



## **RESPONSIVENESS SUMMARY**

**USG Interiors, Puyallup**

**April 24 - May 23, 2008 Public Comment Period**

**Agreed Order for Remedial Investigation  
and Feasibility Study**

**Prepared by**

Washington State Department of Ecology  
Southwest Regional Office  
Toxics Cleanup Program  
300 Desmond Drive  
Olympia, Washington 98504-7775

**June 2008**

## Site Information

**Address:** 925 River Road E., Puyallup

**Site Manager:** Dom Reale

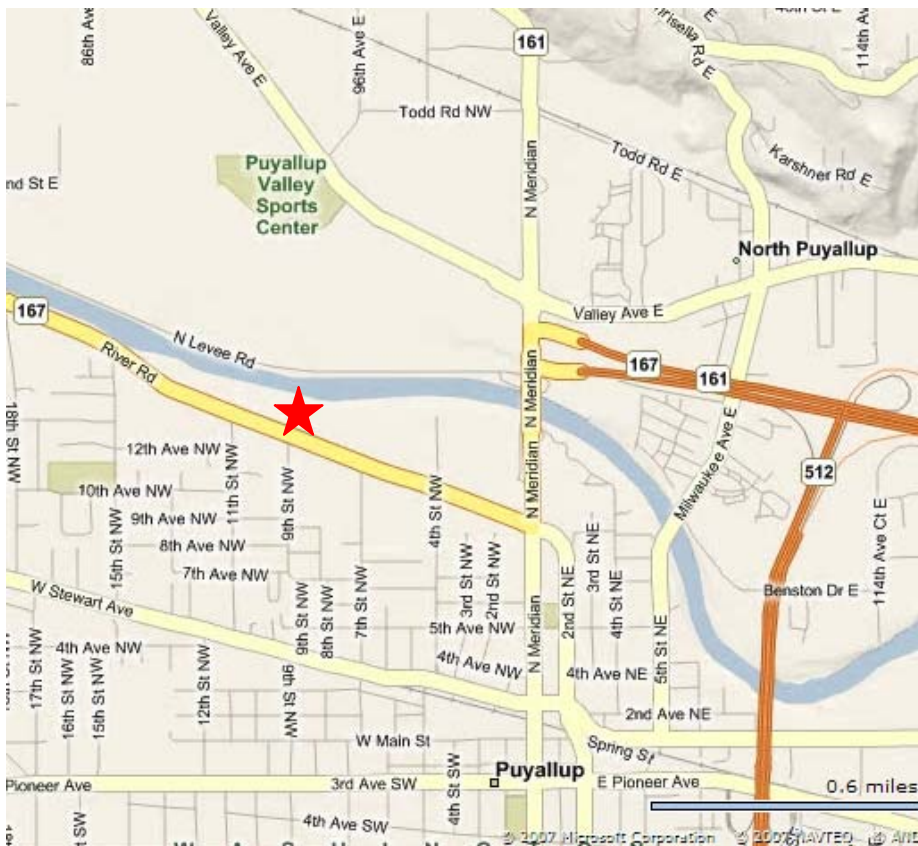
**Public Involvement Coordinator:** Hannah Aoyagi

The Washington State Department of Ecology (Ecology) is entering into an Agreed Order with USG Interiors, Inc. (USG) to investigate and clean up the USG Interiors, Puyallup site. The Agreed Order requires USG to conduct a Remedial Investigation and Feasibility Study, and to draft a Cleanup Action Plan. A public comment period on this Agreed Order was held from April 24 - May 23, 2008.

## Site Background

The USG Interiors, Puyallup site is located next to and on the banks of the Puyallup River (see map below). Before 1983, USG used the site to dispose of waste from their rock wool manufacturing plant in Tacoma. Slag containing arsenic from the former Tacoma Asarco smelter was used as raw material for making rock wool. As a result, waste from USG's Tacoma plant (before 1973) contained arsenic—a toxic metal.

