy sustainable and the new center is planned to achieve green sustainable gold certification.

When a new development is combined with cleanup action, it is called a Brownfields Cleanup and Development project. For more information about the development at the Site, please contact Touchstone NLU LLC at 206-441-2955.

### New Cleanup Actions for Metro & Chevron

At the same time, King County Metro Transit and Chevron have conducted additional soil investigation to confirm current soil conditions at selected locations outside of the former North Yard, at the public right-of-way (ROW) at N Northlake Place and N Northlake Way and at the South Yard currently the Center for Wooden Boats. Seven of the borings showed no product and the soil samples have been sent for laboratory analyses.

One location showed product and Metro/Chevron installed an extra-large recovery well in August and new cleanup action will begin at this location in September. The new cleanup treatment will use dual phase extraction to remove petroleum from the subsurface and pass it through a treatment system. If all goes well as planned then this cleanup action will be completed in 2015 approximately at the time Touchstone North Edge has completed their excavation.

In addition, Metro/Chevron continue groundwater compliance monitoring for the entire site to confirm progress for the site cleanup actions and this work will be reported twice per year in August and January. Compliance monitoring will continue until all cleanup action has been completed and approved by Ecology.





## **Metro Lake Union Site**

Ecology plans to evaluate cleanup completion report from Touchstone in January 2015 and from Metro/Chevron in January 2016. Then Ecology will re-evaluate the compliance monitoring and Restrictive Covenant –a legal statement restricting excavation and groundwater uses at the site attached to the property deed, and see the Consent Decree for specific information.

### **Periodic Review Public Comment Period Ended**

The Site Periodic Review Report draft was open for public review and comments from July 25 to August 25, 2014 as required under the state cleanup law called Model Toxics Control Act. The purpose of the review was to evaluate site conditions, and to ensure protection of human health and the environment. This was the first Periodic Review for this Site including cleanup activities from 1999-2014 and compliance monitoring. Ecology did not receive any review comments nor recommended changes and received one solicitation from a remediation business. This Periodic Review Report is now final and posted on the Site webpage.

### **Earlier Cleanup Actions**

Cleanup has been successful in removing much of the contamination at the Metro Lake Union, former Chevron Bulk Terminal Site. However the cleanup is not complete as localized pockets of petroleum contamination remain at the Site. The proposed work by Touchstone in 2014 and by Metro/Chevron in 2014 - 15 will address these pockets of petroleum and remediate them followed by testing and compliance monitoring.

Pockets of petroleum are present outside Touchstone North Edge property line at Monitoring Well-9 and may extend south of the property line at the right-of-way. These will be evaluated and remediated by Metro/Chevron in 2014 - 15. Former isolated points of petroleum and metal or lead concentrations have been cleaned up and now need new testing to confirm cleanup action at these former points has achieved and sustained cleanup action.

### **Groundwater Compliance Monitoring**

Monitoring is used to evaluate cleanup progress and monitor site conditions. Metro/Chevron will continue conducting groundwater compliance monitoring in June and November 2014, and semi-annually until all cleanup actions are completed. Then Metro/Chevron will continue groundwater compliance monitoring for five consecutive events after the completion of cleanup to measure and confirm the success of the cleanup actions. The compliance reports after Ecology review and approval will be posted on the webpage.

### **Cleanup Schedule for the Site**

The Touchstone cleanup is scheduled from July through January 2015. Development is estimated to be completed in late 2016. The Metro/Chevron cleanup work is scheduled from 2014 through 2015 followed by compliance groundwater monitoring from 2015 through 2017.

Ecology will review the results for each of these tasks and when approved will place the new information on the Site webpage, and note there is one webpage for this Site.



## Metro Lake Union Site

### Site Background

Standard Oil of California constructed the facilities in 1925, and operated a diesel and bulk fueling and storage facility for several decades. Later, Standard Oil of California became Chevron Products Company, and now is Chevron Environmental Management Company.

In 1982, Metro (formerly the King County Department of Metropolitan Services) purchased the property. Metro Transit operated a fueling station here during the mid 80s and closed the fuel



storage tanks in 1989. By April 1992, all of the aboveground storage tanks were closed, cleaned, and locked open. The above ground piping to the tanks was flushed, cleaned and capped. The facilities then were used as an office and maintenance base.

From 1992 to 2009, the Site operated as a Metro Transit maintenance and support services. Touchstone NLU entered into a legal cleanup agreement with Ecology in 2007 called the Perspective Purchaser Consent Decree. Touchstone purchased the North Yard in 2009 and now begins the Brownfield cleanup and development.

Metro Transit continues ownership of the South Yard. In 2011 with approval from King County Council entered a lease agreement with the Center for Wooden Boats. The Center for Wooden Boats (CWB) is located at the South Yard and continues their activities and uses the interior of the building for education activities and preservation of historic wooden boats. The new cleanup tasks are not expected to impact activities at the CWB.

### Cleanup Action History

The Metro/Chevron cleanup actions were announced in 1998, 1999, and 2004. The Touchstone proposed purchase and Cleanup Action Plan for the North Yard were announced in February 2007. These announcements encouraged you to review and make comments on each Cleanup Action Plan and proposed documents at that time.

Since 2008 little action has occurred at the Site other than the required compliance monitoring in part due to the economic down turn.

## Metro Lake Union Site

### Metro/Chevron Periodic Review Report

The Metro/Chevron Site Cleanup has been in progression since 1999 and this was the first Periodic Review Report summarizing the cleanup work at the Site. Ecology held a 30-day public comment period from July 25 to August 25, 2014 and no comments were received, so the draft report is now final and posted on the site WebPage. This Site Cleanup Action Plan divided the Site into two units with two phases and are described as follows:

**Unit 1/Phase 1:** Tank Farm shallow soils and tank demolition located in the northern half of the North Yard. Phase 1 included demolition of the above ground storage tanks, removal of above ground piping and structures, removal of shallow soils with sandblast grit and paint chips showing elevated concentrations of metals, and soil confirmation monitoring. This work began in October 1999 and was successfully completed in January 2000.

**Phase 2/Unit 2:** Addresses the deeper soils of the lower area of the North Yard, public right-of-way and South Yard, and all underlying groundwater. To date, Phase 2 has employed five cleanup methods to remediate the petroleum contaminated soils, metal contamination, and groundwater. The work began in 2000 and now is in its final steps of completion. Approximately 90 percent of the cleanup action has been completed. The results for the Phase 2 cleanup methods show:

- North Yard continues with petroleum soil above cleanup level.
- ROW shows petroleum pocket at MW-22 location. Metro/Chevron will conduct additional evaluation then if above cleanup level will conduct cleanup action at this location.
- South Yard is in compliance for petroleum except one well AGI-2. Metro/Chevron will conduct additional evaluation then if above cleanup level will conduct cleanup action at this location.
- All groundwater compliance monitoring wells are in compliance and below Site cleanup level except for one metal –arsenic at three locations. Further evaluation of arsenic is part of the Metro/Chevron cleanup action work in 2014-2015.

