

COMMENT #40

Allison Satter

From: Deirdre McKeel <deirdre.mckeel@gmail.com>
Sent: Sunday, January 18, 2015 11:31 AM
To: Allison Satter
Subject: District 2 Final Plan - unpublished Letter to the Editor

There have been lots of changes in Bremerton this year. Especially in District 2. Two major changes are the investment of two youth organizations on the Old East High campus. First, this year we saw the opening of the Boys and Girls Club new teen center in East Bremerton's old high school and the Youth Wellness Campus. These investments represent significant commitments to our community that extend well into the future. Second major change is anticipated removal of a long standing community medical industry anchor, Harrison Memorial Hospital.

It is surprising to me that with the development of the new comprehensive plan which is going through a public review period that City of Bremerton has persisted showing the View Ridge Elementary and old East High properties as a District core with high density living and businesses. As well, it shows the current hospital core as industry. It is counter-intuitive and reflects a certain anti-community position to develop a youth campus and Bremerton School District property (property that has long-term leases) into a district core when just a few blocks away, property will be vacated and moved to another part of the county.

At what point will reality seep into a workable comprehensive plan, this new plan is going to be another non-starter for Bremerton. Why isn't the former hospital area being re-developed to support high density living? There are complementary community organizations to support it. The Y, city recreation center, Community Theater, a small shopping center and lets not forget the Youth Wellness Campus. This location is also attractive in that it is not on a main thorough fare (Warren Avenue Bridge and Wheaton Way corridor). In addition to that, all the infrastructure is there: water, sewers, electrical grid. Why would the planners continue to use available open space (even when committed elsewhere) to turn it into something not conducive to the community's desires or needs?

The way this will play out seems that we will have another business area stand vacant for years because Bremerton doesn't have the demographics to support a business or industry center and the comprehensive plan will allow no other options without a lot of hoops being jumped through (SEPA, Rezoning cost, plans etc). Unless you get some industry that does not need transportation access (Business to business services, IT, etc), there is no way that this small community will be able to sustain a true industrial base. So better to have a district core in the hospital industrial area with lots of netzero/condos/apartments and boutique businesses than years of nothing.

COMMENT #41

Allison Satter

From: Bob <foodpro2005@gmail.com>
Sent: Thursday, January 22, 2015 10:03 AM
To: Allison Satter
Subject: COMMENTS ON BREMERTON2035 LAND USE

Good morning -

One of the public speakers at Tuesday's session expressed concerns about the "5-way intersection" at the top of Kitsap Way where 13th, Wilbert, and Corbet come together. The proposal called for 13th St to be closed due to limited sight distance of less than 400' and the accident potential in the Kitsap Ave two-way turn lane.

What is not considered is the access to 13th by going through the NAPA parking lot where drivers can access Ford Ave and then get onto 13th. It would be necessary and highly recommended that Ford Ave also be closed off to prevent an even higher flow of traffic through that residential area. Coming out of Ford onto 13th is in itself hazardous as is.

Thank you for your consideration.

Bob Reiher
1715 N Wycoff Ave

COMMENT #42

Allison Satter

From: Andrea Spencer
Sent: Wednesday, January 21, 2015 2:10 PM
To: 'Michael Mjelde'
Cc: Allison Satter
Subject: RE: City of Bremerton Comprehensive Plan

Mike –

Thanks for your participation and testimony last night!

Andrea

From: Michael Mjelde [mailto:mjmjelde38@cs.com]
Sent: Tuesday, January 20, 2015 7:31 PM
To: Andrea Spencer
Subject: Re: City of Bremerton Comprehensive Plan

Hello Andrea:

The presentation this evening was very well handled by your staff this evening. I spoke in support of the zoning resignation for the neighborhood south of 13th. Thanks for providing excellent visual aids. Looking forward to future hearings.

Sincerely,

Mike
Michael Jay Mjelde

-----Original Message-----

From: Andrea Spencer <Andrea.Spencer@ci.bremerton.wa.us>
To: 'Michael Mjelde' <mjmjelde38@cs.com>
Sent: Tue, Jan 20, 2015 11:39 am
Subject: RE: City of Bremerton Comprehensive Plan

Mike –

Sorry for my late response – I was unexpectedly out of the office with that nasty bug that's going around.

Public comments are still being accepted tonight at our public open house at 5pm and a Planning Commission meeting at 6pm (both are held in the meeting chambers of the Norm Dicks Government Center). You can see a draft of the land use maps in the packet prepared for tonight's meeting at this link:

<http://wa-bremerton.civicplus.com/AgendaCenter/ViewFile/Agenda/01202015-41>

Andrea

From: Michael Mjelde [mailto:mjmjelde38@cs.com]
Sent: Tuesday, January 13, 2015 6:11 PM
To: Andrea Spencer
Subject: Re: City of Bremerton Comprehensive Plan

Hello Andrea:

In conjunction with the hearing scheduled for January 20th, has it been recommended to send written comments to planning in advance or to comment on suggested changes there at the hearing? Please advise. Unfortunately, I missed the January 5th date with written comments.

Mike
Michael Jay Mjelde

-----Original Message-----

From: Mike Mjelde <MikeMjelde@pnwtkitsap.com>
To: mjmjelde38 <mjmjelde38@cs.com>
Sent: Fri, Jan 2, 2015 4:05 pm
Subject: FW: City of Bremerton Comprehensive Plan

Mike Mjelde
Senior Title Officer
Pacific Northwest Title

2021 NW Myhre Road, Suite 300
Silverdale, WA 98383
Phone: 360-307-6308
Fax: 360-307-6378

Email: MikeMjelde@pnwtkitsap.com

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 **PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL**

From: Andrea Spencer [<mailto:Andrea.Spencer@ci.bremerton.wa.us>]
Sent: Wednesday, December 17, 2014 10:03 AM
To: Mike Mjelde
Subject: RE: City of Bremerton Comprehensive Plan

Mike –

What we heard from the college is that they are currently content with the boundaries that they currently have, and that they are focused on construction of their next building which is planned to be adjacent to the Humanities and Science and Technologies building. We're looking at the zoning around the college campus because we've received a lot of inquiries from the public about the desire to create dormitory-style housing in this area and there is some multifamily development in the area that is in non-conforming low density residential districts. You can see more of what our district profile said here: http://www.ci.bremerton.wa.us/CompPlan/doc/DistrictProfile_4.pdf

If you've got additional questions please let me know if I can help.

Andrea

From: Mike Mjelde [<mailto:MikeMjelde@pnwtkitsap.com>]
Sent: Wednesday, December 17, 2014 9:41 AM
To: Andrea Spencer
Subject: City of Bremerton Comprehensive Plan

Good Morning Andrea:

Thanks for your update on what is planned for the city and for providing us with some positive information as to where the city stands on certain matters. I was one of the attendees at your presentation this morning at KCIB.

I noted that you deferred reference to what Olympic College plans for the college. Do you have any idea when they plan to release proposals of their tentative plans regarding possible expansion of the campus adjacent to the core area?

Mike Mjelde
Senior Title Officer
Pacific Northwest Title



**PACIFIC
NORTHWEST
TITLE**

2021 NW Myhre Road, Suite 300

Silverdale, WA. 98383

Direct: 360-307-6308

Fax: 360-307-6384

Email: MikeMjelde@pnwtkitsap.com

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COMMENT #43

Allison Satter

From: Paul Dutky <pdutky@gmail.com>
Sent: Thursday, January 29, 2015 12:15 AM
To: Allison Satter
Cc: Chal Martin
Subject: Kitsap Lake Loop Trail
Attachments: Allison Sater Letter 129201.pdf

Hi Allison,

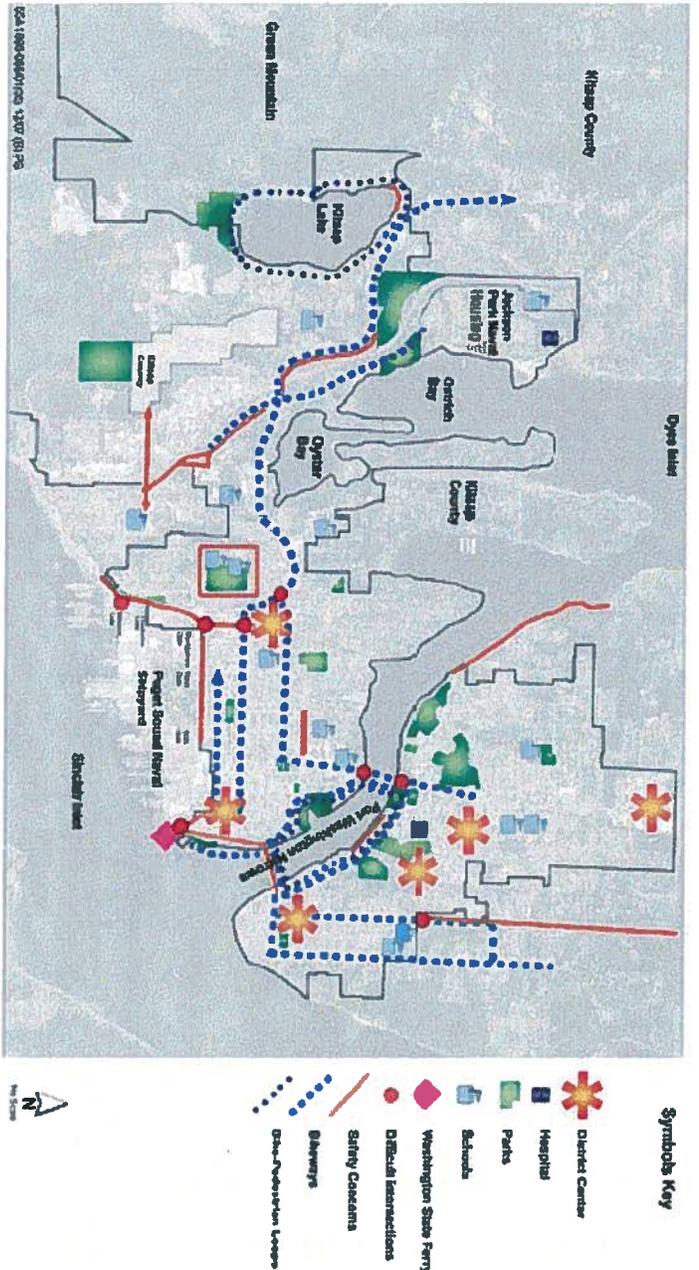
Please let me know what I need to do to get the Kitsap Lake Loop trail firmly into the upcoming comprehensive plan for Bremerton.

The attached pdf contains screen shots from the 2007 plan and the 2014 plan. Both show a loop trail traversing a public right of way in the northeast end of Kitsap Lake between Harlow Drive and Lakehurst Drive to the south. The last two illustrations, at greater resolution, show the section of trail I would like to have the city create .

This 0.2 mile trail eliminates all hills in the 3.4 mile loop, and would significantly increase its use by cyclists and pedestrians.

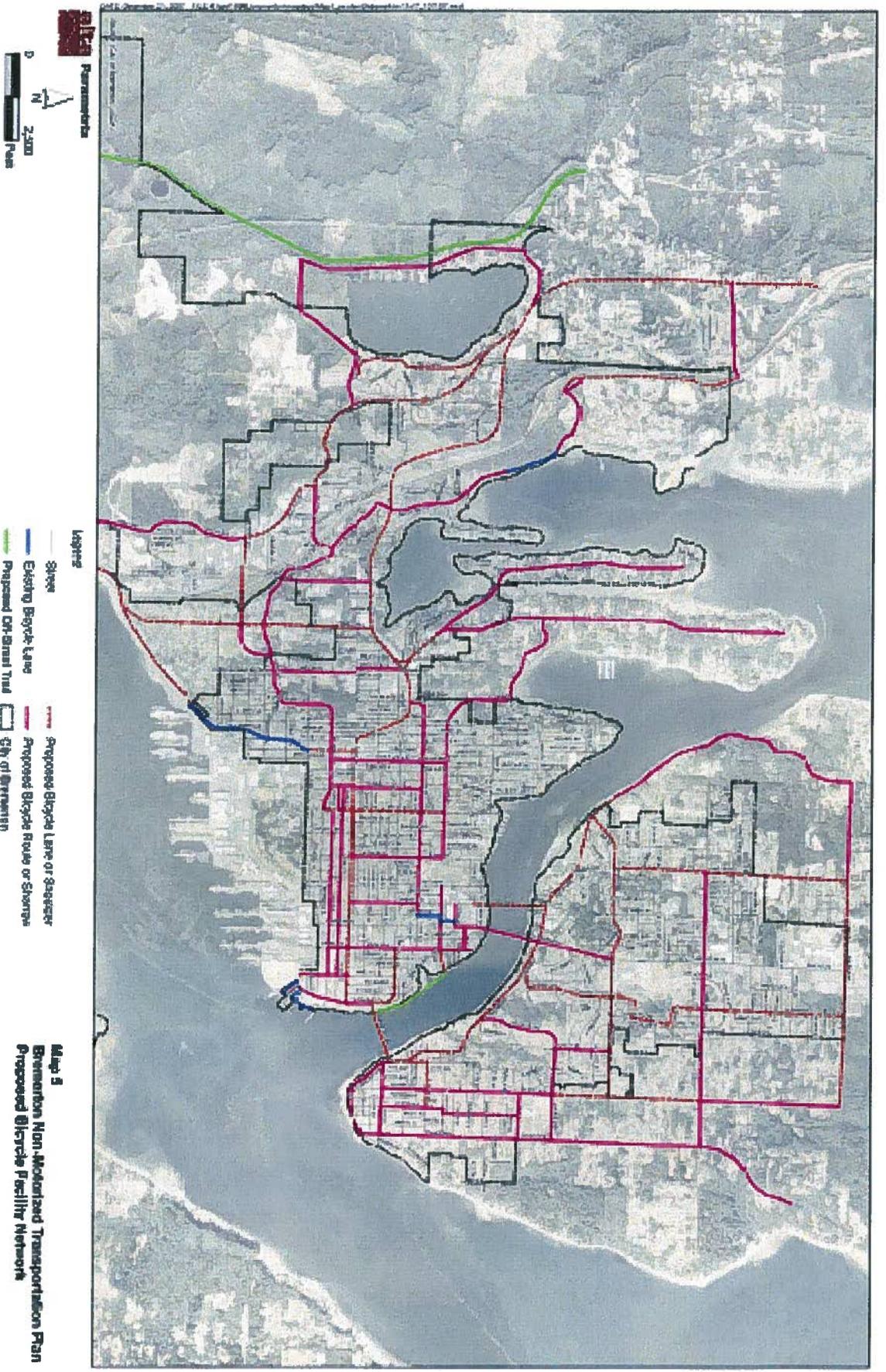
Thanks Allison.

