



PERIODIC REVIEW

**Eastmont Junior High School
Facility/Site ID # 83426117**

**905 8th Street NE
East Wenatchee, Washington 98802**

Central Region Office

TOXICS CLEANUP PROGRAM

September 2010

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1.0 INTRODUCTION

This document is the Department of Ecology's review of post-cleanup site conditions and monitoring data to assure that human health and the environment are being protected at the Eastmont Junior High School property (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA), Chapter 173-340 of the Washington Administrative Code (WAC).

Cleanup activities at this Site were completed under the Voluntary Cleanup Program (VCP). The cleanup actions resulted in residual concentrations of lead and arsenic that exceed MTCA Method A cleanup levels for soil established under WAC 173-340-740(2). The MTCA Method A cleanup levels for soil are established under WAC 173-340-740(2). WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

- Whenever the department conducts a cleanup action
- Whenever the department approves a cleanup action under an order, agreed order or consent decree
- Or, as resources permit, whenever the department issues a no further action opinion
- And one of the following conditions exists:
 - (a) Institutional controls or financial assurance are required as part of the cleanup
 - (b) Where the cleanup level is based on a practical quantitation limit
 - (c) Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

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;
- (b) New scientific information for individual hazardous substances or 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; and
- (f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The department shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

2.0 SUMMARY OF SITE CONDITIONS

2.1 Site History

The Eastmont Junior High School Site is located in the City of East Wenatchee in Douglas County, Washington. The subject property consists of an approximately 36-acre rectangular parcel of land. The property is a former apple orchard located immediately west of North Iowa Avenue between 8th Street Northeast and 10th Street Northeast. Apple growing and harvesting occurred on the Site beginning in the early 1900s and continued through the year 2000. The trees were removed in spring 2001. A vicinity map is available as Appendix 6.1 and a Site plan is available as Appendix 6.2.

Lead arsenate and organochlorine pesticides were common agricultural chemicals utilized in apple orchard operations in Washington State; lead arsenate was used about the turn of the century through the 1940s, at which time organochlorine pesticides debuted. These chemicals were applied to the orchard that formerly occupied the school property to control pests that affect orchard productivity. In the early years of orchard operation, these chemicals were mixed on Site and reportedly distributed to all areas of the orchard through a subsurface piping system. The piping laterals were reportedly spaced about 250 feet apart. Chemical preparation took place at a mixing facility that was located on the center-west border of the property. In later years, mobile sprayers consisting of a tank with sprayer mounted on a wheeled trailer were used. These mobile sprayers were filled with water at a filling station in the north central portion of the Site.

Three residences and associated outbuildings were present on the Site. These buildings were removed from the Site prior to sampling and remedial activities.

2.2 Site Investigations

In 2001, Forsgren Associates collected 98 soil samples from 31 sampling locations at the Site. Samples were collected using a hand auger from 0.5, 1.5, and 3.0 feet below ground surface (bgs). Samples were analyzed for arsenic, lead, and dichlorodiphenyltrichloroethane (DDT). Samples were collected on a grid pattern across the entire Site.

Additional samples were collected from the former pesticide batch mixing area, from beneath a former pesticide distribution pipeline, and from the mobile sprayer filling station.

All surface soil samples collected from the Site contain measurable concentrations of arsenic and lead. Arsenic was detected at a maximum concentration of 405 parts per million (ppm) and lead was detected at a maximum concentration of 2,200 ppm. Typically, samples with elevated concentrations of arsenic also had elevated levels of lead.

Higher arsenic and lead concentrations were detected in samples in the north central area of the Site and in the area near the former chemical mixing area. DDT was found distributed throughout the Site. Comparatively high DDT concentrations were found in only two sample locations.

TCLP analysis of three samples resulted in arsenic concentrations of 0.62 ppm, 0.58mg ppm, and 0.25ppm, respectively. Lead concentrations were not detected in any of the three samples at or above the practical quantitation limit of 0.1ppm.

2.3 Cleanup Levels and Waste Designation

MTCA Method A cleanup levels for unrestricted land use were determined to be appropriate for the Site. The Method A cleanup levels are 20 ppm arsenic, 250 ppm lead, and 1 ppm DDT.