For more information, visit the Site webpage or locations listed on page 1 to review the Periodic Report or other documents. Ecology welcomes your suggestions or comments for this Site.





**Toxics Cleanup Program**

**July 2014**

**Periodic Review Comment Period  
and Status Updates on Cleanup**

The Washington State Department of Ecology (Ecology) has prepared this fact sheet to update you about three new activities at the Metro Lake Union Site also called the King County Metro Transit Facilities North and former Chevron Bulk Petroleum Fuel Terminal #100-1327. The Site is located north of Lake Union and west of Gas Works Park at 1602 N Northlake Way in Seattle.

Ecology would like to announce the three new activities:

- The draft Periodic Review Report Public Comment Period: July 25 to August 25, 2014.
- A new cleanup action at North Yard called Touchstone NLU Northedge.
- New and continued cleanup actions at the Metro Lake Union/Chevron Site.

**Periodic Review Public Comment Period**

**July 25 – August 25, 2014**

A Periodic Review is conducted after the initiation of a cleanup action at a site, as required under the state cleanup law called Model Toxics Control Act. The purpose of the review is to evaluate site conditions, during or after cleanup is considered complete, and to ensure protection of human health and the environment.

This is the first Periodic Review Report at this Site. The draft report includes the cleanup activities from 1999-2014 and compliance monitoring. Send your written comments to Ecology for consideration to:

Site Manager Maura O'Brien  
Email: [maura.obrien@ecy.wa.gov](mailto:maura.obrien@ecy.wa.gov)  
Address: to 3190 160<sup>th</sup> Ave SE, Bellevue, WA 98008

**Periodic Review Comment Period:  
July 25 – August 25, 2014**

**Submit Comments and Technical  
Questions to:**

Maura S. O'Brien - Site Manager  
Washington State Department of Ecology  
Toxics Cleanup Program  
3190 160<sup>th</sup> Ave SE,  
Bellevue, WA 98008  
Phone: (425) 649-7249  
E-mail: [maura.obrien@ecy.wa.gov](mailto:maura.obrien@ecy.wa.gov)

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Fax: (425) 649-4450  
E-mail: [sally.perkins@ecy.wa.gov](mailto:sally.perkins@ecy.wa.gov)

**Ecology's Toxics Cleanup Website:**

[https://fortress.wa.gov/ecy/gsp/  
Sitepage.aspx?csid=1275](https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=1275)

**Cleanup ID #: 1275**

If you need this document in a format for the visually impaired, call (425) 649-7117. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call (877) 833-6341.

## **Metro Lake Union Site**

### **Touchstone NLU New Cleanup Action at North Yard begins July 2014**

The Touchstone NLU property called Northedge is listed at 3301 Densmore Avenue North, Seattle. This area of land is also called the former Metro Lake Union North Yard.

Touchstone NLU LLC (Touchstone) entered into a cleanup agreement with Ecology in 2007 and purchased the North Yard from King County Metro Transit in 2009. Touchstone will begin cleanup and development at the North Yard. The cleanup focuses on the on-property soils to be cleaned up to cleanup standards for unrestricted land use (Model Toxics Control Act Method A).

Touchstone's Cleanup Action Plan is to remove petroleum contaminated soils at the former North Yard and to construct an office complex with underground parking. A public viewing platform is part of the architectural design. This is one step in a larger cleanup process with King County Metro Transit and Chevron (Metro/Chevron) for the entire Site. After completion of Touchstone excavation, soil compliance testing will be conducted to confirm all contaminated soils are removed from the Northedge property and disposed or treated off-site at an approved facility.

The Touchstone work incorporates an entire city block in the Wallingford neighborhood. The new development is called Northedge Technology Center. This cleanup combined with re-development is called a Brownfields Cleanup and Development project. For more information about the development at the Site, please contact Touchstone NLU LLC at 206-441-2955.

### **New and Continued Cleanup Actions for Metro & Chevron**

At the same time, King County Metro Transit and Chevron continue their cleanup of soils outside of the Touchstone property line and all groundwater cleanup actions. The Metro/Chevron Site is located at 1602 N Northlake Way, Seattle, in the Wallingford District, and west of Gas Works Park along the north shoreline of Lake Union. This Site included the North and South Yards and public right-of-way at N Northlake Place and N Northlake Way.

Metro/Chevron will be conducting three new cleanup actions:

1. Install monitoring well MW-9R and begin Dual-Phased Extraction to remove petroleum contamination.
2. Implement additional investigation of pockets of petroleum south of the Northedge property line. If petroleum contamination is present, then Metro/Chevron will conduct cleanup.
3. Conduct confirmation testing at former petroleum or metal locations.
4. Metro/Chevron continue groundwater compliance monitoring for the entire Site.



## Metro Lake Union Site

### Cleanup Status Update

Cleanup has been successful in removing much of the contamination at the Metro Lake Union Site. However the cleanup is not complete as localized pockets of petroleum contamination remain at the Site. The proposed work by Touchstone in 2014 and by Metro/Chevron in 2014 - 15 will address these pockets of petroleum and remediate them followed by testing and compliance monitoring. If petroleum or metals are present, they will be tested and cleaned up followed by confirmation sampling to confirm cleanup is completed.

Currently there are pockets of petroleum (TPH) at the North Yard and these will be excavated by Touchstone and taken off-site for treatment and/or disposal at an approved facility.

Pockets of petroleum are present outside Touchstone Northedge property line at Monitoring Well-9 and may extend south of the property line at the right-of-way. These will be evaluated and remediated by Metro/Chevron in 2014 - 15. Former isolated points of petroleum and metal or lead concentrations have been cleaned up and now need new testing to confirm cleanup action at these former points have achieved and sustained cleanup action.



**Installing MW-9R for petroleum contamination removal.**

### Groundwater Compliance Monitoring

Monitoring is used to evaluate cleanup progress and monitor site conditions. This task will continue until cleanup is complete, and then for five consecutive events to confirm cleanup actions are successful and have achieved and sustained cleanup standards.

Metro/Chevron will continue conducting groundwater compliance monitoring in June and November 2014, and semi-annually until all cleanup actions are completed. Then Metro/Chevron will continue groundwater compliance monitoring for five consecutive events after the completion of cleanup to measure and confirm the success of the cleanup actions.

The compliance reports after Ecology review and approval will be posted on the webpage.