Paul



Map 3
Bicycle Issues and Opportunities Diagram

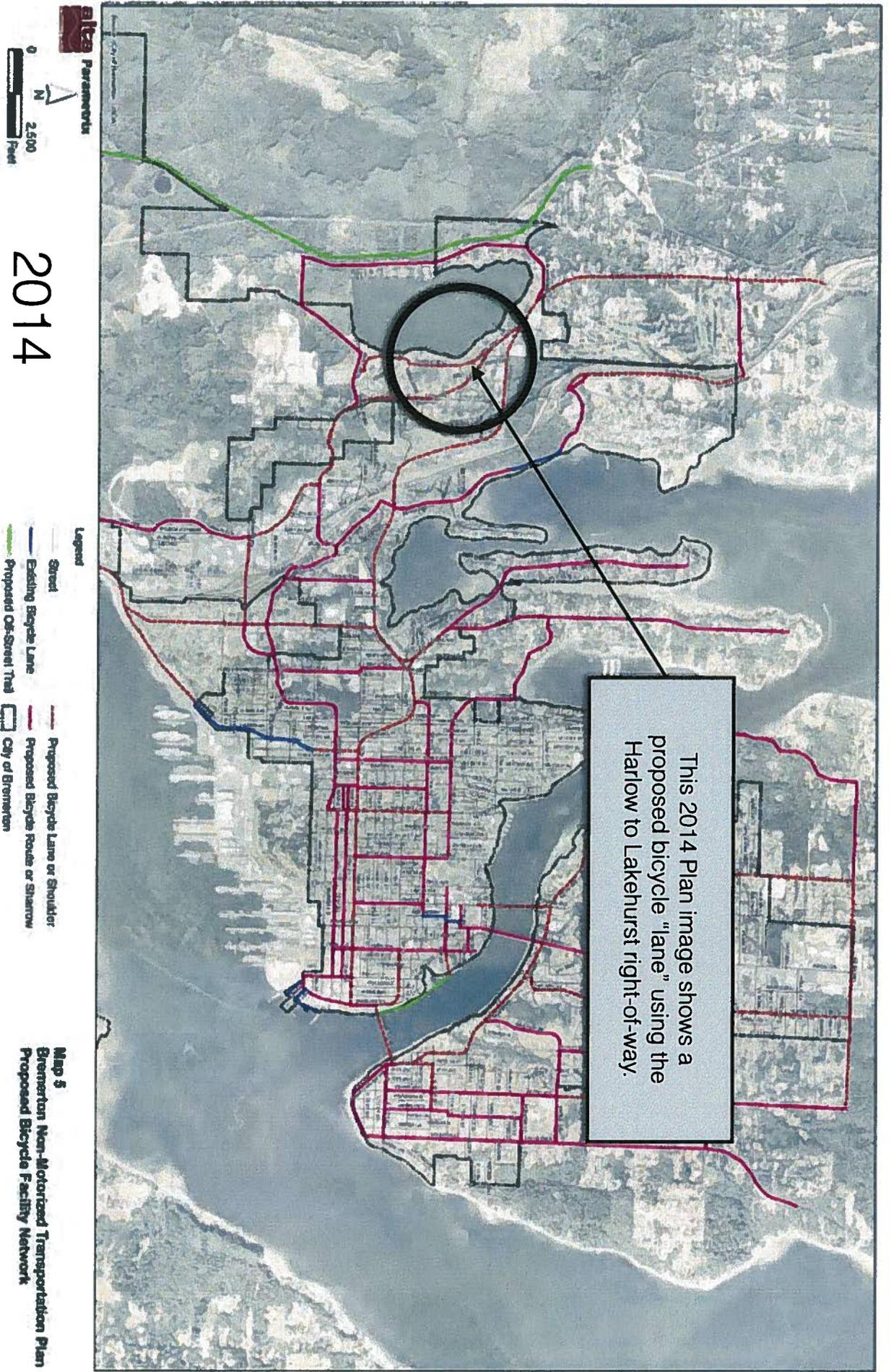
2007



2007

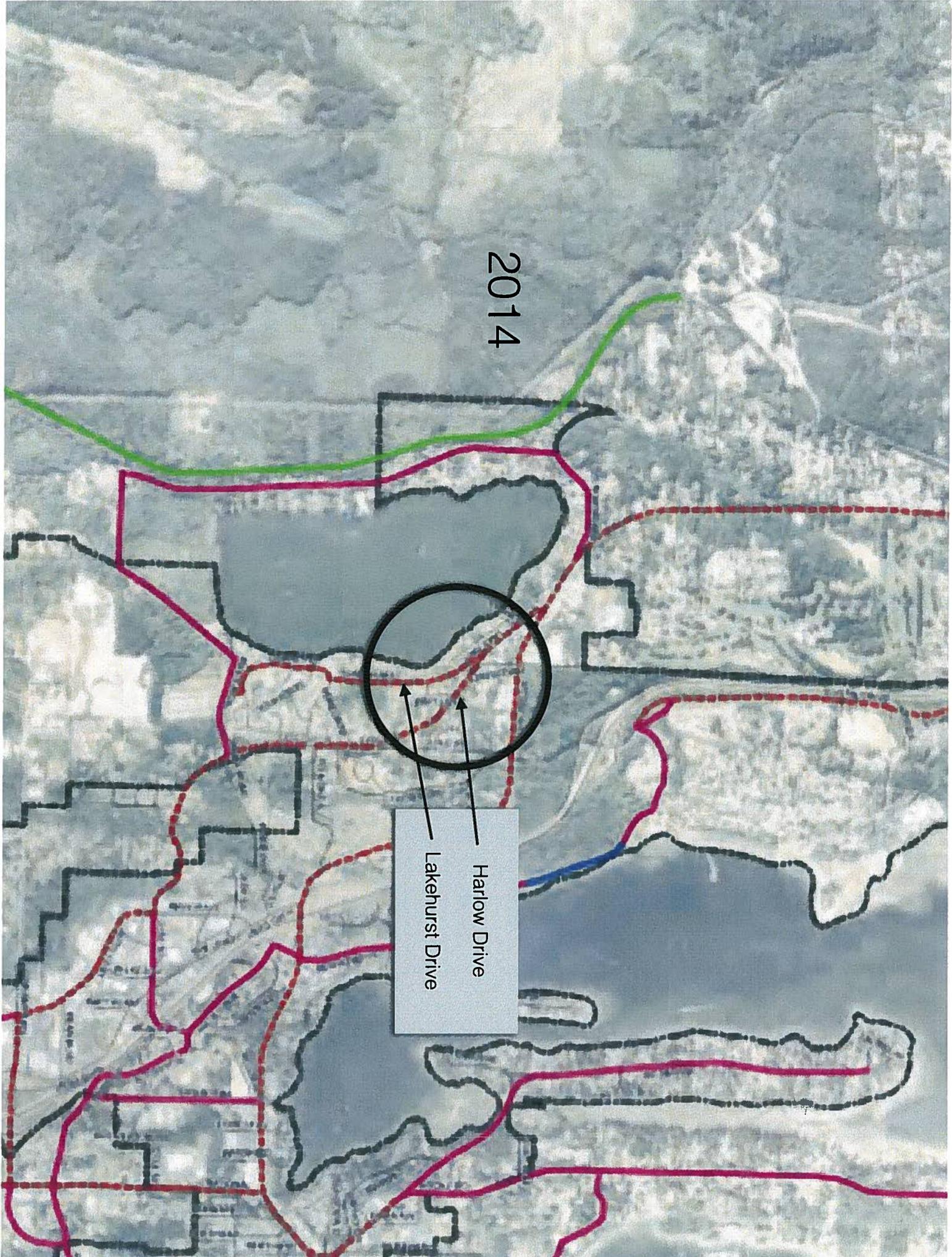
Accessways in Dockside Subdivision

<p>Description This project would improve two accessways in West Bremerton's Dockside subdivision. The currently informal paths link Osprey Circle with Price Road to the south and Lakehurst Drive to the north. The accessways provide direct bicycle/pedestrian connections between adjacent neighborhoods as an alternative to surrounding circuitous streets. Students use these routes to reach Kitsap Lake Elementary School, while other bicyclists/pedestrians use the paths as a recreational route around Kitsap Lake. Developing the accessways into formal shared use paths would increase accessibility for bicyclists, mobility-impaired pedestrians, and improve convenience and connectivity for all users.</p>		
<p>Project Elements</p> <ul style="list-style-type: none"> • Paved shared use paths linking Osprey Circle with Price Road and Lakehurst Drive • Curb ramps to facilitate smooth transitions between the paths and streets • Bicycle/pedestrian wayfinding signage 	<p>Issues</p> <ul style="list-style-type: none"> • Encroaching vegetation on the southern accessway • Potential drainage issues on the northern accessway due to surrounding topography 	 <p>Existing unpaved accessway</p>
<p>Lead Agency City of Bremerton</p>	<p>Planning Level Cost Estimate \$60,100 (combined cost estimate for both accessways)</p>	 <p>Proposed paved accessway</p> 



2014

2014



Harlow Drive
Lakehurst Drive

3.4 mile Kitsap Lake Loop

- Established Route 
 - Proposed Gravel Trail on public right-of-way 
 - Existing easements (public right of way) 
 - 
1. From Lakehurst Dr. to Osprey Circle
 2. From Osprey Circle to Price Road

2015



2015

Kitsap Lake

 Yellow gate at north entrance

 Present walking route

 Proposed route through an undeveloped public right of way, from Harlow Drive to Cedarwood Drive

 City of Brem. Pump Station

This part of Harlow Dr. is steep, with almost no shoulder.



COMMENT #44

Allison Satter

From: Bob <foodpro2005@gmail.com>
Sent: Thursday, January 29, 2015 7:58 AM
To: Allison Satter
Subject: Comment submission for Bremerton2035

Good morning -

We are writing to propose that the area of Callow Ave and North Wycoff Ave, between 13th and 15th streets, be completely zoned as Low Density Residential. Discussion of this point was not part of the public presentation given by Ms. Satter at the Planning Commission meeting on January 14, 2015.

According to the District 6 profile, the South half of this block is currently zoned Low Density Residential while the North half remains Limited Commercial. Our concern is that failure to rezone leaves the door open for further commercial development.

The subject area, according to the LDR Field Notes on page 18 of the District 6 profile, is under consideration only with regard to not recommending expansion of the Charleston District Center.

- This item is discussed in detail on the Bremerton Planning Commission Minutes for September 16, 2014, page 11.
- In the minutes of October 21, 2014, the consistent staff response is "Staff has proposed within District 6 Profile to not support rezoning of this area due to: (1) established neighborhood and (2) the findings in the Update Land Capacity Analysis, indicates that the City has ample land zoned to accommodate Residential *and Commercial uses (emphasis mine)* for the City's Growth targets.