Contaminated soil on the subject property is not designated as Dangerous Waste. If the sum of contaminant concentrations is lower than 10,000 ppm (i.e., 1%) the soil would not be designated as Dangerous Waste. Maximum combined concentration in samples obtained from Site soils is 2200 ppm or 0.22%. In addition, TCLP data for arsenic and lead show their concentrations to be much less than the regulatory threshold of 5 ppm. Therefore, the soil on the subject property is not considered a hazardous or dangerous waste and does not require disposal at a hazardous waste landfill.

2.4 Remedial Actions

2.4.1 Remedial Action Plan

The following cleanup action alternatives were proposed in the Remedial Action Plan for the Site:

- Arsenic-, lead-, and DDT-contaminated soils were to be interred onsite and placed under either an impervious cap (in this case asphalt parking areas and driveways; tennis courts and building foundations) or a suitable thickness of clean topsoil and/or a combination of borrow cap and clean top soil in areas where play fields and landscaping were to be developed.
- Drainage was to be controlled so that runoff from the Site would be directed away from and prevented from contacting contaminated materials.
- Institutional controls included asphalt and topsoil cap maintenance, property deed notice, and limitations on landscape irrigation.

2.4.2 Remedial Activities

Site soil was graded as appropriate for construction of the school building, driveways and level parking areas and as appropriate for landscaped grounds around the school facilities. In general, soil was relocated on Site to produce a series of level terraces consistent with the original northeast-to-southwest slope of the Site.

Grading of the north and west portions of the Site consisted of creating several level areas to accommodate sports fields. The southeast quarter of the Site was graded into a series of level tiers or slopes for placement of the school building as well as parking and driveway areas.

Excess Site soil was selectively placed in two topsoil disposal areas onsite. One is a rectangular area south of the school building oriented lengthwise along 8th Street. The second is a triangular area in the northwest corner of the property. Later in the project, with permission from Ecology, some of these soils were utilized as backfill under the floor slabs of the building.

Both cap and topsoil sources were tested for contamination and found to be clean for project purposes. Lawn, landscaped areas, topsoil disposal areas, and sports fields received a cap of 6 inches of uncontaminated, compacted fill followed by 6 inches of topsoil. The fill consists of graded material containing some angular rock that was compacted to a firm layer to prevent children and others from accidentally reaching the contaminated soils when digging by hand. This layer provides not only a physical barrier, but a visual and tactile warning to potential future excavation in these areas.

Material excavated for the placement of the building foundation, utility lines, and rockery structures were incorporated into the overall grading. Utility and irrigation system trenches were filled with clean bedding and backfill so that future utility work could be completed without concern about working in contaminated soils.

The Remedial Action Plan required soil testing in the area of the proposed storm water retention/infiltration basin. This testing was to ensure that the bottom of the basin was below the contaminated soil horizon. The bottom of the pond was excavated beyond the fine-grained soils and into the underlying gravel layer. This was then backfilled with clean soils that would support vegetation and landscaping.

2.4.3 Confirmation Sampling

In an effort to confirm the effectiveness of the remediation program at the Site, Forsgren Associates and Department of Ecology representatives visited the Site on April 16, 2003 to sample selected areas for lead and arsenic analysis. Ecology provided and operated a hand-held field x-ray fluorescence (XRF) instrument for on-site analysis of lead and arsenic. The instrument was a Niton XL700 Series detector. Ten tests were completed using the XRF instrument at locations.

All arsenic tests indicated concentrations below the detection limits for the XRF instrument. One half of the lead tests showed concentrations below instrument detection limits. Four samples showed concentrations above the detection limit but below the Washington State Method A cleanup level for lead of 250 mg/kg. The remaining sample was analyzed in the City of East Wenatchee right-of-way south of the Eastmont School property boundary. That sample showed a concentration of lead in the soil above the Method A cleanup level. The arsenic concentration in this sample was below the instrument detection limit. This area was addressed as part of City of East Wenatchee 8th Street Improvements that were completed during school construction activities.

2.5 Environmental Covenant

An Environmental Covenant was recorded for the Site in 2005 following the additional remedial activities. The Environmental Covenant imposes the following conditions:

1. The Property contains lead and arsenic contaminated soil located beneath a 6" clean soil cover and black geotextile fabric or a 12" clean cover soil. The Owner shall not alter, modify, or remove the existing clean cap in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior approval from Ecology.
2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.
3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.
4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.
5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.
6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.
7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related to the Remedial Action.
8. The Owner of the Property reserves the right under WAC. 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

A copy of the Restrictive Covenant for the Site is available as Appendix 6.3.