### Cleanup Schedule for the Site

The Touchstone cleanup is scheduled from July through January 2015. Development is estimated to be completed in late 2016.

The Metro/Chevron cleanup work is scheduled from 2014 through 2015 followed by compliance groundwater monitoring from 2015 through 2017.



## Metro Lake Union Site

Ecology will review the results for each of these tasks. When approved, the new information will be placed on the Site webpage. Note that there is only one webpage for this Site.

### Site Background

Standard Oil of California constructed the facilities in 1925, and operated a diesel and bulk fueling and storage facility for several decades. Later, Standard Oil of California became Chevron Products Company, and now is Chevron Environmental Management Company.

In 1982, Metro (formerly the King County Department of Metropolitan Services) purchased the property. Metro Transit operated a fueling station here during the mid 80s and closed the fuel storage tanks in 1989. By April 1992, all of the aboveground storage tanks were closed, cleaned, and locked open. The above ground piping to the tanks was flushed, cleaned and capped. The facilities then were used as an office and maintenance base.



From 1992 to 2009, the Site operated as a Metro Transit maintenance and support services. Touchstone NLU entered into a legal cleanup agreement with Ecology in 2007 called the Prospective Purchaser Consent Decree. Touchstone purchased the North Yard in 2009 and now begins the Brownfield cleanup and development.

Metro Transit continues ownership of the South Yard. In 2011 with approval from King County Council, Metro Transit entered a lease agreement with the Center for Wooden Boats.

The Center for Wooden Boats (CWB) is located at the South Yard and continues their activities and uses the interior of the building for education activities and preservation of historic wooden boats. The new cleanup tasks are not expected to impact activities at the CWB.

## Metro Lake Union Site

### Cleanup Action History

The Metro/Chevron cleanup actions were announced in 1998, 1999, and 2004. The Touchstone proposed purchase and Cleanup Action Plan for the North Yard were announced in February 2007. These announcements encouraged you to review and make comments on each Cleanup Action Plan and proposed documents at that time.

Since 2008 little action has occurred at the Site other than the required compliance monitoring, in part due to the economic downturn.

### Metro/Chevron Cleanup Progress

The Metro/Chevron Site Cleanup Action Plan divided the Site into two units with two phases.

**Unit 1/Phase 1:** Tank Farm shallow soils and tank demolition located in the northern half of the North Yard. Phase 1 included demolition of the above ground storage tanks, removal of above ground piping and structures, removal of shallow soils with sandblast grit and paint chips showing elevated concentrations of metals, and soil confirmation monitoring. This work began in October 1999 and was successfully completed in January 2000.

**Phase 2/Unit 2:** Addresses the deeper soils of the lower area of the North Yard, public right-of-way and South Yard, and all underlying groundwater. To date, Phase 2 has employed five cleanup methods to remediate the petroleum contaminated soils, metal contamination, and groundwater. The work began in 2000 and now is in its final steps of completion. Approximately 90 percent of the cleanup action has been completed.

The results for the Phase 2 cleanup methods show:

- North Yard continues with petroleum soil above cleanup level.
- Right-of-way (ROW) shows petroleum pocket at MW-22 location. Metro/Chevron will conduct additional evaluation. If it is above cleanup level, they will conduct cleanup action at this location.
- South Yard is in compliance for petroleum except one well AGI-2. Metro/Chevron will conduct additional evaluation. If it is above cleanup level, they will conduct cleanup action at this location.
- All groundwater compliance monitoring wells are in compliance and below Site cleanup level except for one metal (arsenic) at three locations. Further evaluation of arsenic is part of the Metro/Chevron cleanup action work in 2014-2015.

For more information on the cleanup actions and cleanup methods, see the draft Periodic Review Report on the webpage or locations listed on page 1. Ecology welcomes your review and comments on this draft review.





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## KING COUNTY

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**Metro Lake Union Site**  
**1602 North Northlake Way, Seattle**

**Facility Site ID# 2217**

**CSID# 1275**

**Public comment period: 7/25/14 – 8/25/14**

*Periodic Review Report Available for Public Review and Comment*

Ecology announces the periodic review report draft and public comment period for the Metro Lake Union site (also called the King County Metro Transit Facilities North and former Chevron Petroleum Bulk Terminal #100-1327). This site is located west of Gas Works Park and north of Lake Union in the Wallingford District.

The new periodic review draft is available for your review and comments. This is an opportunity for you to learn about the cleanup action at this Site and to send your comments to Ecology. The periodic review includes the new cleanup activities taking place this summer and review of the complete cleanup history from 1999 to present.

This site cleanup includes demolition and removal of the above-ground petroleum storage tanks and cleanup of petroleum in the subsurface soils and groundwater. To date, five different cleanup methods have been employed at the site and more than 90 percent of the contamination has been successfully removed.

This summer and fall, Metro and Chevron are cleaning up the last few pockets of petroleum contamination and this work may extend into winter. Then Metro and Chevron will conduct compliance monitoring for an additional two years (five events) to confirm that the cleanup standards have been achieved and are sustained with Ecology oversight.

In addition to the Metro and Chevron cleanup work, Touchstone NLU LLC (Touchstone) purchased the North Yard, approximately one-half of the former Metro site. Touchstone entered a legal agreement with Ecology and agreed to conduct additional cleanup work at the North Yard. Touchstone will be testing and removing all contaminated soils within the North Yard from property line to property line.

Metro Transit and Chevron will begin new cleanup action using Dual-Phased Extraction to remove petroleum contamination at monitoring well MW-9 outside the North Yard property. Metro/Chevron will evaluate other pockets of petroleum outside of the Touchstone North Yard property line. If contamination is identified, then Metro/Chevron will conduct cleanup and confirmation testing. Metro/Chevron will conduct confirmation testing at former metal locations.

Finally, Metro/Chevron will continue groundwater compliance monitoring for the entire site during cleanup activities beginning July 2014 through 2015. They will continue groundwater compliance monitoring for five consecutive events from 2015 through 2017.

As new information becomes available, Ecology will add it to the Metro Lake Union site's webpage (see below).

Please direct questions and comments to site manager Maura O'Brien.

Site Manager: [Maura O'Brien](mailto:Maura.O'Brien@ecy.wa.gov)  
Northwest Regional Office  
425/ 649-7249  
[maura.obrien@ecy.wa.gov](mailto:maura.obrien@ecy.wa.gov)

More information may be found on Ecology's Public Events Calendar: <http://www.ecy.wa.gov/>; click on calendar.