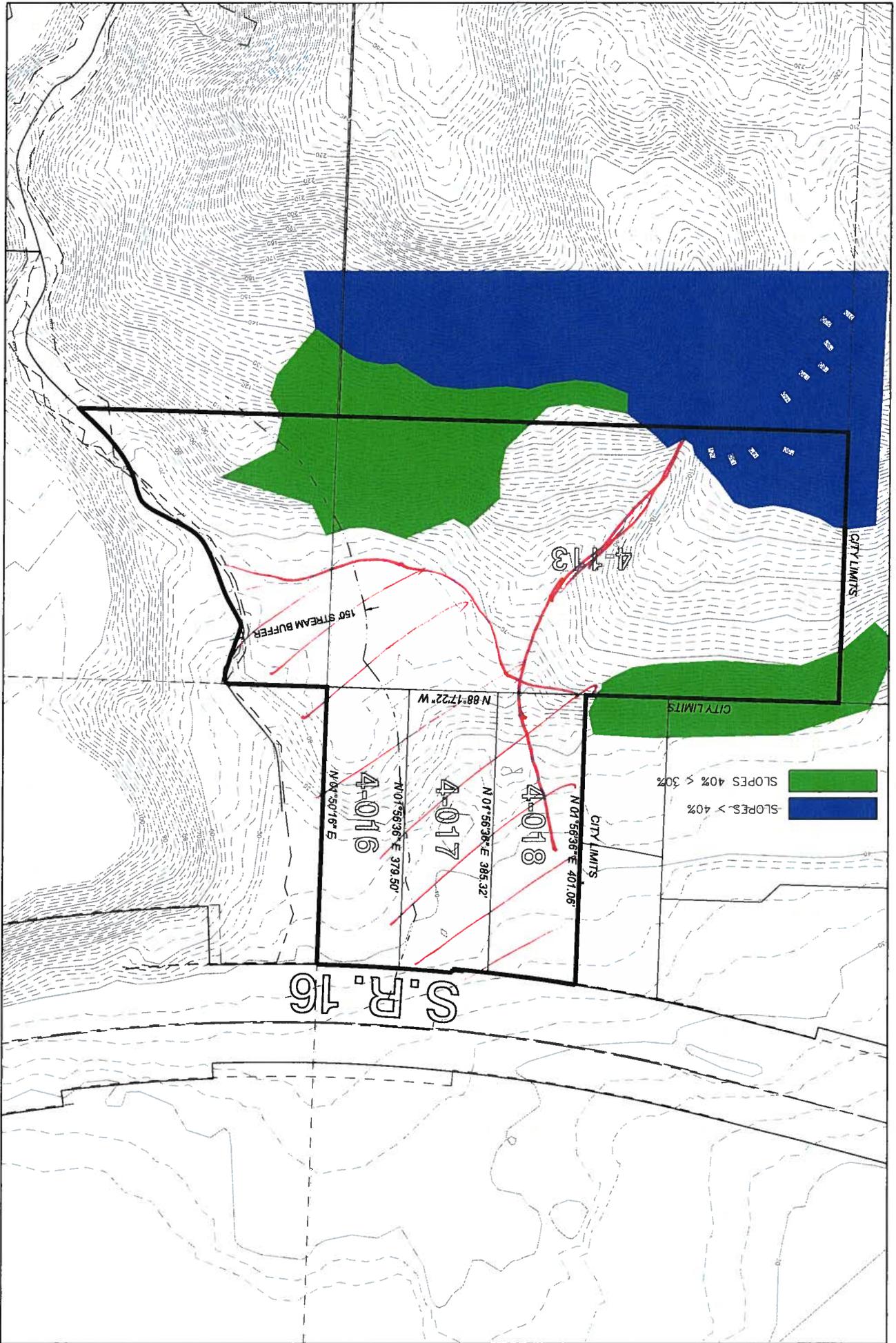
The Work Program Summary, item 12, considers "removing Haddon Neighborhood Center, and *establish as commercial (emphasis mine)* and Low Density Residential designations."

We propose that language similar to Item 16 of that summary be applied, which considers "allowing residential designation, instead of commercial designation, on areas that have existing residential uses" (as applied to "parcels to the east of Kitsap Way Commercial Corridor area"). As the area of Callow Ave and North Wycoff Ave, between 13th and 15th streets, is already partially designated Low Density Residential and is bordered by Low Density Residential on Montgomery, 13th, and the south half of North Wycoff, we ask that the entire parcel be zoned as Low Density Residential to match the surrounding neighborhood and completely preclude any possibility of commercial development.

Thank you,

Robert and Cheryl Reiher

1715 N Wycoff Avenue



Garrett Jackson

From: Allison Satter
Sent: Tuesday, February 03, 2015 11:57 AM
To: Garrett Jackson
Subject: FW: Northview Ridge Properties, LLC Redesignation
Attachments: 15.1.27 Commercial Topo.pdf

Allison Satter

From: Mark Kuhlman [mailto:mark@teamteng.com]
Sent: Thursday, January 29, 2015 8:25 AM
To: Allison Satter; Nicole Floyd
Cc: Rob O'Neill (robertdoneill@comcast.net)
Subject: Northview Ridge Properties, LLC Redesignation

Hello Allison:

Thank you for your conversation and assistance at the recent Planning Commission Meeting where you described the proposed GC zone as it is applied to the parcels following: 322401-4-018-2001, 322401-4-017-2002, 322401-4-016-2003, and 322401-4-113-2005.

We discussed that the Commercial designation was applied to that portion of parcel 4-113 that is below the toe of slope. While I understand the approach, I have performed a more rigorous analysis of the slopes on site and present that study on the attached drawing. I analyzed the slopes to determine which slopes could be considered Geological Hazards under the City's Critical Area Ordinance. The drawing shows areas with slopes over 30% but less than 40% and areas with slopes over 40%. I have not reviewed the 30%-40% slopes for the "following characteristics" (i) through (iv) of BMC 16.14.620 to see if they are indeed critical slopes. But as you can see, there is considerably more useable area than currently shown on the City map.

Please consider expanding the area of the new zone in recognition of the attached study drawing. It is our hope that the entire parcel be given the Commercial Designation to allow flexibility of design methods to address the steep slope concerns that may arise as part of a development proposal. We are confident that the City's Critical Areas Ordinance will provide adequate protection for the critical areas.

We also discussed that the Commercial Designation was applied to 4-018 and 4-017 but not 4-016. This was done with the rationale that the lot 4-016 is encumbered by the buffer of a fish bearing stream. The drawing demonstrates that the buffer does indeed impact nearly the entirety of the lot. I surmise that the City's concern is to protect the values and functions of the resource by avoiding development of the area as a Commercial Use. I understand and accept that concern, but I offer the following thoughts for your consideration. The lot currently has an abandoned house on it and an access road exists on the lot. If we leave this lot as is under the current R-10 zone, the house could be remodeled or a reasonable use exemption could be requested with an attendant loss of values and functions. We propose that lots 4-017 and 4-016 be aggregated into a single parcel with the Commercial designation covering the entire parcel. If this is done, there is no longer an opportunity for a request for a reasonable use exemption as the lot contains sufficient area for a reasonable use. The application of the Critical Area Ordinance would now apply to the parcel and the protections and

opportunities for buffer restoration and enhancements provided by the Critical Area Ordinance can then be implemented upon the application for a specific land use. I think, and I hope you will agree, that the stream will be better protected in this manner as the strict rules of the Critical Area Ordinance can be applied without the potential of a reasonable use exemption request coming sometime in the future.

Lastly, we understand that the GC zone does not yet exist. I suspect that we can be convinced that the GC zone will be an acceptable zone, though we had previously studied the Freeway Corridor Zone and find it an acceptable zone for our future. At this time the GC zone is an unknown entity that may or may not turn out to be appropriate for the area. It is a concern to the owners of the site.

If the above issues warrant additional discussion, please reply with a time to meet. If the approach presented herein is logical and supportable by the City, please reply with instructions on how to proceed.

I have included Nicole in this email because we are requesting a meeting with her on another matter and if we need to meet for further discussion on this topic, we would like to do both meetings on the same visit to City Hall.

Thank you for your consideration.
Mark

COMMENT #45

Allison Satter

From: Nicole Floyd
Sent: Wednesday, February 04, 2015 11:07 AM
To: Allison Satter
Subject: FW: Comprehensive Plan - Site specific requests
Attachments: BWR Kitsap Quarry Parcel Numbers.docx

Comp Plan comments from Ueland.

From: Mark Mauren [<mailto:mauren.wa@gmail.com>]
Sent: Wednesday, February 04, 2015 9:01 AM
To: Nicole Floyd; David Greetham
Cc: pcharnas@co.kitsap.wa.us; Craig Ueland
Subject: Comprehensive Plan - Site specific requests

Hi Dave and Nicole

I know that you are beginning the process of requesting site specific changes in the Comprehensive Plan. The following are our site specific change request for the County/City of Bremerton Comprehensive Plan update by jurisdiction.

I have mentioned all of these request in previous meetings, so hopefully none of our request will take you by surprise.

City of Bremerton

Bremerton West Ridge, LLC - "Port Blakley 440 acres"

- **MRO Request** - We are requesting that the for the 440 acres currently zoned low density residential have a MRO placed over it so we can mine the valuable mineral resource prior to developing the property. If required I can provide you a technical report or memo from a geologist.

Kitsap County Bremerton West Ridge, LLC - Kitsap Quarry (see attache d parcel list)

- **MRO Request-**

Currently only Parcel # 202401-3-004-2003 has a MRO overlay, however, all of the attached parcels are used in the mining operation (Access road and stormwater retention facilities).

We request that the attached parcels receive a mineral resource overlay.

- **Zoning change** - Kitsap Quarry (See attached parcel list) Zoning change from URS to Industrial. . These parcels are current zoned residential but given that Kitsap Quarry will be the primary processing facility for Ueland Tree Farm and Kitsap Quarry for the next 50+ years it seems more appropriate that these parcels are zoned industrial. This also The property to the south and east are zoned industrial so this would not be a spot zone.

Bremerton West Ridge, LLC - Other parcels

- **MRO request -**

Parcel # 202401-3-002-2005 - The rock formation for Kitsap Quarry extends into the SE corner of this parcel. We

are requesting a MRO designation so we are able to mine this valuable mineral resource concurrent with the existing Kitsap Quarry mining operation.

- **Potential Zoning change** - We would be open to discussing the changing the zoning for parcels 202401-2-008-2001 and 202401-3-002-2005 given the adjacent industrial use and construction of the south access road which will access Port Blakley's 440 acres within the City of Bremerton and connection to the railroad.

Additional comments

- We want to make sure that mineral exaction is an allowed use in the FRL zone.

Please let me know if I need to fill out a specific form and if any of these requests are not appropriate at this time.

Thoughts

Mark Mauren

[\(253\)-307-5900](tel:(253)307-5900)

Allison Satter

From: Nicole Floyd
Sent: Wednesday, February 04, 2015 11:08 AM
To: Allison Satter
Subject: FW: Mineral Resource Overlay

Comments for comp plan update.

From: Mark Mauren [<mailto:mauren.wa@gmail.com>]
Sent: Wednesday, February 04, 2015 9:21 AM
To: Nicole Floyd
Cc: Craig Jones; Craig Ueland
Subject: Mineral Resource Overlay

Hi Nicole

After we talked yesterday I had a long talk with Craig Jones (Land Use Attorney) regarding all the pieces that need to be in place for the MRO. It was a little more complicated then I thought it would be but as he told me you want to get it right :) Here are three elements that he mentioned off the top of his head that need to be addressed.

- The City Code needs to have a section that gives you the authority to establish MRO and the criteria used to establish an MRO. This could be as simple as modifying the Counties MRO code.
- The Cities zoning code needs to be amended to allow mineral extraction through a CUP in those zones that you feel are appropriate. Right now you are proposing Industrial and Low Density Residential.
- Draft Land Use - Craig read the January 15th planning committee draft Land Use section for "Low Density Residential." If it is not to late, he offered up the following language that I think tightens and clarifies what is permitted. The following is my suggested language:
 - "Large undeveloped residential designated parcels exist in West Bremerton which have potential for mineral extraction prior to residential development. A Mineral Resource Overlay (MRO) will allow extraction, processing and transporting of these mineral resources, and will include reclamation in preparation for future residential development. Mining activities must comply with both State Environmental Policy Act (SEPA) and MRO requirements."

If it would be of help, I can ask Craig to identify what needs to be changed where in the Cities Comp. Plan and codes to allow for MRO. In addition I can ask him to provide you links to language in Kitsap Counties Comp. Plan and County Codes and maybe another city in Washington that you can use as a starting point.