In 1984, USG and Ecology entered into an Agreed Order to clean up the site. From 1984 to 1985 USG dug up and removed waste from the site, disposing of it in a hazardous waste landfill. However, testing shows some arsenic remaining in soil and groundwater. This contamination will be investigated and cleaned up under the Model Toxics Control Act (RCW 70.105D).



USG Interiors, Puyallup site location

## Comments Received and Ecology Responses

The following comments were received during the April 24 - May 23, 2008 public comment period for the USG Interiors, Puyallup site. These comments will be added to the site file and made publicly available.

### Comment #1 Kathryn Horntvedt

A) Risk:

1. Who is at risk? - berry pickers along this stretch of the river, walkers, joggers, dirt bikers, fishermen, the homeless who find refuge near the river, nearby resident gardeners potentially threatened by contaminated groundwater flow paths (does the study need input from groundwater engineer experts?), fish, ducks, birds, plants, or other river wildlife?

Ecology response: The arsenic contamination is only found below the ground surface in subsurface soil and groundwater, and not near the soil surface. Therefore people and animals who may become exposed to surface soil are not contacting the arsenic. The pathway the arsenic takes which does affect human and environmental receptors is through the flow of site groundwater out through lower bank sediments out into the Puyallup River. Therefore the bank sediments are likely contaminated with arsenic, which puts bank sediment-dwelling creatures at risk. Arsenic is entering the Puyallup River, which probably results in toxic exposures to creatures near the point of discharge. Further away from the point of discharge the arsenic concentration likely becomes very diluted. The arsenic which reaches the river also attaches to solid particles which settle out in the river sediments and are also flushed down into Commencement Bay. The purpose of the proposed Agreed Order is to study the site to find out exactly what the extent of the arsenic contamination is, what human or environmental receptors may be at risk, and to get enough information to design and construct an effective cleanup.

2. What is the extent of the contamination - its concentration, as well as the range of land/water in which it's found?

Ecology response: The arsenic in the ground got there as a result of the burial/disposal by USG (then US Gypsum) of its rock wool manufacturing plant wastes in two pits on the site prior to the 1980s. In the 1980s USG attempted to dig out these wastes, but the excavations extended down below the water table, and some of the arsenic was not recovered. The "plume" of arsenic in the soils and groundwater appears to be restricted to the area on the site near the original pits, which is near the river. The total size of the area is less than one acre. The range of arsenic concentration found at the site in preliminary investigations range from non-detect to 2,100 milligrams per kilogram (mg/kg) in soil. Our state soil cleanup level is 20 mg/kg. Groundwater arsenic concentrations range from non-detect to 18,000 micrograms per liter (ug/l). Our state groundwater cleanup level for arsenic is 5 ug/l.

3. What is arsenic's effect on a person/animal/plant? - a) Is there danger from skin contact with contaminated soils or water? b) Does arsenic travel from soil into groundwater? c) Does arsenic migrate into berry plants from the soil/water such that we may eat it? (Do we need input regarding ionic bonds from inorganic chemists?) What negative effects does it have on us?

Ecology response: Arsenic is a known human carcinogen. Skin exposed to highly contaminated soil or water would be a health problem. As noted above, site arsenic is below the ground surface. It is as yet unknown whether berry plants at the site have taken up toxic concentrations of arsenic into the berries. In any event, the forthcoming cleanup should remedy such a situation, if it exists.

#### B) Safety:

1. Is there a need to restrict current recreational access to the nearby natural area until clean-up is complete?

Ecology response: No. The impacts from the site are long term down-river sediment problems, and bank sediment problems below the water line at the site.

2. Are there any means of affording protection to victims of groundwater contamination?

Ecology response: This question can be interpreted and answered in a number of ways. Those people who are suffering negative health effects should definitely seek medical aid. Ecology, as well as state and local health departments have staff trained to provide information and assistance to people who have questions or problems relating to environmental toxics exposure. As far as legal protection, persons who believe they have been harmed by site contamination can seek compensation through our legal system.