You may find information at the following locations:

- Metro Lake Union site: <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=1275>
- Wallingford Library – 1501 N. 45th St., Seattle, WA. Call 206/ 684-4088.
- Fremont Library – 731 N. 35th St., Seattle, WA. Call 206/ 684-4084.
- Ecology's Northwest Regional Office Toxics Cleanup Program – 3190 160th Avenue SE, Bellevue, WA. (Please contact Sally Perkins for an appointment at 425/ 649-7190 or [Sally.Perkins@ecy.wa.gov](mailto:Sally.Perkins@ecy.wa.gov).)



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# Touchstone NLU LLC Northedge

Former Metro Lake Union, former KCDT Facilities North, former Chevron Bulk Terminal #100-1327 Site

## Development and Cleanup Project Begins in July

Touchstone NLU LLC is starting development and cleanup in coordination with Washington Department of Ecology at the North Yard located northwest of Gas Works Park at 3301 Densmore Avenue N, Seattle, WA. This cleanup action is to clean up petroleum contaminated soils within the property boundary. This is one step in a larger cleanup process with KC Metro Transit, Chevron and Ecology for the entire Metro Lake Union/former Chevron Bulk Terminal #100-1327 Site for soils outside this property and groundwater.

### Cleanup Action Schedule: July 2014 through December 2014

- During cleanup and development, Associated Earth Sciences, Inc. will:
- Remove contaminated soil for disposal at approved facilities.
  - Install a dewatering system to lower water level below excavation and foundation level, test and dispose at approved facilities.
  - Sample soil to ensure that the cleanup action is working and that state cleanup standards are being met.
  - Prepare cleanup action completion report.

### Project Owner: Touchstone NLU LLC

**General Contractor Information:**  
Lease Cuthler Lewis  
Timur Dilek, Project Engineer  
Phone: 206-689-0468  
Email: TimurDilek@lewisbuilds.com

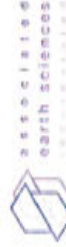
**Environmental Consultant Information:**  
Associated Earth Sciences, Inc.  
Jon N. Sondergaard, Project Manager  
Phone: 425-827-7701  
Email: jsondergaard@aesgeo.com

**Department of Ecology Contact Information:**  
Maura O'Brien, Site Mgr  
Phone: 425-649-7249  
Email: maura.obrien@ecpwa.gov

### Construction Hours:

Monday thru Friday 7:00 am to 6:00 pm  
Saturday 9:00 am to 5:00 pm

Ecology WebPage for Metro Lake Union Site:  
<https://fortress.wa.gov/ecy/gsp/Website.aspx?csid=1275>



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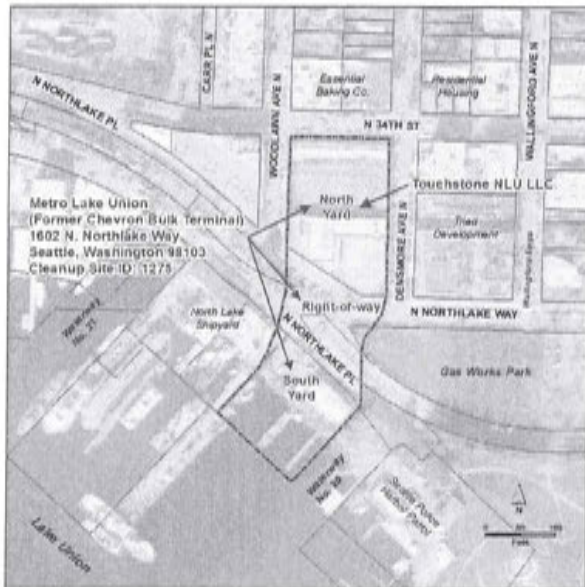


FINAL - July 23, 2014



[Ecology home](#) > [Toxics Cleanup](#) > [Sites](#) > Metro Lake Union

## Metro Lake Union



**PERIODIC REVIEW  
PUBLIC COMMENT  
PERIOD: JULY 25-  
AUGUST 25, 2014**

A Periodic Review is conducted after the initiation of a cleanup action at a site, as required under the state cleanup law called Model Toxics Control Act. The purpose of the review is to evaluate site conditions, during or after cleanup is considered complete, and to ensure protection of human

health and the environment.

This is the first Periodic Review Report at this Site. The draft report includes the cleanup activities from 1999-2014 and compliance monitoring.

Cleanup has been successful in removing much of the contamination at the Metro Lake Union Site. However the cleanup is not complete as localized pockets of petroleum contamination remain at the Site. The proposed work by Touchstone in 2014 and by Metro/Chevron in 2014 - 15 will address these pockets of petroleum and remediate them followed by testing and compliance monitoring. If petroleum or metals are present, they will be tested and cleaned up followed by confirmation sampling to confirm cleanup is completed.

Based on this periodic review, the Department of Ecology has determined that this Site is in compliance with the state cleanup regulations. No additional cleanup actions are required by the property owner other than those cleanup actions already scheduled and to be implemented in 2014 -2015 with Ecology oversight.

When Metro/Chevron entered the legal agreement called a Consent Decree with Ecology to cleanup the site they also signed a restrictive covenant for the site property. This restrictive covenant will be reviewed after the North Yard cleanup and again after the Metro/Chevron complete their cleanup. The restrictive covenant will be revised as appropriate.



### SITE INFORMATION

**Facility Site ID:#** [2217](#)

**Cleanup Site ID:**1275

**Location:**  
Seattle, King County

**Status:**Cleanup Started

[View Electronic Documents](#)

[ISIS Site Summary Report](#)

**Contacts:**  
[Maura O'Brien](#)  
Site Manager  
(425) 649-7249

[Nancy Lui](#)  
Public Involvement  
Coordinator  
(425) 649-7117

### Document Repositories:

**Northwest Regional  
Office**  
3190 160th Ave SE  
Bellevue, 98008-5452  
(425)649-7190

Ecology invites you to send your written comments to [Maura O'Brien](#), Site Manager or mail them to 3190 160<sup>th</sup> Ave SE, Bellevue, WA 98008

- [Periodic Review and Status Update Fact Sheet](#)
- [Periodic Review Report July 2014](#)
- [Appendix A \(Consent Decree\)](#)
- [Appendix B \(Prospective Purchaser Consent Decree\)](#)
- [Appendix C \(Site Photograph Log\)](#)



Drilling a new extraction well

## NEW CLEANUP BEGINS JULY - DECEMBER 2014

### Cleanup Work will include:

- Remove contaminated soil for disposal at approved facilities.
- Install a dewatering system to lower water level below excavation and foundation level, test and dispose at approved facility.
- Sample soil to ensure that the cleanup action is working and that state cleanup standards are being met.
- Continue groundwater monitoring.
- Prepare cleanup action completion report.

### Construction Hours:

Monday through Friday 7:00 a.m. - 6:00 p.m.  
Saturday 9:00 a.m - 5:00 p.m.