Thoughts

Mark

COMMENT #46

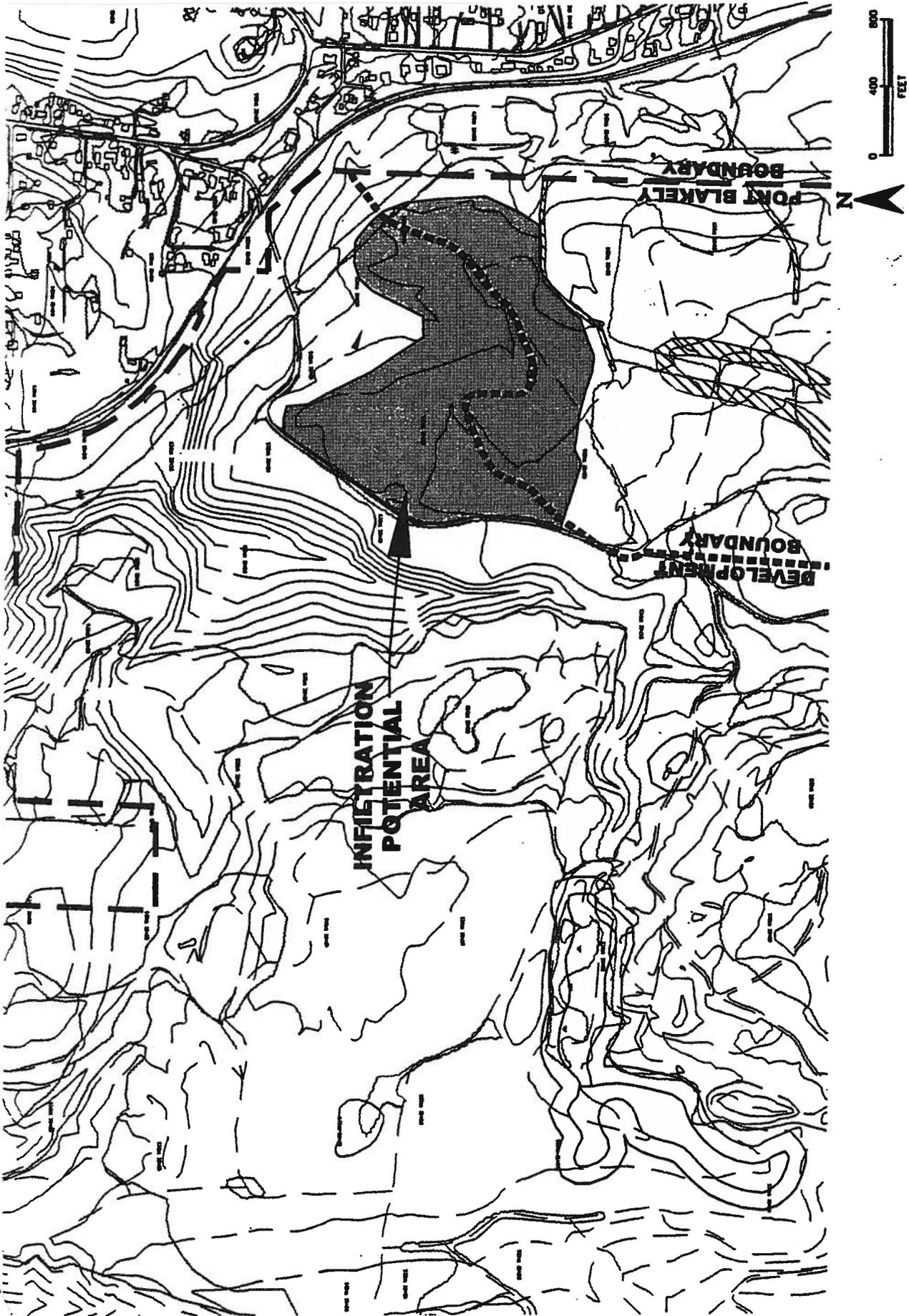


Figure 12
Infiltration Potential Map
Port Blakely Planning Area

INFILTRATION POTENTIAL MAP
PORT BLAKELY, WEST KITSAP JPA
KITSAP COUNTY, WASHINGTON

EXECUTIVE SUMMARY

The Port Blakely Kitsap Lake Joint Planning Area (JPA) is proposed for approximately 440 acres of the 10,804-acre Chico Creek Watershed. This report was prepared to conceptually assess the feasibility of developing a light industrial complex on the site while ensuring protection of fisheries resources and water quality downstream. The report qualitatively focuses on geologic, hydrogeologic, and water quality issues unique to the site and their influence on aquatic resources downstream. Recommendations are provided on potential methods that could be employed to significantly reduce environmental impacts from land development within the JPA.

The JPA generally slopes downhill from south to north, and from west to east. A number of wetlands are found on-site, and several small, intermittent non-fish-bearing streams flow to the east off the eastern boundary. Surface and shallow ground water drainage from the JPA is collected in Dickerson Creek to the west and north, and Kitsap Lake to the east. All drainage eventually combines with other streams to form Chico Creek which drains to Chico Bay in Dyes Inlet.

A review of geologic literature relevant to the site and a brief field reconnaissance found that the JPA is covered with a relatively thin layer of permeable topsoil and weathered material that overlies less permeable lodgement till and bedrock. Permeable soils are thinnest on the southern portion of the property where bedrock is visible in places at the surface. Bedrock is also present at the ground surface in Dickerson Creek along the northwestern JPA boundary. Ground water movement through the shallow interflow is strongly influenced by topography, thus generally flows downslope towards the north and east project boundaries. The potential for on-site infiltration is limited on the southern two-thirds of the site by shallow soils. Soils potentially suitable for infiltration of large quantities of storm water occur primarily in the northern one-third of the site.

Approximately 4 percent of the Chico Creek watershed is located within JPA boundaries. Water quality leaving the site under current conditions was generally found to be excellent. All water samples collected during a site reconnaissance found very cool water, low in conductivity, very low in turbidity, and low in hardness. Water is conveyed to Dickerson Creek from the site by infiltration and subsequent ground water discharge. That conveyance route exerts hydrologic control, lowers inflow temperature, and enhances water quality. A small amount of surface water may also discharge through a wetland to the east fork of Dickerson Creek. Water delivered from the site to the Kitsap Lake drainage is conveyed via a system of parallel stream/wetland complexes. Some storm water infiltrates and is expressed downslope to the east of the JPA property. This eastern conveyance also exerts hydrologic and water quality controls on water leaving the site.

No fish-bearing streams occur within the boundaries of the JPA. Downstream of the JPA, Chico and Kitsap Creeks contain runs of anadromous salmonids including chum (*Oncorhynchus keta*), coho (*O. kisutch*), steelhead (*O. mykiss*), and coastal cutthroat trout (*O. clarki*). Based on escapement numbers, the Chico Creek basin is the single most productive spawning habitat for

chum salmon in the south Puget Sound region. A wild run of East Kitsap fall chum salmon spawns each year throughout Chico Creek and Kitsap Creek with some fish spawning in lower Dickerson Creek. The chum run is of great economic and cultural importance to the Suquamish Tribe. Despite significant anthropogenic impacts to the aquatic environment throughout the Chico Creek watershed, the run has been classified as healthy by state and Tribal fisheries biologists based on a trend of continued high escapement. No threatened or endangered fish species have been noted in the watershed.

In general, the report concludes that development can be undertaken with minimal risk to the natural aquatic environment if a number of protective measures are implemented beyond conventional development standards. Of primary sensitivity is the protection of fish populations downstream of the JPA. Thus, water quality and hydrologic controls must be implemented, monitored, and adjusted as necessary to maintain the natural characteristics of drainage from the site during construction and post-development conditions. To protect water quality, and maintain the natural hydrologic flow regime, several general recommendations are provided:

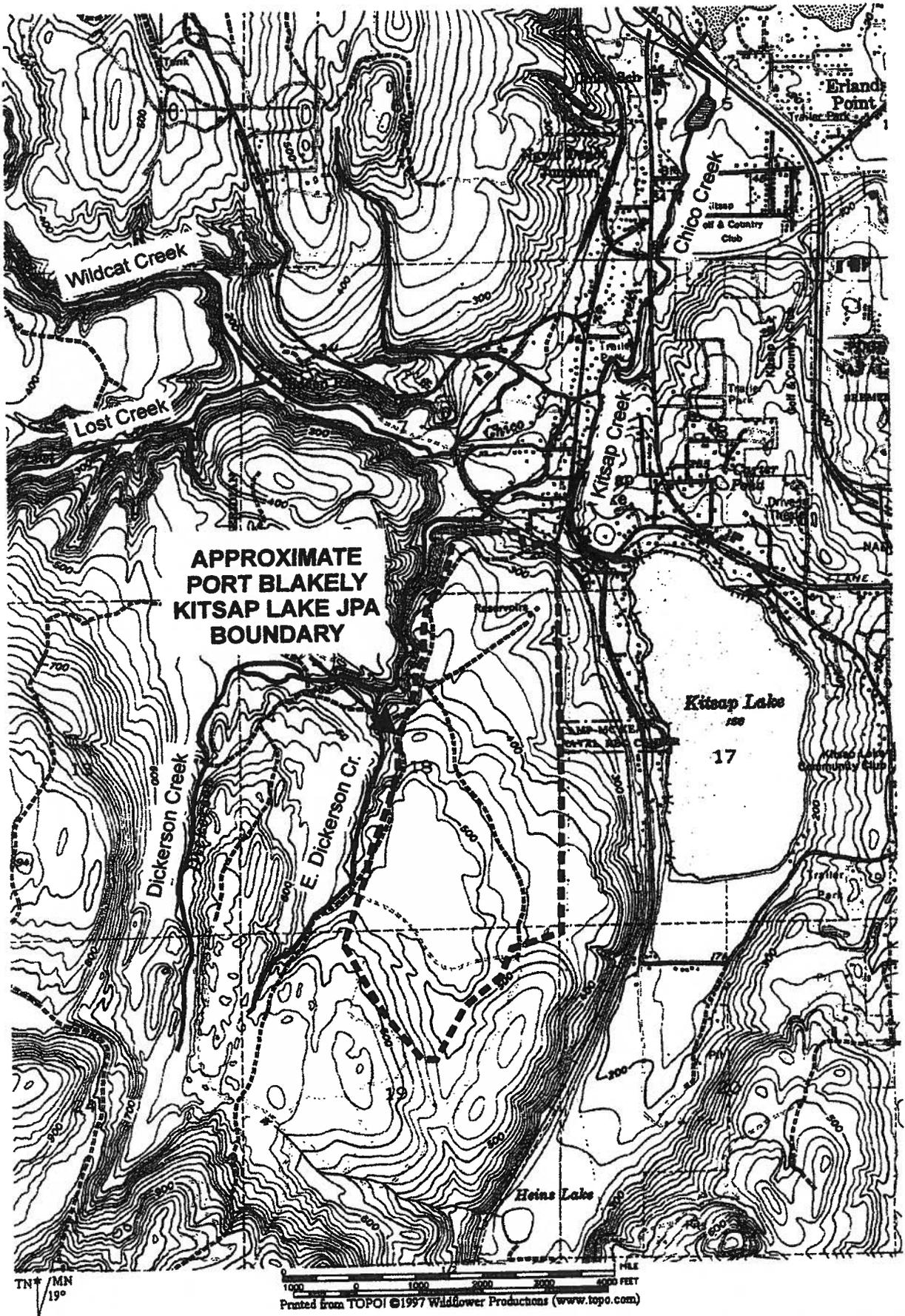
1. Development should be minimized within the topographic boundary of the Dickerson Creek sub-basin. Because of the proximity to fish-bearing waters, this area of the JPA has the greatest potential to impact downstream resources from any changes in the quantity of water delivered to the stream system.
2. Ground water delivery to Dickerson Creek should be continued via infiltration in a quantity mimicking flows that would exist in a natural (e.g. forested) condition. There are several benefits to infiltrating storm water where feasible: (1) ground water recharge can be maintained, (2) development related surface water is minimized, and, (3) water quality treatment is optimized.
3. All storm water from vehicle access surfaces should be collected, treated in open water quality treatment facilities, and infiltrated on-site to the greatest extent practicable. A sufficient quantity of treated and/or rooftop water should be released to maintain the natural wetland and on-site stream flow regime.
4. Treated water in excess of that which can be infiltrated and released on-site should be tightlined downslope and released to Kitsap Lake with appropriate detention.
5. Baseline, construction and long term monitoring of aquatic species, habitat quality, channel stability, and wetland and stream hydrology is recommended. An adaptive management program should be implemented in conjunction with an infiltration system capable of regulating flow quantities in response to significant changes from baseline conditions identified during monitoring.
6. Minimize non-point water quality deterioration by limiting re-vegetation and landscaping to primarily native plant species and those that require minimal care. Minimize fertilization and other chemical use.

1.0 INTRODUCTION

The Port Blakely Kitsap Lake Joint Planning Area (JPA) is proposed on approximately 440 acres of the 10,804-acre Chico Creek Watershed (Figure 1). Twenty-five percent (110 acres) of the JPA site is currently in the Dickerson Creek sub-basin, while 75 percent (330 acres) is topographically within the Kitsap Lake sub-basin.

This report was prepared to conceptually assess the feasibility of developing a light industrial complex on the site, while ensuring protection of fisheries resources and water quality downstream. The report qualitatively focuses on geologic, hydrogeologic, and water quality issues unique to the site and their influence on aquatic resources. The analyses were based on readily available existing information from the Suquamish Tribe, Port Blakely Communities, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Washington Department of Ecology, U.S. Geological Service, and other published literature. A brief field evaluation of select sites within drainages on-site and downstream was also completed.