3.0 PERIODIC REVIEW

3.1 Effectiveness of completed cleanup actions

The Site continues to be occupied by the Eastmont Junior High School facility. Playfields, landscaped areas, and paved areas are still in excellent condition. The soil and asphalt caps continue to eliminate the human exposure pathways (ingestion, contact) to contaminated soils. Based upon the Site visit conducted on August 19, 2010, no repair, maintenance, or contingency actions have been required. A photo log is available as Appendix 6.4.

The Environmental Covenant for the Site was recorded and remains in place. This Environmental Covenant prohibits activities that will result in the release of contaminants contained as part of the cleanup without Ecology's approval, and prohibit any use of the property that is inconsistent with the Covenant. The Environmental Covenant serves to assure the long term integrity of the surface cover.

3.2 New scientific information for individual hazardous substances for mixtures present at the Site

There is no new pertinent scientific information for the contaminants related to the Site.

3.3 New applicable state and federal laws for hazardous substances present at the Site

There are no new relevant state or federal laws for the hazardous substances present at the Site.

3.4 Current and projected Site use

The Site is currently used as a secondary school facility. There have been no changes in current or projected future Site or resource uses.

3.5 Availability and practicability of higher preference technologies

The remedy implemented included containment of hazardous materials, and it continues to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the remedial action were capable of detection well below MTCA Method A cleanup levels. The presence of improved analytical techniques would not effect decisions or recommendations made for the Site.

4.0 CONCLUSIONS

- The cleanup actions completed at the Site are protective of human health and the environment.
- Soils cleanup levels have not been met at the Site; however, the cleanup action is determined to comply with cleanup standards at the time of the action, since the long-term integrity of the containment system is ensured and the requirements for containment technologies have been met.
- The Environmental Covenants for the property are in place and will be effective in protecting public health and the environment from exposure to hazardous substances and protecting the integrity of the cleanup action.

Based on this periodic review, the Department of Ecology has determined that the requirements of the Environmental Covenant are being met. No additional remedial actions are required by the School District. It is the School District's responsibility to continue to inspect the Site to ensure that the integrity of the cap is maintained.

4.1 Next Review

The next review for the Site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

5.0 REFERENCES

Forsgren Associates, Inc. *Site Assessment and Remedial Action Report*. June 2001.

Forsgren Associates, Inc. *Independent Cleanup Action Report*. April 8, 2005.