For construction information, please contact Timur Dilek, Project Engineer

Phone: (206) 689-0468

Email: [timurdilek@lewisbuilds.com](mailto:timurdilek@lewisbuilds.com)

## SITE BACKGROUND

The Metro Lake Union Site also called the King County Metro Transit Facilities North and Former Chevron Bulk Petroleum Terminal #100-1327 is located at 1602 N. Northlake Way in Seattle, Washington. This site is west of Gas Works Park and at the north shore of Lake Union in the Wallingford District. The site consists of two parcels – a South Yard and a North Yard and the street right-of-way between the two parcels called N Northlake Way and N Northlake Place.

It is a former petroleum terminal and King County fuel and maintenance facility. Standard Oil of California constructed the facilities in 1925, and operated a diesel and bulk fueling and storage facility for several decades. King County Department of Transportation Metro



Transit purchased the facility in 1982 and operated a fueling station until 1989. Contaminated with petroleum products, King County and Chevron entered into a Consent Decree with the Department of Ecology in 1999, and conducted cleanup at the site to industrial-use standards.

Touchstone Corporation (Touchstone) purchase the North Yard property in 2009 and entered a legal agreement with Ecology called a Prospective Purchaser Consent Decree in 2007. Touchstone proposes to conduct additional soil cleanup at the North Yard and construct a technology center called Northedge with two levels of underground parking.

Touchstone will conduct soil cleanup from property line to property line within the North Yard. This is one part in the cleanup process. Metro/Chevron will continue their cleanup work for soils outside the North Yard and all groundwater compliance monitoring for the entire site. This cleanup work is scheduled for 2014 into 2015 followed by Metro/ Chevron groundwater monitoring to confirm cleanup standards have been achieved and sustained for five consecutive monitoring events in 2015-2017.

## SITE DOCUMENTS

For a complete list of documents please see "View Electronic Documents" on the right.

## RELATED INFORMATION

- [Watershed Information for WRIA 8](#)

## ADDITIONAL RESOURCES

- [Acronyms used by the Toxics Cleanup Program](#)
- [Cleanup Process: Major Steps & Definitions](#)
- [Data Submittal Requirements for All Cleanup Sites](#)
- [Toxics Cleanup publications](#)

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## **Appendix B.**

**Review Comment #1**

**Review Comment #2**





#1

O'Brien, Maura (ECY)

---

**From:** Tom Douglas [douglast@pkmminc.com]  
**Sent:** Friday, July 25, 2014 3:59 PM  
**To:** O'Brien, Maura (ECY); Douglas Ochs  
**Subject:** Periodic Review Report for Metro Lake Union site - Higher Preference Technology  
**Attachments:** PKMM REMEDIATION BROCHURE-4-10-14 (1) (5).pdf

Mr. O'Brien:

I would like to comment on the recent Periodic Review Report Available for Public Review and Comment for the Metro Lake Union site (also called the King County Metro Transit Facilities North and former Chevron Petroleum Bulk Terminal #100-1327). This site is located west of Gas Works Park and north of Lake Union in the Wallingford District:

PKMM, Inc. could implement cost effective treatment options for this and similar sites where typically less effective or limited standard remediation technologies have not or cannot be successfully completed. Based on the public records and the information presented in the WDOE's Periodic Review Report, we believe that PKMM could effectively remediate the remaining soil and groundwater (including LNAPL) where Metro Transit and Chevron will begin new cleanup actions using Dual-Phased Extraction to remove petroleum contamination at the monitoring well MW-9 area outside of the North Yard property as well as other pockets of petroleum outside of the Touchtone North Yard property line.

Similar uses of our safe and sustainable catalyzed hydrogen peroxide and patent pending delivery systems allowed treatment of similar difficult sites. This has recently been documented at a petroleum cleanup site with highly viscous "aged" petroleum LNAPL where "dual-phased" product recovery was enhanced/combined with our unique catalyzed hydrogen peroxide solution successfully in California. It was shown that the Dual Phase/Multi Phase Extraction process combined with our unique products accomplished what was not being accomplished more rapidly and more effectively. Significantly more viscous LNAPL mass was recovered rapidly.

PKMM could provide these products and services at the Metro Lake Union site.

Treatment of the petroleum contaminants in the soil and groundwater with the geologic conditions mentioned can be performed effectively and safely. Our unique oxidants and delivery processes do not create excessive heat, hazardous gasses, or high pressures as our proprietary catalyst and delivery techniques were uniquely developed to deal with such concerns and have been used at many such difficult sites across the country.

If possible, PKMM would like to demonstrate this to the WDOE, site owner(s), and their consultants. PKMM would like to talk more with you in order to meet the intent of the State of Washington's Regulations, specifically WAC 173-340-420(4)(e) listed below - we have a **higher preference technology and delivery systems** which are very practical and available:

"When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

(a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the Site.

(b) New scientific information for individual hazardous substances of mixtures present at the Site.

(c) New applicable state and federal laws for hazardous substances present at the Site.



(d) Current and projected Site use.

**(e) Availability and practicability of higher preference technologies. "**

Please allow us the opportunity to present this information to your staff, responsible party(s), interested public citizens, engineers and other site remediation professionals to enable PKMM a chance to provide this "a viable higher preference remediation technology".

Please give me a call at 702-628-5223 (ext 103) or at my cell listed below

--

Respectfully,

Thomas D. Douglas, Senior Engineer  
Environmental Services Group  
PKMM Inc. Phone: 702-628-5223 | Fax: 702-750-0145 | Cell: 850-712-1811  
Email: [douglast@pkmminc.com](mailto:douglast@pkmminc.com)  
Corporate: 5795 Rogers Street, Las Vegas NV 89118  
Website: [www.pkmminc.com](http://www.pkmminc.com)

PKMM Inc. | a Service Disabled Veteran Owned Business (SDVOB) PKMM Inc. | a Equal Opportunity Employer  
PKMM Inc. | a Drug Free Work Place

**Confidentiality Notice:**

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## From Concept to Reality, We Deliver Satisfaction.

PKMM Incorporated is a privately held, Service Disabled Veteran-Owned Business (SDVOB), founded in 1988. We offer diverse technology, expert services and innovative products. For decades, we've provided integrated solutions to U.S. agencies, allied nations and commercial markets. In today's green-focused world, our abilities to provide practical and affordable environmental remediation solutions has come to the forefront.

Guarding the welfare of our world's natural resources serves to protect human health as well as the environment. Soil and water are fragile and easily damaged by poor management and industrial accidents. Contamination by chemicals can easily come from the very sources that provide the lifestyles to which the developed world has become accustomed.