Section 2.0 describes the geologic and hydrogeologic conditions encountered on the site and their influences on land development and water redirection. Section 3.0 discusses existing water quality characteristics of the JPA and downstream. Recommendations are provided on potential methods that could be employed to protect water quality. Section 4.0 characterizes fisheries resources in the Chico Creek watershed. A discussion of methods available to reduce impacts from land development within the JPA is included. Section 5.0 contains references cited in the text.



derra\projects\98425 w kitsap uga\98425-01.caf

3.0 WATER QUALITY

The Port Blakely Kitsap Lake Joint Planning Area (JPA) is approximately 440 acres in size (Figure 1). An estimated 110 acres is located within the topographically defined Dickerson Creek sub-basin to the west. The remainder of the site (330 acres) is located within the topographically defined Kitsap Lake sub-basin to the east. Both of these sub-basins are part of the Chico Creek watershed.

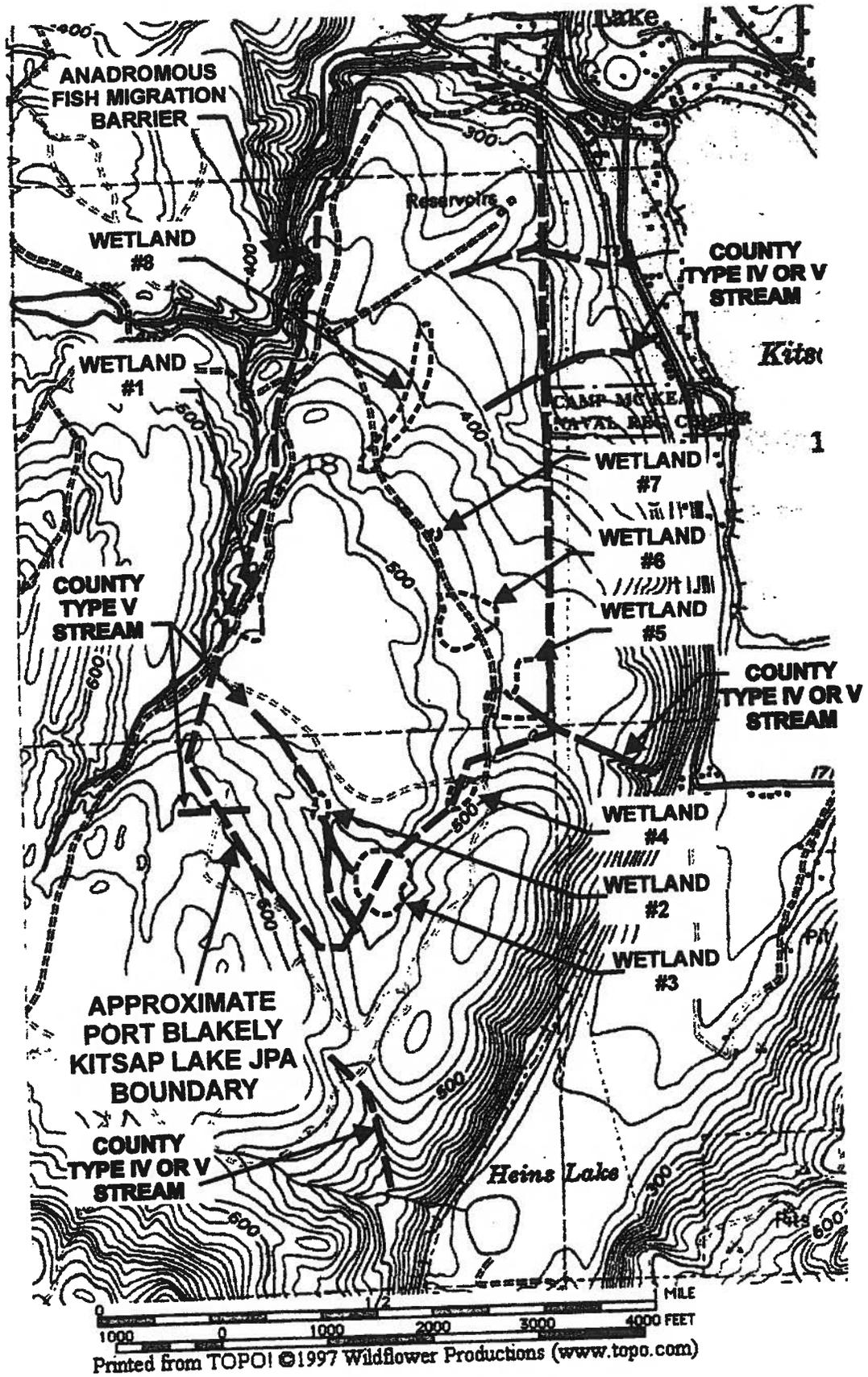
Parametrix (1998) performed a stream and wetland reconnaissance of the site, and tentatively identified approximately 57 acres of wetlands, streams and buffers. A reconnaissance of the site by Associated Earth Sciences, Inc. (AESI) on March 19, 1999, was combined with regional geologic information to interpret the source and fate of water supporting these wetlands and streams, as well as the nature of the hydrologic connection of the site to major features within the Chico Creek watershed. Although on-site data are sparse, the current interpretation is that very shallow ground water, or interflow, develops during the wet season in weathered soils over till and bedrock. During the wet season, this water moves downslope following the topography, and is likely an important hydrologic source of some of the upland wetlands identified on the site. These likely include Wetlands 1, 6, 7, and 8 (Figure 2). There may be other wetlands not yet identified that also are hydrologically dependent on the seasonal interflow. Water from the interflow network also slowly penetrates the underlying till, recharging the one or more outwash aquifers underlying the site. This outwash aquifer(s) is the source of seeps adjacent to Dickerson Creek, and provides at least a portion of the base flow to Dickerson Creek along the western site boundary. There are no tributaries of Dickerson Creek or the East Fork Dickerson Creek that convey surface drainage or discharge from the site to the Creek. Thus, the entire site contribution to Dickerson Creek occurs through infiltration and ground water discharge to the creek.

Both interflow and the outwash aquifer(s) are the probable hydrologic source of springs and seeps forming the eastern draining streams to Kitsap Lake, as well as the hydrologic support of wetlands associated with those small streams. This likely includes Wetlands 2, 3, 4 and 5 (Figure 2). The relative contributions of interflow and the outwash aquifer(s) to these features is unknown at present. The outwash aquifer(s) would likely recharge ground water associated with Kitsap Lake to the east. There are insufficient data to allow an interpretation of the relative percentage contribution of recharge originating on the JPA site to Dickerson Creek and Kitsap Lake, and the ground water divides may not conform to the definition of the sub-basins based on surface topography. However, based on surface topography, the site is approximately 7.3 percent of the 1,506-acre Dickerson Creek basin, 17.5 percent of the 1,891-acre Kitsap Creek sub-basin. The entire site is approximately 4.1 percent of the entire 10,804-acre Chico Creek watershed.

3.1 Existing Water Quality Data

There are no existing water quality data currently available for Dickerson Creek, lower Chico Creek, or Kitsap Lake. The Chico Creek Basin Plan study is in the early stages of development, but has not yet collected any water quality data. Kitsap County and the City of Bremerton have two studies underway which have collected some data. However, the data will not be released by

ENC 4



COMMENT #47

Allison Satter

From: seymourflop@comcast.net
Sent: Saturday, February 14, 2015 2:18 PM **Steve Guiberson**
To: Allison Satter
Subject: Re: Bremerton2035 - Release of Documents and Upcoming Meeting

Allison thanks for putting me on you're email and the work trying to get the updates. I Am not sure where to begin I purchased two undeveloped property's from the city of Bremerton school district in 2004 I had met at the time with city officials to make sure I could put a state of the art used car facility in that location. I was informed I could and never informed of planning changes to that corridor. I had just sold a couple auto dealerships and was looking forward to developing this property The bank asked me to get a year of business under my belt before we started construction because it was a new corporation. After 1 year I went back to start the permitting process At that time I was informed it was rezoned I was stunned. After contemplating litigation to the consulting company I hired I decided to purchase a turn key facility in auburn and one in Tacoma. I have been paying payments on this property for now 10years and had a for sale sign on the site the whole time. I have yet to have a phone call Why? I believe its you're guys vision for this area. I don't know understand why you would want all the car dealers in one area. You have created a monopoly for them and it is not fair to others they may want to start a business in you're area. I currently employ 40 plus employees and the city's revenue on my business is in excess of 1/4 million a year and growing not to mention the jobs and vendors and there family's my company supports. I would strongly ask that you consider allowing either auto dealers on this corridor but possible storage facility's as well. Please let me know what all I can do to be heard on this issue.

From: "Allison Satter" <Allison.Satter@ci.bremerton.wa.us>
To: "Allison Satter" <Allison.Satter@ci.bremerton.wa.us>
Sent: Tuesday, February 10, 2015 4:23:29 PM
Subject: Bremerton2035 - Release of Documents and Upcoming Meeting

Dear Interested Parties to the Bremerton Comprehensive Plan Update,

Bremerton2035 Announcements:

- Planning Commission Workshop – Every third Tuesday of the Month, this month's Workshop is on Tuesday, February 17, 2015 @530 PM and the Norm Dicks Government Center (345 6th Street) Council Chambers, and will be discussing Housing and findings from January's Open House.
- Planning Commission Workshop Packet has been released for public review which includes the proposed Draft Bremerton2035 Housing Element and a summary from the January 20, 2015 Open House. It can be located on the [Planning Commission website](#) or www.Bremerton2035.com. Please provide comments.

The process: this is an 18-month project thus these are working documents. Staff is proposing to consider and deliberate one chapter at a time, January was Land Use Element including Draft Land Use Maps, in February's Planning Commission will be discussing the Housing Element, and March 17, 2015 Economic Development Element. The whole document for public review will be released summer/fall, but we encourage comments early, so they can be incorporated into the plan's subsequent review.

Would like to see something different? If you have not already seen it, Draft Land Use Maps can be located at www.Bremerton2035.com, under the Project Tab. If you would like to see your property designated as something different, please be sure to apply with the Comprehensive Plan Amendment by Wednesday, April 1, 2015. Please talk

with staff well before this this date to make sure you have a complete application. Only complete applications submitted by April 1, will be considered in this update.

Interesting fact from the Comprehensive Plan: Did you know that the City is planning for 14,288 people to move into our City limits by 2035?

Up Next? Plan ahead for Tuesday, March 17, 2015 Planning Commission Workshop to discuss Economic Development within the Comprehensive Plan.

Thank you for your time on this important project,

Allison Satter

Senior Planner

City of Bremerton | 345 6th Street Suite 600 | Bremerton, WA 98337

(360) 473-5845

Allison.Satter@ci.bremerton.wa.us

More Information on the Comprehensive Plan Update: www.Bremerton2035.com

COMMENT #48

Allison Satter

From: Lesley Kabelac <lkabelac@hotmail.com>
Sent: Monday, February 16, 2015 9:34 AM
To: Allison Satter
Subject: Easements

I am sending this to point out to you some problems with the Draft Land Use Map #4 which you presented at the last meeting. I note that you are using a map of the Gorst area developed by the Kitsap County Geographic Information System ,which includes the Vedin acreage off HWY 16, (which was originally owned by Kabelac), There are three easements attached to the Kabelac (now Vedin))property which would reduce the use of GC from your description on the Draft Land use Map. Also, the creek is marked in the wrong place.

Because my daughter Deborah Vedin is out of state, she asked me to give you this information. I am elderly, and am unable to drive at night, so cannot attend the meeting. I suggest that before more planning is pursued, that I meet with you so we can clarify the problems that are being generated . thanks Lesley phone-552-2151

COMMENT #49

February 17, 2015

Jack Stanfill, President – Registered Agent
Chico Creek Task Force
P.O. Box 4773
Bremerton, WA 98312

City of Bremerton Planning Commission
Council Chambers,
Norm Dicks Government Center Building
345 Sixth Street
Bremerton, WA

Subject: 2016 Comprehensive Plan Update

Re: Water Quality and loss of infiltration required to develop the former 440 acres know as Port Blakely Joint Planning Area, loss of open space, trails and Heins Lake .

Dear City of Bremerton Planning Commissioners

The Chico Creek Task Force has several concerns about present and future environmental problems in the Chico and Gorst Creek Watersheds.

In our Ueland Tree Farm FEIS Appeal Hearing, Case No. 10-2-00761-1, December 10, 2009, Parametrix expert, Phil Struck that Parametrix had used their previous Port Blakely studies of Dickerson Creek and Kitsap Lake from 1999.

Enclosure 1 is a partial transcript of a cross-examination from the above mentioned appeal hearing. It includes pages 1, 2, and 151-160. Mr. Tim Botkin questioned Phil Struck, Parametrix expert. Please see page 151, lines 7 through 18. Mr. Struck testified they used the documents from the Port Blakely Project, and Associated Earth Science. Page 159, line 4 -8, Mr. Struck testified, "I think a more accurate characterization would be, we can't say without, you know punching holes on a very high Frequency, which is just typically not done. We wouldn't pin that down."