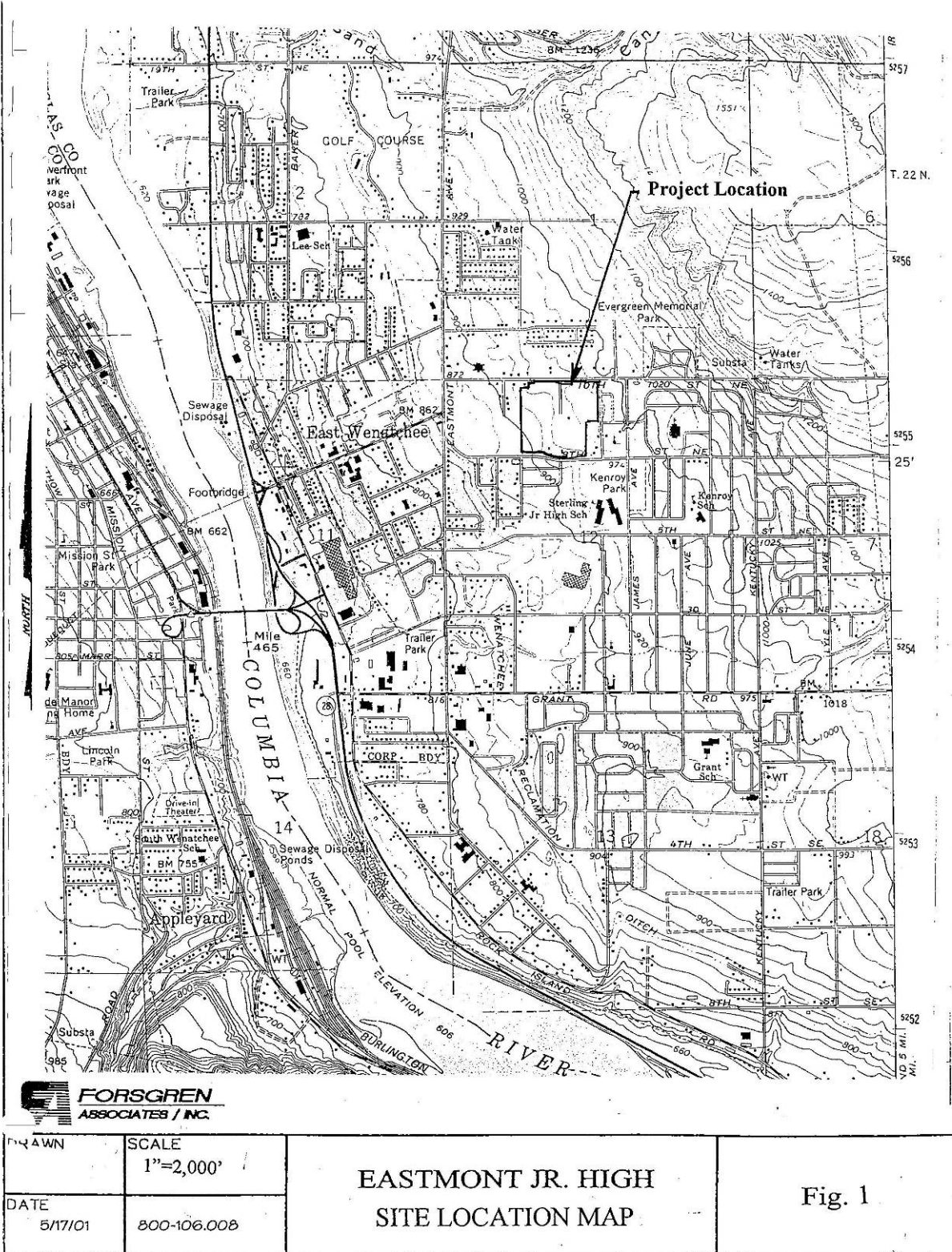
Ecology. *Restrictive Covenant*. October 27, 2005.

Ecology. *No Further Action Letter*. November 30, 2005.

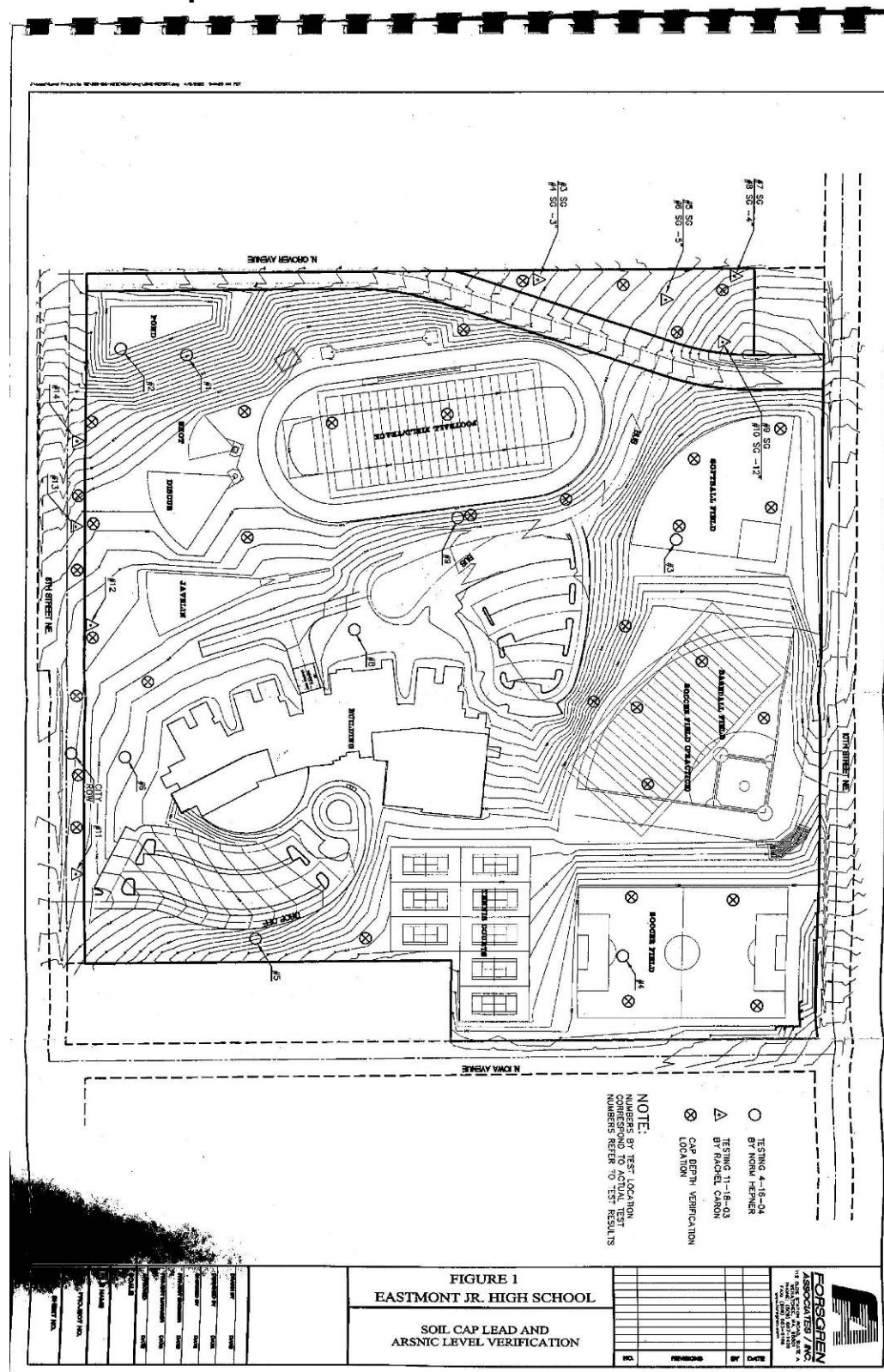
Ecology. *Site Visit*. October 28, 2009.