### Our Reagents Are Unique:

- They deliver hydroxyl radicals; the most powerful oxidizers on the market.
- They safely destroy more contaminants than others, including DDT, PCB, PCE, DCA, DCE, and MTBE, and are capable of meeting the challenges of commingled plumes.
- They are the least viscous products on the market.
- They can be injected into monitoring wells, open pipes, air sparge wells, SVE wells, or anything that will accept water.
- They work in all alkalinities, whether the pH is 5 or 10.

### Contact Info:

Thomas D. Douglas, PE	Douglas Ochs	Trina Taitano
C. (850) 712-1811	C. (702) 800-1150	C. (702) 439-3493
douglast@pkmminc.com	ochsd@pkmminc.com	taitanot@pkmminc.com

**Large Task or Small**  
**We do it ALL!**

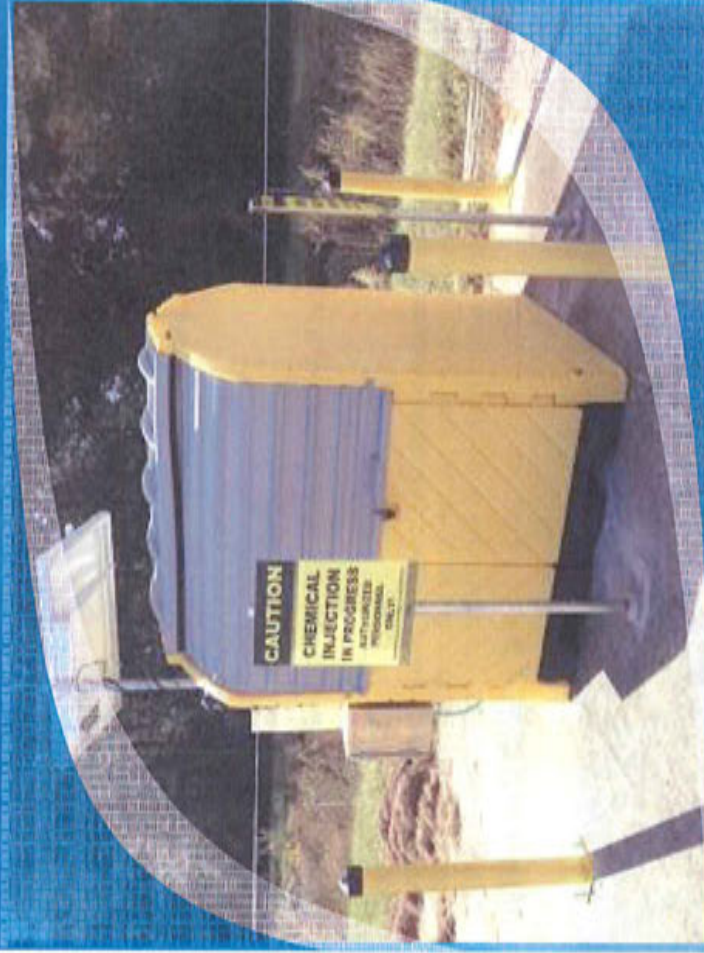
For corporate information, visit <http://www.pkmminc.com>

# pkmm<sup>inc</sup>

no boundaries

Environmental Remediation

Ahead of Our Time & Leading the Industry



**pkmm<sup>inc</sup>**  
NO BOUNDARIES

Office: 702-628-5223 Email: Doug > ochsd@pkmminc.com  
Jason > bakerj@pkmminc.com  
Facsimile: 702-750-0145 Tom > douglast@pkmminc.com



# Customer Service is Our Primary Task

We take great pride in serving you and helping you complete your projects. At your site and in our company, you are always first!



Overview of ChemOx



FOCIS



Oxidized Constituents

## Why PKMM? >

PKMM's remediation team provides proprietary chemical oxidants for remedial projects at various types of contaminated sites. We pride ourselves on performance and thus are more involved than other chemical suppliers with the design process.

PKMM offers treatment possibilities competitors physically can't, which lead to efficiency.

## ChemOX >

An innovative chemical to create a catalyzed hydrogen peroxide has been developed by our remediation team. The reagent is comprised of H<sub>2</sub>O<sub>2</sub>, SSO™ and Synergist™. H<sub>2</sub>O<sub>2</sub> and SSO™ are the singlet oxygen sources. SSO™ adds a slow release mechanism to the oxygen source. The third reagent component is a proprietary catalyst (Synergist™).

When combined in water, the released peroxide and SSO™ will react with the Synergist™ to generate hydroxyl free radicals, a highly powerful oxidation agent.

## FOCIS >

- Slow monitored treatment, allows desorption to occur during injection.
- Virtually eliminate failures of short circuiting due to low hydraulic conductivity or shallow water.
- Feedback allows us to adjust concentration to minimize inefficiencies and maximize contact.
- Engineer/consultant is in control.

## Oxidized Constituents >

There are a large number of known oxidizable constituents using our team's reagents. If your constituent of concern isn't common known, please contact us. We can help you find a solution. We frequently conduct bench tests for clients with unique constituents of concern at no cost if the samples are provided.



#1



# NORTHWEST REGIONAL OFFICE

## Telephone or Fax Log

DATE: July 28, 2014

TIME: 2:30 pm

Number of Pages: 5 Plus Cover Sheet

TO: Mr. Tom Douglas  
PKMM Remediation

~~FAX#~~ Telephone

~~FROM:~~ \_\_\_\_\_

PHONE: 702-628-5223 SECTION: \_\_\_\_\_

Department of Ecology  
Northwest Regional Office  
3190 - 160th Avenue S.E.  
Bellevue, WA 98008-5452  
Phone: (425) 649-7000  
Fax: (425) 649-7098

COMMENTS: Thank you for PKMM Remediation Information. You may & I will contact the responsible parties - Metro Transit: Randy Witt, Chevron: Eric Roehl, and Tenckstone NLK: Shawn Parry in Seattle.



#2



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000  
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

November 25, 2014

Mr. Jeff Parker  
3636 Densmore Avenue N  
Seattle, WA 98103

Subject: Ecology Response to Comments for Periodic Review Report for KCDT Metro Transit Facilities North, former Chevron Terminal #100-1327 Site Seattle, WA Cleanup Id # 1275 – Facility Site Id # 2217

Dear Mr. Jeff Parker:

Washington Department of Ecology (Ecology) received your email comments on August 5<sup>th</sup> and September 25, 2014 regarding the Metro Lake Union Site Periodic Review. This Site is also called the King County Department of Transportation, Metro Transit Facilities North Site and former Chevron Bulk Terminal #100-1327 (Site) located at 1602 N Northlake Way, Seattle, Washington.