Enclosure 2 is the final version of the Port Blakely sub-area plan, pages 32 and 36 These pages contain the word "Shall". Page 32, Section Policies, The recommendations of the environmental studies (Port Blakely Planning Area Su-area Plan, Volume II, Items 3-6 shall be adhered to"

Enclosure 3 Preliminary Scope for Project- Page 5, Section B. Ground Water - Drill and evaluate the proposed project ensure the extent of the ground water recharge zone under the JPA delivering to Dickerson Creek and Kitsap Lake. Please see Section F for information on the 25 acres for infiltration.

Enclosure 4 - Figure 12 Infiltration Map and page 64 of Version 2.4 explains the importance of the 25 acres of sand and gravel for infiltration.

PLANNING COMMISSION EXHIBIT

DATE: 2/17/2015

SUBMITTED BY: JACK STANFILL

Jack Stanfill – Chico Creek Task Force

Enclosure 5 is the Leyda Consulting, Mineral Resource Development Wetland Review, Rating, and Impacts, Ueland Tree Farm, Kitsap County, Washington, pages 1-23. Please see page 16 which does include drainage to Heins Lake from Quarry C. Untreated storm water will drain into Heins Lake and Alexander Lake and Heins Creek. Page 20 of 23 says there was no discussion of Acid drainage in the Preliminary Drainage Plan or the Hydrogeologic Report. Acidification of surface runoff was not mentioned in the EIS.”

We will add to this list of environmental concerns during the 2016 Comprehensive Plan Update.

Thank you,



Jack Stanfill, President – Registered Agent

Chico Creek Task Force

P.O. Box 4773

Bremerton, WA 98312

JACK STANFILL

CHICO CREEK TASK FORCE

ENCLOSURE 1

IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
IN AND FOR KITSAP COUNTY

CONCERNED CITIZENS OF THE CHICO
CREEK WATER BASIN,

Petitioners,

vs.

KITSAP COUNTY, CRAIG UELAND AND
UELAND TREE FARM,

Respondents.

TRANSCRIPT OF PROCEEDINGS
FEIS APPEAL
DECEMBER 10, 2009

Case No. 10-2-00761-1

APPEARANCES:

Presiding: HEARING EXAMINER KIMBERLY ALLEN
For the Petitioners: TIM BOTKIN
For the Respondents: CRAIG JONES, ESQ.

TRANSCRIBED BY: Valerie Allard (CCR 3040)
Olympic Court Reporting Services
800-473-3101 (360) 732-4600

1 PORT ORCHARD, WASHINGTON; THURSDAY, DECEMBER 10, 2009

2
3 --ooOoo--
4

5 THE HEARING EXAMINER: Good morning. This is the
6 time set for the Thursday, December 10, 2009 Kitsap County
7 Hearing Examiner calendar. Today, we have one matter on
8 your agenda. It is a continuation from November 9, 2009 of
9 the Ueland Tree Farm Mineral Resources Development
10 Conditional Use Permit and Final Environmental Impact
11 Statement.

12 My name is Kimberly Allen. I am a Hearing
13 Examiner for Kitsap County. I work with the law center
14 which was chosen by your Board of Commissions to hear land
15 use cases here in Kitsap County. We will be conducting a
16 consolidated hearing on the appeal of Kitsap County's Final
17 Environmental Impact Statement by the Concerned Citizens of
18 Chico Creek Water Basin and on the application of Ueland
19 Tree Farm for a conditional use permit. I have no conflict
20 of interest in this matter. I do not know any of the
21 participants personally, nor have I had any ex parte
22 contacts with any individuals associated with either side of
23 this matter.

24 As I said, today's hearing is a continuation of
25 the final EIS appeal and to be followed later by the

1 (Whereupon, a recess was taken.)

2 THE HEARING EXAMINER: We're back on the record
3 now after our five minute break, maybe six, in the Ueland
4 appeal. And we're ready for cross-examination by the
5 Appellant, Mr. Botkin.

6 CROSS-EXAMINATION

7 BY MR. BOTKIN:

8 Q Mr. Struck, there's a few things I'd like to go
9 through with you. You mentioned that you did an extensive
10 subbasin assessment and that included a thorough examination
11 of documentation in existence, as I understood you to say;
12 is that correct?

13 A Well, I think thorough is relative term, but we
14 did examine the available documents that we had.

15 Q And you looked at the documents from the Port
16 Blakely project, the associated Earth Sciences Report, in
17 particular?

18 A That's correct.

19 Q And that is one that you certainly referenced on
20 the infiltration as a recommendation as well, staying out of
21 Dickerson Basin, right?

22 THE HEARING EXAMINER: Mr. Botkin, could you move
23 your microphone a little bit closer. I'm having trouble
24 picking you up. Thank you.

25 Q Now, in that conversation for, in the example of a

1 concern, you mentioned the hydrology is pretty
2 well-established, that you understand. I believe the EIS,
3 in the hydrogeologic analysis, discusses how monitoring
4 wells are put to the east of the gravel mines because the
5 flow appears to go east toward Kitsap Lake. Is that your
6 recollection of that?

7 A That sounds correct, that a -- a portion of the
8 flow, right.

9 Q And I'm assuming that's been determined by virtue
10 of the pits and the drilling that you've done to date?

11 A Correct.

12 Q When I look back to Earth Sciences Report, it
13 appears to say that water is infiltrating from the former
14 Port Blakely site of Dickerson Creek; in other words, from
15 here back toward the west. Would that be consistent with
16 what you know or is that inconsistent with what we just
17 talked about?

18 A It is consistent that a portion of the site, there
19 appears to be a hydrogeologic divide that lays consistent
20 with the topography where a portion of the flow is going
21 west toward Dickerson Creek and east toward Kitsap Lake, so
22 that's what our information would suggest.

23 Q Of the groundwater we're talking about now, is
24 that -- that's what I was talking about. Is that what you
25 understood me to be talking about?

1 A Yes.

2 Q Okay. So the water infiltrates to the ground and
3 then it goes both direction?

4 A That's what the information appears to suggest,
5 right, that the groundwater flow, generally, also follows
6 the topography of the surface.

7 Q Does it also go north and south?

8 A Well, the slope of the land is generally toward
9 the northeast and west as that ridge starts to drop down off
10 of the site.

11 Q The ridge being in here?

12 A Oh, are you talking Quarry A?

13 Q Well, I'm talking about generically hydrologic
14 (unintelligible) of Dickerson Creek. If I say that, if I
15 limit, that's what I'm talking about right now.

16 A Okay.

17 Q And it appears that there's flow from this
18 direction to Dickerson.

19 A In some places that's correct, yeah.

20 Q And that (unintelligible) follows them in this way
21 because it appears that you're saying that the connection
22 from these locations, you're saying goes both ways. And I
23 believe I read in one of the reports -- I can't remember if
24 it was the (unintelligible) plan or the analysis -- that
25 there's actually a groundwater divide, you believe, within

1 one of the gravel mine areas?

2 A It's possible. What we've done is -- based on the
3 information we have, we've interpreted that that's possible.
4 And then to make sure that we're maintaining the surface
5 hydrology in the way that the water moves when it hits the
6 ground right now, we're creating infiltration ponds within
7 each one of those basins. So we're trying to mimic the
8 recharge and the mine condition under what's existing on the
9 site now.

10 Q Now, I'm talking about gravel mines?

11 A Correct, gravel mines.

12 Q And that's another question, why are -- I mean, as
13 you've just described with the gravel mines, with the
14 sediments, the soils, etc., the way they are, you're
15 expecting that they will fully infiltrate?

16 A That's correct.

17 Q And the way you described it, I believe, is that
18 even after you remove the top soil and begin mining
19 activity, you're still going to infiltrate at least as much
20 as you did before?

21 A Correct, at the gravel mines, that's correct.

22 Q So, if that's the case, why is there a pond in the
23 middle? If the water's infiltrating, why would it be
24 running downhill to the pond?

25 A I'm not sure I understand your question. The pond

1 you're referring to is?

2 Q In the middle of each of the gravel mines, as far
3 as I can tell.

4 A Oh, the stormwater pond, is that what you're
5 referring to?

6 Q Uh-hum.

7 A Well, the stormwater pond is within the catchment
8 basin, the drainage basins that were delineated, right. So
9 the infiltration is being concentrated within those pond
10 locations as opposed to being disbursed throughout the
11 portion of the drainage basin that the mine is proposed to
12 encompass.

13 So the same amount of water is still going into
14 the ground, right, it's just being all being routed into the
15 pond for infiltration as opposed to just falling on the
16 surface and being infiltrated and then back with
17 transpiration, as it currently does. So there is no net
18 change compared to existing.

19 Q Well, let's go through it because there's a couple
20 of questions. For one, as you were describing some of the
21 concerns you had about the appeal, you questioned why there
22 was a discussion about the sizing of the pond being only
23 (unintelligible) total area of the infiltration area. You
24 described how because it's infiltration, it doesn't really
25 matter because the rain will be falling through those areas

1 across the board anyway, is what I understood you to say.

2 Now, what you have done is change the hydrology,
3 whereas before it used to fall on ten acres, it's now
4 falling on about 6,000 board feet, effectively, because
5 that's where you're forcing infiltration; is that what
6 you're saying?

7 A Well, infiltration, the nature of the gravel is
8 that it's permeable. Water that falls upon the site to a
9 large degree is going to continue to infiltrate through the
10 gravel. There will be occasions when, you know, water will
11 flow across the surface of the mine floor or down the slope
12 and enter into the pond, particularly during higher rain
13 events, and that's what the pond is for. So I'm not sure
14 what the relevance is of the --

15 Q Well, as you just described -- it sounds like you
16 said it's possible there's a divide and some water is
17 flowing east, some flowing west?

18 A That's right.

19 Q Do you know whether that pond's going to be on the
20 east side or the west side of that divide or where it's
21 going to go?

22 A We do, yes. We are trying to mimic the conditions
23 that exist right now. So we're maintaining the hydrologic
24 divide where it is now and making sure that the water that
25 falls within that catchment continues to go into the ground

1 within that catchment area. And that's a technique that is
2 widely used.

3 Q What's hard for me to understand is that your
4 answer to my question there may be a divide, and it's on
5 both sides; and your answer was, it's possible. It sounded
6 like you weren't sure, but there's a possibility, of course,
7 there's a possibility. And, now, you're saying you know it
8 so well that you can put that pond in just the spot so half
9 the water goes one way and half goes the other way.

10 A I believe I said that the information that we had
11 indicates that there is a divide in that area and that what
12 we're -- to address that and to make sure that we're
13 mimicking the existing conditions, basically maintain the
14 hydrology, we're making sure that the net infiltration
15 within those basins stays the same under the post-project as
16 it does under the pre-project condition.

17 Q And that is what you stated the goal to be, that's
18 picking up on what associated Earth Sciences recommended by
19 virtue of infiltration. You heard my comments earlier today
20 about the difference between infiltration and
21 (unintelligible) between the use of a retention pond versus
22 broad infiltration over an area to mimic natural conditions.
23 Are you familiar with those facts as a comparison?

24 A Yes.

25 Q Now, when we talk about what affects infiltration,

1 how water gets into the ground, and then it becomes a little
2 bit of a mystery as it gets underground, of course, it's
3 harder to determine. The factors that affect where water
4 goes when it gets into the ground are what? What would you
5 say?

6 A Well, the subsurface conditions, the type of soil
7 that's there, the location and depth of any geologic units,
8 variability that's beneath the site, and what is the slope
9 and the pitch of those units. As I'm sure you know, the
10 glacially derived geology is quite variable. There's
11 generalizations on -- that the information that we have
12 allows us to interpret and make reasonable assessments of
13 what it appears to be, and that that's basically what we
14 have done.

15 Q After you desecrated the ten-acre site and brought
16 it down by virtuous fashion (unintelligible), you'll have a
17 real good idea of what the geology was of that site, I
18 assume. You could actually analyze and provide logs and
19 show exactly what was affecting the hydrogeology at that
20 point, right?

21 A Right.

22 Q And until then. There is speculation because of
23 the fact that some of these smaller perched areas, or
24 whatever they may be, may deflect water or send water in
25 different directions and so forth. And is that part of the

1 reason why the answer, it's possible water can go both ways,
2 because there's some of those factors that you haven't quite
3 yet been able to discern?

4 A I think that a more accurate characterization
5 would be, we can't say with absolute certainty, in fact,
6 where the divide is without, you know, punching holes on a
7 very high frequency, which is just typically not done. We
8 wouldn't pin that down.

9 I think that the information that we do have is
10 relatively uniform, it's relatively consistent. There don't
11 appear to be any highly conflicting geologic information
12 that would indicate or suggest that the interpretation that
13 we have made is not correct.

14 Q And as far as you've described as far as mining
15 projects, this is actually a very highly scrutinized project
16 for a mining project; is that correct?