3. Regarding clean-up methods, are there chemical extraction techniques (which may or may not be affordable?), vs. only crude total removal of contaminated soils with replacement of fresh soil?

Ecology response: A number of cleanup remedies may be used to address the contamination at the site, including: soil removal, groundwater extraction and cleanup, in-the-ground (*in situ*) chemical treatment or stabilization chemistry, physical or hydraulic containment, etc., or a number of these technologies in combination. The proposed Agreed Order requires a thorough site environmental investigation, followed by an evaluation of various remedies by USG, and this will be followed by the selection of a proposed remedy in the form of a draft Cleanup Action Plan (CAP). The draft CAP will be available for public review, once it has been written.

#### C) Future Land Use:

I'm not familiar with the size of this land parcel, but I envision USG choosing to convert it into a restorative, naturally productive park/garden as part of the Agreed Order, to be a role model for other companies which need to shift from land use that has a negative impact to one that has a new positive healing regenerative focus. This new plan could include area for natural habitat, even some wetlands buffer near the river, however three other main uses could be:

1. Community Garden including vegetables, berry bushes, and fruit trees, run by volunteer gardeners through an "adopt-a-garden" weekly sign-up schedule for planting, weeding, harvesting, and selling to the community as a non-profit organization, with proceeds being used to maintain the area.
2. Kitchen Compost Site, possibly through a public/private partnership with the City of Puyallup and DM Disposal, for collection of kitchen compost from city residents to be turned into compost at this site by hired employees who maintain the compost piles and sell the compost (like Tacoma does with Tagro) back to the public for use in their private home gardens.
3. Peace Park, like the silent room in Germany's Berlin Wall, where people may come to pray for world unity and peace, or any other concerns they have. Surrounded by the beauty and peace of the gardens, this could be a place of healing for anyone who needs it.

I am not trying to suggest that USG convert its company from its current production into that of an environmental company, but only that some of its resources and energy be put into this site to create healthy products that our community needs. It could viewed as a way to help pay for some of their carbon footprint and have a positive effect on global climate change. By promoting a means of local sustenance, USG would be contributing to Homeland Security: grow, buy, and eat local! The kitchen compost project would expand our current recycling options to be more encompassing of all our household waste, which helps create a more healthy closed system by completing our household resource loop. It might even provide spiritually comforting work for the nearby homeless or needy folk, for them to help with the composting and gardening and give them a place to grow their self-esteem. USG could become a leader in creating a large company's balance of both product output and community/environmental service, which other companies may then look to as an example of how our country's industries can benefit our communities in a more wholistic manner.

Ecology response: Ecology cannot dictate to USG exactly how to manage the site after cleanup, other than to require the ongoing operation, monitoring, and protection of the selected cleanup remedies as needed. That said, USG Corp. will be provided with a copy of this Responsiveness Summary, and get a chance to review, and potentially adopt, some of your good ideas.

**Comment #2, Leslie Ann Rose, Citizens for a Healthy Bay**



**CITIZENS FOR A HEALTHY BAY**

May 13, 2008

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Mr. Dom Reale, Site Manager,  
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SWRO Toxics Cleanup Program  
P. O. Box 47775  
Olympia, WA 98504-7775

Re: USG Interiors, Inc. – Puyallup Site  
Agreed Order No. DE-5489

*Executive Director*  
Nancy Dilworth

Dear Mr. Reale:

This letter presents comments from Citizens for a Healthy Bay to Bay (CHB) to the action referenced above.

*Board of Directors*  
Cheryl Greengrove  
Bruce Kilen  
Dave McEntee  
Peter Porietis  
Bill Pugh  
Lee Roussel  
Robert Stivers  
Sheri Tonn  
Allen Zulauf

Item V. E. of the Agreed Order indicates that groundwater sampling and analysis of the USG Puyallup site consistently indicated arsenic concentrations in excess of 500 ppb since 1989. However the proposal to test soils and groundwater was not submitted to Ecology until 2006. The findings of the soil and groundwater assessment confirmed arsenic contamination in soil and groundwater as high as 2,100 ppm in soil and 1,800 ppm in groundwater.