Thank you for your interest in this Site, Lake Union and the Wallingford area. I would like to describe the environmental work that Ecology has completed at the Site. I hope this information will be helpful for you in answering your questions and comments. I have numbered your email comments for clarity (see attached), and I describe site information and responses to each of your comments.

**Background.** The Periodic Review draft was published July 25, 2014 for the Metro Lake Union/former Chevron Terminal Site where cleanup actions are being conducted under a Consent Decree, which is a legal agreement with Ecology signed in 1999. The Periodic Review is required by the Model Toxics Control Act, WAC 173-340-420. The cleanup levels are listed in the Consent Decree and reprinted in the Periodic Review Report (PRR) on Table 1 for the Metro/Chevron cleanup work.

Touchstone NLU LLC (Touchstone) entered into a consent decree with Ecology called a Prospective Purchaser Consent Decree (PPCD) for the purchase and cleanup of the North Yard, approximately half of the Metro/Chevron Site. This agreement was signed in 2007; the North Yard was purchased in 2009. The Touchstone PPCD cleanup action applies more stringent cleanup levels for the soils within the North Yard. Cleanup action for soils outside of the North Yard property and all underlying groundwater are the responsibility of Metro and Chevron as specified in their Consent Decree. Thus, the Touchstone cleanup work is in addition to the Metro and Chevron work, and the Touchstone work applies only to the cleanup of soils within the North Yard property line.



**Comments #1 and 2.** The Chevron/Metro Consent Decree documents the Site cleanup levels based on MTCA Method A for industrial use. When Touchstone decided to purchase the North Yard, it selected the Model Toxics Control Act Method A cleanup levels for unrestricted use (including residential and commercial use) for soils within its property boundary (in other words, the North Yard property that they purchased). The MTCA Method A cleanup levels are listed in the Periodic Review Report, Appendix B - Touchstone Cleanup Action Plan, Section 3.1. The Touchstone Cleanup Action Plan (CAP) Table 1 shows both the Touchstone Method A soil cleanup levels for Unrestricted Land Use (column 4), and the Metro/Chevron cleanup levels (column 3) based on MTCA Method A for industrial use for soils outside of the North Yard.

The MTCA Method A Unrestricted Use cleanup levels are most commonly used for routine cleanups and for most contaminants, and they are the most stringent cleanup levels applied pursuant to MTCA. These cleanup levels were developed using very conservative exposure assumptions considering that chemicals of concern may move or migrate from soil to groundwater to surface water, or from soil to air, or through direct human contact, or through other pathways. Ecology uses a human health risk level of one in a million or  $10^{-6}$  cancer risk in setting cleanup levels. Levels for non-carcinogens cannot exceed the point where the substance may cause illness in humans (the hazard quotient cannot exceed 1). See WAC 173-340-708 for the risk assessment framework for calculating cleanup levels for the protection of human health and the environment.

Human health and the environment may be impacted via many exposure pathways including ingestion, breathing or inhalation, or via skin contact and dermal exposure. The Table for Method A Soil Cleanup levels for Unrestricted Land Uses (MTCA Table 720-1) and Method A for Industrial Properties (MTCA Table 745-1) contain footnotes that describe which pathway the cleanup level is based upon. There are additional descriptions of how chemicals of concern (also called contaminants) may migrate via one or more pathways in the Ecology CLARC database at this link:

<https://fortress.wa.gov/ecy/clarc/CLARCDATATables.aspx>

Soil screening levels to protect potential vapor intrusion were evaluated and addressed through compliance sampling following soil excavation as well as additional protective measures by adding engineering controls and compliance monitoring. Since Touchstone's cleanup levels are for unrestricted use in the North Yard, they designed their building to include an impermeable membrane or geo-fabric exterior to the underground structures to prevent and/or minimize migration of, vapor or groundwater into the underground structure. Additionally, Ecology may require soil vapor compliance testing after the excavation is completed to confirm that Touchstone has met its cleanup levels and to assess potential vapor intrusion risk.

Touchstone will remove all soil in excess of the MTCA Method A Unrestricted Use cleanup levels within its property boundary. It will conduct soil testing at the side-wall and base of its excavation to confirm soil status prior to construction of the below ground structures and to confirm that the chemicals of concern meet cleanup levels (PRR Appendix B - Touchstone Cleanup Action Plan, Section 4.7.1). If base soils are above the Method A Unrestricted Use



cleanup levels, then additional excavation will be implemented in 6 inch lifts with soil removal and re-testing (Touchstone Cleanup Action Plan, section 4.4 and Ecology Touchstone CAP approval memorandum dated 12/28/06). Touchstone will also sample the exterior side-walls of its excavation to provide Chevron/Metro and Ecology with information on the current conditions of those soils, in order to identify if Chevron/Metro need to conduct more remediation and/or compliance monitoring outside of the North Yard property line. The Touchstone soil results are estimated to be available in early 2015 and will be added to the Site webpage:

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=1275>

Furthermore, if for some reason some residual contamination is left in place on the Touchstone property, the engineering controls (such as the building, floors and/or additional physical structures) will prevent the contamination from leaching or migrating into the building structures.

**Comment #3.** Yes, the Touchstone CAP provides for soil performance monitoring (testing) at the base of the excavation and defers decision making until the final soil testing at the floor of the excavation is completed and approved by Ecology. The results are expected to be listed on the webpage in early 2015 (see above site webpage link).

**Comment #4.** Metro/Chevron's responsibility for soils outside of the former North Yard is defined in their Consent Decree. The Consent Decree was approved by the court and is a final resolution of cleanup liabilities under State law (MTCA). In addition, MTCA regulation provides that the cleanup levels in effect when the final cleanup action plan is issued are the cleanup levels that apply to the site (WAC 173-340-702 (12)). The Consent Decrees contain a reopener clause that provides for an amendment to the Consent Decree if factors not known at the time of entry of the Consent Decree are discovered and present a previously unknown threat to human health or the environment (RCW 70.105D.040(4)(c)). As part of this Periodic Review Report, Ecology has determined there are no factors that would warrant a change to the Consent Decree at this time.

**Comment #5.** See response to comments #1 and 2.

**Comment #6.** Soil leaching to groundwater as well as groundwater to surface water pathways were evaluated in the selection of cleanup levels and determined to be significant and applicable to this Site. The total petroleum hydrocarbon cleanup levels for TPH-gasoline, diesel and oil are based on residual saturation equations using Site specific soil characteristics (see Foster Wheeler Environmental Cleanup Level Development Report (April 1998)). The Site TPH cleanup levels are set above Site-specific estimated residual saturation (in other words, more stringent than standard (generic) residual saturation levels), which essentially are the concentrations at which the contaminants will not migrate down to the water table. In addition, the groundwater compliance monitoring will be used to confirm that petroleum is not migrating from soil to groundwater within the entire Metro/Chevron Site.