17 A Yes, that's correct.

18 Q Now, this is also in a basin that is one of the
19 most pristine that we have, around here anyway.

20 A Right.

21 Q Is it not appropriate then that the scrutiny be
22 higher for this level of the analysis, is that the way you
23 would approach it?

24 A Well, I think so. I think that that is a
25 reasonable approach, that when there are resources that --

1 this is my professional approach on these issues -- is that
2 when there are resources of higher value, the intensity of
3 the monitoring and the evaluation is higher, not to say that
4 on some sites -- say if you're down on the Duwamish, the
5 other end of the spectrum, there's still monitoring that
6 occurs, it's just not at the same intensity and
7 comprehensive level as what's being proposed here and that's
8 a reflection of the natural resource values.

9 And also, a lot of the monitoring that was
10 proposed, as part of the project up front, it was proposed.
11 There is some that's required under various permits, but a
12 lot of it was proposed by the Ueland Tree Farm voluntarily
13 as a measure going into this project as a way to demonstrate
14 commitment to monitoring the project, to keep on top of the
15 operation, to protect the natural resource values that are
16 there.

17 Q Now, Ueland is not going to operate the mine
18 himself, right.

19 A Well, I am not sure exactly what the operational
20 framework will be, so that's all I know.

21 Q You mentioned that you were maintaining the
22 hydrology boundaries in the gravel mines by virtue of the
23 (unintelligible) you described the irregular shape, etc., of
24 the way you were approaching this, but that's very different
25 from maintaining the hydrology; is that not correct?

JACK STANFILL

CHICO CREEK TASK FORCE

ENCLOSURE 2

4.2 ENVIRONMENTAL

4.2.10 Goals

- A. The proposal shall be established in a manner that minimizes adverse impacts to Dickerson Creek and/or Kitsap Lake.
- B. The proposal shall recognize the importance of sustaining and promoting the fish habitat and preventing the impacts of development to aquatic resources downstream.
- C. Native planting located within critical area buffers shall be preserved. Wherever possible, proposed open space areas and parks shall incorporate native plants and trees consistent with the provisions of the Build A Better Kitsap program and consistent with the use and character of the park.³

4.2.20 Policies

The recommendations of the environmental studies (Port Blakely Planning Area Sub-Area Plan, Volume II, Items 3-6) shall be adhered to, unless those recommendations conflict with this Sub-Area Plan or with EIS related studies completed for the project.

- A. Sensitive environmental features such as salmon habitat, wetlands, watercourses and steep slopes found in the sub-area shall be protected consistent with the recommendations and conditions contained in the environmental studies (Port Blakely Planning Area Sub-Area Plan, Volume II, Item 3, Associated Earth Sciences Recommendations) and applicable Critical Area Standards.
- B. The maintenance of proposed storm water management systems shall be enhanced through the uses of physical design components which may be maintained with minimal costs and effort, increase the visibility of the drainage system and the use of pre-existing natural systems.

Discussion: An increase in impervious surfaces is expected as development begins. Using the recommendations and strategies introduced by Associated Earth Sciences, Inc. and Lorin Reinelt, storm-water run-off may be collected, detained and treated. (Port Blakely Planning Area Sub-Area Plan, Volume II, Items 3 and 4)

- C. The release of any hazardous waste material into the storm water management system, natural drainage ways, ground water systems and/or into the air, shall be prohibited.
- D. The impacts of residential land uses on adjacent open space buffers shall be minimized through the monitoring and protection of those open space buffers in an effort to encourage the integrity and preservation of these vulnerable areas threatened by residential landscaping and recreation.

³ Handbook for Build A Better Kitsap: A Program of the Home Builders Association of Kitsap County, Revised Edition, December 1998

- E. Encourage landscaping plans and designs which utilize drought-resistant, low-maintenance, native plant species and species which are less sensitive to dramatic seasonal changes. Chemical herbicide use shall not allow significant adverse impacts⁴ and smaller lawn area shall be encouraged.
- F. During the Master Planning phase, a monitoring plan will be developed for discharge areas from the project (See Volume I, Appendix Item 2, Task 11). The City will consult with the County, the Suquamish Tribe and other interested parties in developing the scope and duration of the monitoring plan for on-site and off-site impacts. The data obtained through the monitoring plan will be made available to the County, Tribe and other interested parties. The monitoring plan have periodic evaluations, and if monitoring shows the project is causing significant adverse environmental impacts, then the project mitigation measures for subsequent phases will be adjusted.

4.2.21 Performance Standards

- 4.2.21(1) Recreational trails and pathways and/or open space corridors shall be established, to link major areas within the project, concurrent with development and in a manner that provides physical connectivity throughout the site.**

Discussion: In order to ensure that recreational opportunities are included and environmental sensitivity in the site design is observed, an interconnected system of open space corridors which provide continuous recreational and wildlife circulation through the entire site is desired. Trails established in critical areas shall be consistent with jurisdictional standards. A continuous multi-purpose trail for pedestrian and bicycle use which follows the open space corridor configured for the site is desired. A coordinated system of active and passive recreation spaces throughout the Sub-Area shall be required.

- 4.2.21(2) Where infiltration is feasible, such activity shall not have adverse impacts on the fish population.**

Discussion: Infiltration is the preferred means to accommodate stormwater runoff on the site consistent with the requirements of the Department of Ecology technical manual.

- 4.2.21(3) The Master Plan will include policies and mitigation measures to protect fish habitat based on existing studies as provided in Section 6.7 of the Three-Party Agreement. Further, the parties acknowledge that sustaining existing fish habitat and protecting other critical areas are import goals of this Sub-Area Plan. In order to ensure that the most appropriate environmental standards are**

⁴ Significant as used in SEPA means a reasonable likelihood of more than a moderate adverse impact on environmental quality (WAC 197-11-794). The threshold of what constitutes a significant impact will be identified during the EIS process for the project by third-party experts retained by the City of Bremerton.

Preliminary Scope for Project-Level Environmental Review – Port Blakely Sub-Area

The following Preliminary Scope of Project-Level Environmental Review is based on previous environmental review at the programmatic (sub-area) level. Each substantive area of environmental review identifies those issues which need to be further examined, evaluated and addressed. This document is not intended to replace scoping consistent with the requirements of WAC 197-11-408, but is intended to provide an agreed upon starting point for future environmental assessment at the project level. Although every effort has been made to anticipate the issues which will require further analysis, remaining issues may arise which will indicate additional areas of study. All development within the CKBC shall be established consistent with the Sub-Area Plan.

1. EARTH	<ul style="list-style-type: none"> • Aerial Photographs • Reinelt Consulting Services Letter (June 14, 1999) • Recommendations (Associated Earth Sciences, May 1999) 	
A. Steep Slopes	<ul style="list-style-type: none"> • Topographic Maps 	<ul style="list-style-type: none"> ◆ Evaluate the stability of steep slopes above Dickerson Creek and Kitsap Lake and study the potential for loss of stability due to oversaturation. ◆ Evaluate the proposed project to ensure that the project complies with Bremerton's existing Critical Area Ordinance and adequately addresses potential impacts due to the presence of steep slopes.
B. Soils	<ul style="list-style-type: none"> • Soil Survey of Kitsap County Area, WA (US Conservation Service, 1980) 	<ul style="list-style-type: none"> ◆ Evaluate the infiltration potential of the proposed project site. ◆ Conduct geologic hazard study of the proposed project site. Conduct limited geotechnical investigations in those locations identified for development as needed to establish feasibility of proposed elements. ◇ Evaluate the proposed project to ensure that adequate measures which encourage the use of native vegetation and prohibit the use of landscape chemicals in the area tributary to Dickerson Creek are established.
C. Surface Stability		No significant environmental issues are anticipated, as no evidence of slide or soil instability have been observed within the project area.
D. Fill/Grading		<ul style="list-style-type: none"> ◆ Evaluate the proposed project to ensure that the siting of structures is responsive to and consistent with the natural characteristics and conditions of the site so as to avoid significant adverse impacts¹ from mass grading and cut/fill slopes. ◆ Evaluate proposed cut and fill areas and design for slope stability and erosion issues. ◆ Evaluate the proposed project to ensure that cut and fill activity is timed to minimize exposure to adverse weather condition and encourage a balance of on-site cut and fill to avoid significant adverse impacts⁵ from transporting soil off-site and/or importing soil from off-site.

¹ Significant as used in SEPA means a reasonable likelihood of more than a moderate adverse impact on environmental quality (WAC 197-11-794). The threshold of what constitutes a significant impact will be identified during the EIS process for the project by third-party experts retained by the City of Bremerton.

<p>E. Erosion</p>		<ul style="list-style-type: none"> ◆ Evaluate the conceptual project Temporary Erosion & Sedimentation Control Plan to ensure that erosion and sediment control measures will be adequate to avoid significant adverse impacts² from sediment transport offsite. ◆ Evaluate the need for seasonal limits on clearing and grading to protect downstream receiving waters
<p>F. Impervious Surfaces/ Drainage</p>	<ul style="list-style-type: none"> • Draft Strategy • See separate summary for elements of the Master Drainage Plan. 	<ul style="list-style-type: none"> ◆ Evaluate the proposed project to ensure that a Master Drainage Plan is developed. This Plan should address site conditions, assess upstream and downstream conditions and impacts, evaluate baseline and projected data and develop site-specific mitigation measures to prevent significant environmental impacts. The mitigation measures shall include, but not be limited to: <ol style="list-style-type: none"> 1. Water quality controls 2. Water quantity controls 3. Construction Temporary Erosion & Sedimentation Control measures 4. Critical Area requirements 5. Appropriate off-site mitigation ◆ Evaluate the proposed project to ensure that a Stormwater Management Plan is developed which adequately incorporates and/or exceeds identified BMP criteria, as well as any additional criteria identified in the relevant studies. ◆ Evaluate the proposed project to ensure that the development of impervious surfaces draining directly to surface waters without detention is minimized to the extent possible while accommodating the proposed projects. ◆ Evaluate the proposed project to ensure that all stormwater from vehicle access surfaces is collected and treated in open water quality treatment facilities. To the greatest extent feasible, stormwater will be infiltrated on-site. ◆ Evaluate the proposed project to ensure that all treated water in excess of that which can be infiltrated and released on-site should be tightlined downslope and released into Kitsap Lake with appropriate detention and treatment. ◆ To evaluate additional mitigation for storm water from development within the Sub-Area through infiltration into an area of up to 25 acres located adjacent to the north boundary of the UGA (as shown in the map attached as Figure 12). If all or some portion of such area is (a) determined to be an appropriate location for infiltration, (b) will help to mitigate storm water impacts of the project, (c) will not adversely impact Dickerson Creek, and (d) would not expand the area available for development, then the County may amend the UGA boundaries in its Comprehensive Plan to include this area, and the City may amend its Comprehensive Plan and annex the area identified for infiltration. This area shall only be used for the purposes of infiltration, roads, trails and utilities, and shall not count towards meeting

² Significant as used in SEPA means a reasonable likelihood of more than a moderate adverse impact on environmental quality (WAC 197-11-794). The threshold of what constitutes a significant impact will be identified during the EIS process for the project by third-party experts retained by the City of Bremerton.

- ◆ Key Environmental Issue
- ◇ Minor Environmental Issue

		any of the open space requirements.
2. AIR		
A. Emissions		No significant environmental issues are anticipated. All proposed projects shall adhere to the Sub-Area Plan and the existing performance standards regulations set forth in the development regulations. No projects which involve heavy emission or other air pollutants are proposed.
B. Odors		No significant environmental issues are anticipated. All proposed land uses and construction activities shall adhere to the Sub-Area Plan and the existing performance standards set forth in the development regulations. No land uses which involve heavy odors are proposed.
3. WATER	<ul style="list-style-type: none"> ◆ Reinelt Consulting Services Letter (June 14, 1999) ◆ Recommendations (AES, May 1999) 	

- ◆ Key Environmental Issue
- ◊ Minor Environmental Issue

<p>A. Surface Water</p>	<ul style="list-style-type: none"> • Bremerton Critical Lands Ordinance • Wetlands, Fish & Wildlife Technical Memorandum (Parametrix, July 1998) 	<ul style="list-style-type: none"> ◆ Use best available science to evaluate the proposed project to ensure that measures have been identified and proposed which will avoid impacts to water quality and water quantity in Dickerson Creek, Chico Creek, or Kitsap Lake. These measures shall minimize significant adverse impacts³ to water quantity and water quality, including particular attention to impacts on fish resources and lake water quality. ◆ Evaluate existing Kitsap Lake water quality data to define better the external vs. internal loading conditions and the eutrophic status of the lake ◆ Evaluate the proposed project to ensure that changes to existing water quality and peak flows are minimized to the extent practicable using water quality treatment facilities, detention facilities and infiltration areas. ◆ Evaluate the proposed project to ensure that water quality data sufficiently describes potential project impacts on human and aquatic health is collected in all areas potentially affected by the proposed project, including but not limited to turbidity, total suspended solids, phosphorus, zinc, and fecal coliforms. ◆ Evaluate the proposed project to ensure that the existing hydrologic characteristics for each basin are maintained to the maximum extent practicable, while ensuring that downslope discharge is protective of channel character and slope stability. ◆ Evaluate the phosphorus loading increases associated with the development and determine whether offsite mitigation for Kitsap Lake is warranted. If warranted, the best reasonable mitigations will be developed. ◆ Carry out and evaluate studies to estimate offsite loading of representative pollutants from the proposed project. ◆ Ensure the development and implementation of a baseline water quality monitoring program. ◆ The development and implementation of a Post Development Monitoring Plan shall evaluate the proposed project to ensure that representative Wetlands 3 and 6 have been surveyed in greater detail, noting amphibian egg mass and adult populations as indicators of environmental health, as well as the influence of water level fluctuation changes caused by the project. This data should be incorporated into the Post-Development Monitoring Plan. The monitoring plan will assess pre-development conditions to establish a baseline to be used both during the project construction phase and the post-development phase. ◆ During the Master Planning phase, a monitoring plan will be developed for discharge areas from the project (See Volume I, Appendix Item 2, Task 11). The City will consult with the County, the Suquamish Tribe and other interested parties in developing the scope and duration of the monitoring plan for on-site and off-site impacts. The data obtained through the monitoring plan will be made available to the County, Tribe and other interested parties. The monitoring plan will require that the project
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³ Significant as used in SEPA means a reasonable likelihood of more than a moderate adverse impact on environmental quality (WAC 197-11-794). The threshold of what constitutes a significant impact will be identified during the EIS process for the project by third-party experts retained by the City of Bremerton.