6.0 APPENDICES

6.1 Vicinity Map



6.2 Site Map



6.3 Environmental Covenant

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Fax: (509) 662 9074



RESTRICTIVE COVENANT

Eastmont School District

This Declaration of Restrictive Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by the Eastmont School District, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

An independent remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Restrictive Covenant. The Remedial Action conducted at the property is described in the following document: Independent Cleanup Action Report: Eastmont Junior High Site, Forsgren Associates, April 8, 2005. This document is on file at Ecology's CRO.

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations of lead and arsenic which exceed the Model Toxics Control Act Method - Method A - Residential Cleanup Levels for soil established under WAC 173-340-700.

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October 24, 2005

DAVIS ARNEIL LAW FIRM, LLP
P. O. Box 2136
WENATCHEE WA 98807



The undersigned, Eastmont School District, is the fee owner of real property (hereafter "Property") in the County of Douglas, State of Washington, that is subject to this Restrictive Covenant. The Property is legally described AS FOLLOWS:

The Northeast Quarter of the Northwest Quarter, except the North 150 feet of the West 150 feet of the Northwest Quarter of the Northeast Quarter of said Northwest Quarter of Section 12, Township 22 North, Range 20, E. W. M., Douglas County, Washington,

EXCEPT Right of Way for 10th Street NE,

EXCEPT the Easterly 140.5 feet of the Southeast Quarter of the Northeast Quarter of said Northwest Quarter and

EXCEPT the Right of Way for 8th Street NE

The Eastmont School District makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. The Property contains lead and arsenic contaminated soil located beneath a 6" clean soil cover and black geotextile fabric or a 12" clean cover soil. The Owner shall not alter, modify, or remove the existing clean cap in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior approval from Ecology.



Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial



Action; to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

EASTMONT SCHOOL DISTRICT

By

Harry Vanikiotis
Harry Vanikiotis, Superintendent

10/27/2005

[DATE SIGNED]

State of Washington
County of Douglas

I certify that I know or have satisfactory evidence that Harry Vanikiotis is the person who appeared before me and said person acknowledged that he signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the Eastmont School District Superintendant of Eastmont School District to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated October 27, 2005

Signature Mary Ellen Sparman
Notary Public

My Appointment Expires 09/01/2008



FATFOAC-E\estm\d08.wpd
October 24, 2005

DAVIS ARNEEL LAW FIRM, LLP
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6.4 Photo log

Photo 1: Soccer Field – from the south



Photo 2: Track and Football Field - from the north



Photo 3: Paved Area and Landscaping West of School - from the north



Photo 4: Tennis Courts - from north