CHB is concerned that this action has extended 12 years following the completion of the initial site cleanup action in April 1986 when post-cleanup monitoring clearly evidenced the fact that the initial action had not remedied the arsenic contamination.

This is of special concern as the site is located directly adjacent to, and on the banks of, the Puyallup River and site groundwater is in direct hydrologic connection with the river. Site groundwater can be confidently expected to discharge directly to the river. As a result river sediments are likely contaminated from the arsenic in the site soils and groundwater.

A tax-exempt  
Nonprofit organization  
with  
501(c)(3) status

The Remedial Investigation, Scope of Work, Draft RI/FS Report and Feasibility Study must address the following site characteristics:

- The lower reach of the Puyallup River is an important salmon corridor for out-migrating juveniles as well as returning adults. All in-river activities must be scheduled around critical migration periods.
- As illustrated in the attached Figure 3.2 – Aquifer Recharge Areas and Well Protection Areas from the City of Puyallup's Critical Areas Ordinance, the USG site is located on the outer edge of the designated well protection

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Mr. Dom Reale  
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area for Puyallup Well No. 17. The site is also in the Aquifer Recharge Area designated as “high vulnerability”.

- As illustrated in the attached Figure 3.5 – Frequently Flooded Areas from the City of Puyallup’s Critical Areas Ordinance, the USG site is located in a flood-prone area.

CHB is a community-based, non-profit environmental organization representing the greater WRIA 10 and South Central Puget Sound community. Our mission is to engage citizens to clean up, restore and protect our region of Puget Sound and the Puyallup River Watershed. As such, we have acted to provide community oversight and public participation into all clean up actions for the past 18 years.

Thank you for your consideration of our remarks.

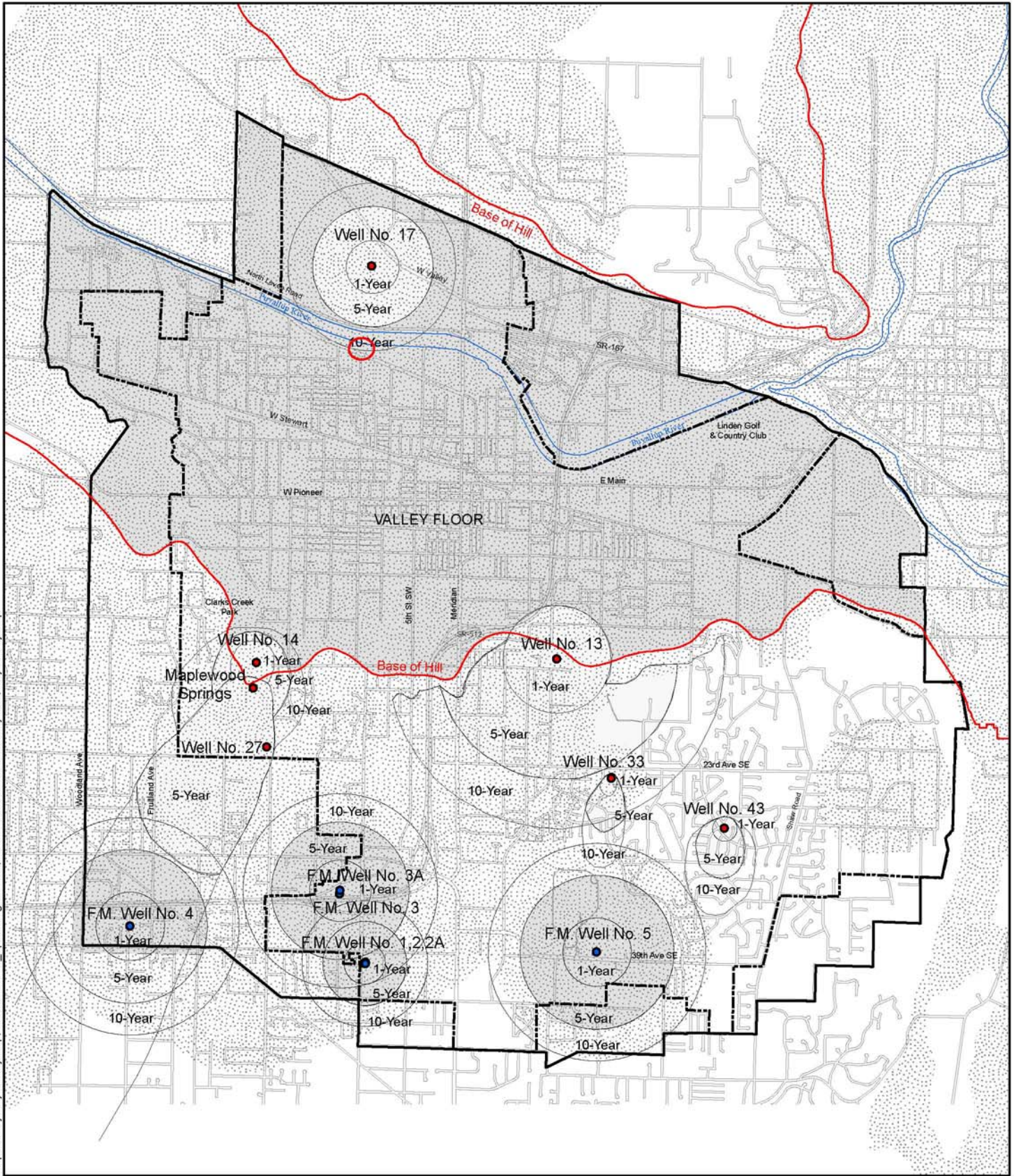
Sincerely:

*Leslie Ann Rose*

Leslie Ann Rose  
Senior Policy Analyst  
Citizens for a Healthy Bay

cc: Mr. Bill Sullivan, Puyallup Tribe of Indians  
Ms. Char Naylor, Puyallup Tribe of Indians

Prepared by City of Puyallup. File Name: ca\_update\fig3-2.mxd. Data Source: Pierce County GIS, City of Puyallup



- City Limits
- Urban Growth Boundary
- Roads

- Puyallup Wells  
Per Puyallup Sept. 2000 Wellhead Protection Plan
- Fruitland Mutual Water Wells  
Per F.M. July 1996 Wellhead Protection Plan
- Aquifer Recharge Areas  
Per Pierce County DRASTIC Maps
- Aquifer Recharge Areas  
Designated as "High Vulnerability"

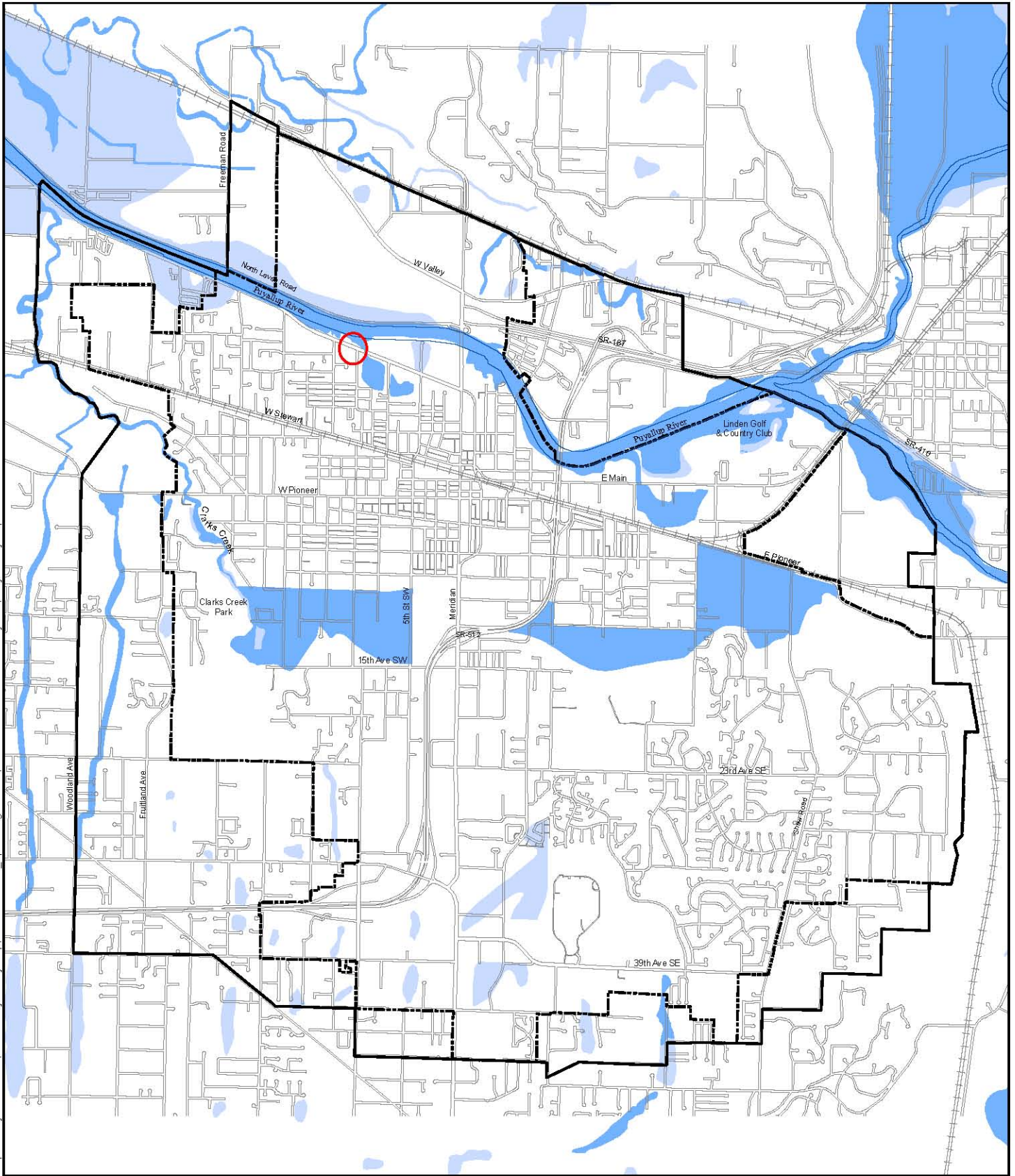
0 485 970 1,940 2,910 3,880  
Feet

Figure 3-2  
Aquifer Recharge Areas  
& Well Head Protection  
Areas

City of Puyallup



Prepared by Parametrix, Inc. & City of Puyallup, File Name: ca\_update\fig3-5.mxd, Data Source: Pierce County GIS, City of Puyallup



- Puyallup City Limits
- Urban Growth Boundary
- Roads
- Railways

Flood Hazard Areas

- 100 year(A Zone)
- 500 year(X500 Zone)
- Puyallup River

Figure 3-5  
Frequently Flooded Areas

City of Puyallup

0 5001,000 2,000 3,000 4,000  
Feet

Ecology Response:

Ecology acknowledges these comments and is working with USG to address site contamination in a timely manner. The Agreed Order requires that USG submit a draft Remedial Investigation work plan within 60 days of the effective date (June 17, 2008), and a final work plan must be submitted within 30 days of receipt of Ecology's comments. Ecology will ensure that all cleanup actions meet Model Toxics Control Act (RCW 70.105D) standards and protect human health and the environment. Site investigation will include not only the determination of the areal and depthwise extent of upland soil and groundwater contamination, but also the extent of bank sediment and river sediment contamination. This effort will be coordinated with habitat and wildlife agencies and groups, including CHB, to ensure that any concerns regarding salmon and other species are addressed.