**Comment #7.** Soil testing for the 12 priority pollutant metals (which include cadmium, chromium, and mercury) was conducted during the Remedial Investigation and did not exceed

MTCA Method A industrial cleanup levels (AGI, 1993 Remedial Investigation Report, Section 6.3 and Table 6.5), except in shallow soil in the former tank farm area of the North Yard before cleanup action Phase 1. Cadmium, chromium, mercury, and other priority pollutant metals were eliminated as possible chemicals of concern at this Site, except for in the former tank farm area.

The North Yard shallow soils in the former tank farm area were excavated to remove contaminants from paint chips and sand blast grit with high metal concentration as part of the Metro/Chevron Phase 1 cleanup action, which was completed in 2000 pursuant to its Consent Decree. Post-Phase 1 soil testing showed all metals in soils were below cleanup levels (AGI Technologies, Cleanup Action Report Shallow Soils Remediation [Phase 1] Report, 2000). The Phase 2 cleanup action showed that metals were no longer a chemical of concern at this Site, except for arsenic and lead in groundwater.

**Comment #8.** Before Ecology entered into the Consent Decree, Chevron/Metro performed a remedial investigation to evaluate the nature and extent of petroleum and petroleum related substances including BTEX (benzene, toluene, ethylbenzene, and xylenes), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), 1,2-Dichloroethane (EDC), Ethylene dibromide (EDB), phenols, other semi-volatile organic compounds (SVOCs), and metals. Substances that showed detections below Site cleanup levels were not considered chemicals of concern for this Site.

There were 13 soil sample tests for EDC and EDB. Most results showed no detections or were significantly below cleanup levels; however there was one detection of EDC and two detections of EDB above their respective cleanup level. These three results were considered minimal and would be addressed by the Phase 2 subsurface cleanup action (AGI, 1993, Remedial Investigation, Section 6 and Tables 6-8 to 6-12).

Because EDC and EDB are constituents of petroleum, the compliance monitoring for the chemicals of concern, including TPH-gas, TPH-diesel, TPH-oil, BTEX, PAHs, arsenic, and lead, will document any migration of concern for this Site. As a result, Ecology determined that further testing for EDC and EDB as a chemicals of concern for this Site was not necessary.

I trust this information answers your comments. If you have additional questions, please contact me at the Northwest Regional Office at [mobr461@ecy.wa.gov](mailto:mobr461@ecy.wa.gov) or by telephone at 425-649-7249.

I appreciate your interest in the Site and Ecology's cleanup work protecting human health and the environment in the Lake Union and Wallingford area.

Sincerely,



Maura S. O'Brien, PG/HG #869  
Professional Geologist/Hydrogeologist and Site Manager  
Toxics Cleanup Program



MAURA SALAMAH O'BRIEN



Attachment

cc Randy Witt, KCDT Metro Transit Design and Construction  
Eric Roehl, Chevron Environmental Management Company  
Shawn Parry, Touchstone NLU LLC

**O'Brien, Maura (ECY)**

---

**From:** Jeff Parker [jeffreyparker@gmail.com]  
**Sent:** Thursday, September 25, 2014 12:27 PM  
**To:** O'Brien, Maura (ECY)  
**Subject:** Re: Metro Lake Union Site

Hi Maura, When we might expect a Responsiveness Summary responding to public comments for the Metro Lake Union site?

thanks,  
Jeff Parker

On Tue, Aug 5, 2014 at 10:21 AM, Jeff Parker <jeffreyparker@gmail.com> wrote:  
Hi Maura,

thank you for the fact sheet and periodic review.

Before I submit any comments I just wanted to make sure I understand the site cleanup levels, relevant pathways and points of compliance, so that my comments are worthwhile and accurately reflect the site conditions.

**Comments:**

① I understand that that Touchstone is cleaning up the soil in the north site to Method A (Table 1 in the Period Review says Industrial, but elsewhere I saw Residential- not sure if they differ, but seems like this commercial site is not "Industrial"?):

- ② 1. Are the Method A levels protective of soil leaching to groundwater/surface water and vapor intrusion?  
2. If Method A is applicable at that point, what work has been done to make sure Method A is adequately protective of those other pathways?  
③ Looking at Touchstone's CAP, and confirmation sample plan, it looks like those decisions might be deferred pending soil samples from the floor of the excavation?

④ For the south site, it appears that the Method B CULs originate in the 1998 Foster Wheeler report, were mentioned in the consent decree, and appear to still be in use today. Is that a correct read? If so, the current Method B CULs (and surface water ARARs) for benzene, toluene, ethylbenzene, naphthalene, and lead are lower. In particular, lead's aquatic chronic (173-201A) CUL protective of surface water is 0.54 ug/L, compared to the 1998 CUL of 5 ug/L.

⑤ Again for the south site, I was not able to find whether the vapor intrusion pathway has been considered and that the GW CULs and/or Soil CULs are protective of that pathway. Also, how is the soil leaching to groundwater and surface water pathway being addressed especially for soil with residual product?

The other area of inquiry I have is about the COC list. Not being able to read up on the entire back story about how this list came to be, I am interested in a reiteration of that history, noting the following:

- ⑦ 1. Why soil COCs such as cadmium, chromium, and mercury and TPH are not on the GW list, and whether they will be screened in GW?

8. 2. Table 6-1 Required Testing for Petroleum Releases in the Ecology Guidance for Site Checks and Site Assessments for Underground Storage Tanks, lists a lot of petroleum release related constituents that could be applicable to a bulk petro storage site. Have all of those constituents been tested for? e.g. MTBE, EDC, & EDB since gasoline is a soil COC? And PCBs and full VOC suite since heavy oil is a soil COC (and maybe historically waste oil or unknown oils were present on the site?). I was not able to find those constituents in the older data.

Feel free to respond via email or give me a call 734-0937 if that would be easier.  
Also, if my understanding is generally correct, just add them to the public comments.

thanks,  
Jeff Parker  
3636 Densmore Ave N

On Fri, Jul 11, 2014 at 10:01 AM, Jeff Parker <[jeffreyparker@gmail.com](mailto:jeffreyparker@gmail.com)> wrote:  
Hi Maura,

I see from the Metro Lake Union Site that some new cleanup actions are to begin July 2014. I'm confused about the process involved for cleanup at this site, as I have not received any information about public participation and do not see a new cleanup action plan on the ISIS documents that would have a formal comment period. Can you help me understand the process better. Is the July groundwater/LNAPL work just another interim action?

In particular, I have some questions/concerns about groundwater/surface water cleanup levels used for compliance monitoring, but can save those if there is a formal comment period.

thanks,  
Jeff Parker  
3636 Densmore Ave N