- ◆ Key Environmental Issue
- ◇ Minor Environmental Issue

		mitigation measures will be adjusted if monitoring shows the project is causing significant adverse environmental impacts.
B. Ground Water		<ul style="list-style-type: none"> ◆ Drilling and installing observation wells to characterize sub-surface conditions is recommended to complete the hydrologic characterization of the site. ◆ Evaluate the proposed project to ensure that the extent of the ground water recharge zone under the JPA delivering to Dickerson Creek is identified. ◆ Evaluate the proposed project to ensure that ground water delivery to Dickerson Creek is continued via infiltration to match natural conditions ◆ The EIS process shall evaluate the potential impacts on aquifer recharge areas, applying the City's Critical Areas Ordinance standards if warranted.
C. Runoff		See Section: Earth - Drainage.
4. PLANTS		
A. Vegetation		No significant environmental issues are anticipated. Landscaping plans shall accompany all proposals for structures and open spaces development. Native planting located within critical area buffers shall be preserved. Wherever possible, proposed open space areas and parks shall incorporate native plants and trees consistent with the provisions of the Build A Better Kitsap program consistent with the use and character of the park. Plant types for re-vegetation and landscaping will be evaluated and limitations may be applied, to maintain water quality and quantity goals.
B. Endangered/Threatened Species	<ul style="list-style-type: none"> • Washington Department of Natural Resources -- National Heritage Database 	
C. Landscaping		
5. ANIMALS		

- ◆ Key Environmental Issue
- ◇ Minor Environmental Issue

A. Wildlife	<ul style="list-style-type: none"> • Wetlands, Fish & Wildlife Technical Memorandum (Parametrix, July 1998) • Reinelt Consulting Services Letter (June 14, 1999) • Recommendations (Associated Earth Sciences, May 1999) • Kitsap County's Macro Invertebrate Study – In Progress 	<ul style="list-style-type: none"> ◆ Evaluate the proposed project to ensure that an assessment of potential impacts to the most sensitive life stages of biotic communities and water quality has been provided. ◆ Evaluate the proposed project to ensure that measures have been identified and proposed which will avoid significant⁴ impacts to fish in the Dickerson Creek Sub-basin and the Kitsap Lake Sub-basin. Any mitigation shall be provided in sufficient quantity to demonstrate a net positive benefit to aquatic habitat, through a combination of onsite and offsite improvements (such as addition of woody debris and enhancement of buffer vegetation). ◆ Evaluate the proposed project to ensure that an assessment and mapping of spawning and rearing habitat for discharge areas from the project is provided to ensure that there is no significant impact on aquatic habitat. ◆ Evaluate the proposed project to ensure that a list of fish species known to be using the area is provided. ◆ Ensure the development and implementation of a baseline aquatic habitat monitoring program which identifies spawning areas, pool/riffle areas, riparian cover etc. Environmental review shall incorporate the findings of the County's macro invertebrate study data.
B. Endangered Species	<ul style="list-style-type: none"> • Washington Department of Fish & Wildlife – Priority Habitat/Wildlife Heritage • Habitat Management Plans for Threatened Salmon Species (June 22, 1999) 	<p>No significant environmental issues are anticipated.</p>
6. ENERGY & NATURAL RESOURCES	<ul style="list-style-type: none"> • Washington State Energy Code 	<p>No significant environmental issues are anticipated. The Washington Energy Code shall regulate all construction. None of the proposed projects are expected to utilize more resources than is typical and anticipated for this type of project.</p>

⁴ Significant as used in SEPA means a reasonable likelihood of more than a moderate adverse impact on environmental quality (WAC 197-11-794). The threshold of what constitutes a significant impact will be identified during the EIS process for the project by third-party experts retained by the City of Bremerton.

◆ Key Environmental Issue

◇ Minor Environmental Issue

7. ENVIRONMENTAL HEALTH		No significant environmental issues are anticipated. No land uses which involving high levels of toxicity are being proposed. Controls mandated by Land Use Policies and development regulations shall apply.
8. NOISE		No significant environmental issues are anticipated. All existing noise regulations shall apply to proposed development. The allowed land uses do not include atypical levels of noise or those activities which generate such noise levels. Controls mandated by Land Use Policies and development regulations shall apply.
9. LIGHT & GLARE		No significant environmental issues are anticipated. Current development codes shall mitigate light and glare issues.
10. LAND USE		
A. Comprehensive Plan Designation	<ul style="list-style-type: none"> • Kitsap County Comprehensive Plan (May 1998) • Three-Party Agreement between The City of Bremerton and Kitsap County (To Be Prepared) • Kitsap County Comprehensive Plan Amendment (Prepared and Distributed 3/31/00) • City of Bremerton Comprehensive Plan Amendment (To Be Prepared) • Performance Standards 	No significant land use designation impacts are anticipated. The adopted Sub-Area Plan shall govern the goals, policies and plans for the designated site.

- ◆ Key Environmental Issue
- ◇ Minor Environmental Issue

B. Zoning Classification		No significant land use designation impacts are anticipated. All zoning classifications adopted by the City and County shall be adhered to.
C. Environmentally Sensitive Areas		<p>The Master Plan will include policies and mitigation measures to protect fish habitat based on existing studies as provided in Section 6.7 of the Three-Party Agreement. Further, the parties acknowledge that sustaining existing fish habitat is an import goal of this Sub-Area Plan. In order to ensure that the most appropriate development standards are applied to protect fish resources adjacent to the site and downstream, the City, County and Port Blakely will, by mutual agreement, select and retain a third-party expert. The City, County and Port Blakely will each contribute one-third of the costs associated with retaining the third-party expert. The expert will evaluate studies and reports prepared during the Environmental Impact Statement process and will recommend to the City which environmental standards should be established for on-site protections for fish resources.</p> <p>The expert shall use the following criteria in determining which development standards to recommend to the City as the most appropriate and effective for use in the Sub-Area to protect fish resources. The selected environmental standards shall be based on those most likely and necessary to protect fish using the following criteria:</p> <ul style="list-style-type: none"> ▪ The environmental standards found in the City of Bremerton and/or Kitsap County Critical Area Ordinances applicable to urban areas, or other fish habitat ordinances of the City or County applicable to urban areas, in effect at the time of the Master Plan application; or ▪ Environmental standards may represent a hybrid blend of applicable standards from each jurisdiction, or may be taken in total from either jurisdiction's Critical Area Ordinance or their other applicable fish habitat ordinances; or ▪ The expert may recommend more stringent or alternative standards than contained in either jurisdiction's CAO Ordinance provided that (a) existing standards are determined to be inadequate to provide the recommended degree of protection and (b) the recommended standards are applied by other Washington state jurisdictions to urban areas and are proven to be effective in circumstances similar to the Port Blakely Sub-Area. <p>The environmental standards also shall comply with the Endangered Species Act and implementing regulations.</p> <p>For regulations other than related to the protection of fish and fish habitat, the City of Bremerton Critical Area Ordinance shall be the basis for environmental protection standards.</p>

- ◆ Key Environmental Issue
- ◇ Minor Environmental Issue

D. Population		No significant land use designation impacts are anticipated. The population projection for the City of Bremerton allows for the projected population of this Sub-Area.
E. Compatibility	<ul style="list-style-type: none"> • Compatibility Table provided in Performance Standard 4.1.21(4) 	<ul style="list-style-type: none"> ◆ Evaluate the proposed project to ensure that residential uses and commercial/light industrial and commercial/office uses are compatible with the inclusions of topographic and landscaped buffers or other transitions. ◇ Evaluate the proposed project to ensure that the project utilizes open spaces, natural features/topography and/or landscaping as buffers between non-compatible land uses and developments.
11. HOUSING	<ul style="list-style-type: none"> • Performance Standards 	<ul style="list-style-type: none"> ◆ Evaluate the non single-family residential elements of the proposed project to ensure that all proposed development is consistent with the projected housing needs of the City of Bremerton.
12. AESTHETICS		<ul style="list-style-type: none"> ◆ Evaluate the proposed project to ensure that design guidelines have been developed which address the issues of compatible development throughout the entire site and in particular within and surrounding the Town Center. Design Guidelines shall address, but not be limited to the following issues: desired densities, integrated open and recreational spaces, pedestrian connectivity, circulation, bulk and scale dimensions, lot coverage, landscaping, façade treatment and architectural character.
A. Height		<ul style="list-style-type: none"> ◇ Evaluate the proposed project to ensure that compatible bulk and scale issues are addressed, especially those developments proposed for the Town Center.
B. Views		<ul style="list-style-type: none"> ◆ Impacts to views will be analyzed at the Master Plan level.
13. RECREATION	<ul style="list-style-type: none"> • Performance Standards 	<ul style="list-style-type: none"> ◆ Evaluate the proposed project to ensure that all trails, pathways and open space corridors both on-site and off-site offer physical connectivity to the greatest extent practical. ◇ Evaluate the proposed project to ensure that a significant recreational system is maintained throughout the site to serve the residential community. ◇ Evaluate the proposed project to ensure that no significant adverse impacts⁵ from the development and population growth of the site occurs to regional recreational facilities, as well as compliance with Bremerton's Level of Service standards for parks/open space
14. HISTORIC & CULTURAL PRESERVATION	<ul style="list-style-type: none"> • Washington State Office of Archaeology & Historic Preservation (May 1996) • State Environmental Policy Act 	<ul style="list-style-type: none"> ◆ Conduct a cultural resources survey for the site, have a professional Archaeologist review literature and maps, visit the site, consult with the Suquamish Tribe, dig test holes, and produce a report with findings. No significant environmental issues are anticipated. No indication of archeological resources have been identified to date. No significant environmental issues are anticipated.

⁵ Significant as used in SEPA means a reasonable likelihood of more than a moderate adverse impact on environmental quality (WAC 197-11-794). The threshold of what constitutes a significant impact will be identified during the EIS process for the project by third-party experts retained by the City of Bremerton.

- ◆ Key Environmental Issue
- ◇ Minor Environmental Issue

15. TRANSPORTATION		
A. Access/Road Network		<ul style="list-style-type: none"> ◆ Evaluate the proposed project to ensure that all identified road segment and intersection improvements are addressed to the extent outlined by the associated studies. ◆ Evaluate the proposed project to ensure that the roadways (Werner Road between Kean & Union, Werner Road between Auto Center Way & SR-3, and Kitsap Way east of National Avenue) which experience the greatest impacts from future development are mitigated in accordance with adopted standards to accommodate the anticipated traffic increases. ◆ Evaluate the proposed project to ensure that a system of pedestrian connectivity throughout the site is provided.
B. Public Transit		<ul style="list-style-type: none"> ◇ Evaluate the proposed project to ensure that the potential alternatives to extend public transit to the site are explored and implemented.
C. Parking		<ul style="list-style-type: none"> ◇ Ensure consistency with the established Zoning Code to determine the mandated levels of parking.
D. Improvements	<ul style="list-style-type: none"> • Performance Standards 	<ul style="list-style-type: none"> ◆ Evaluate the proposed project to ensure that access and proposed transportation improvements meet the anticipated demand. ◆ Evaluate the proposed improvements to ensure that the goals, policies and plans associated with the expansion of these road segments are consistent with the Performance Standards. ◆ Evaluate the proposed project to ensure that all transportation-related costs associated with this site to the City of Bremerton are identified.
E. Trips/Day	<ul style="list-style-type: none"> • Technical Memorandum No. 3 (Parametrix, Sept. 5, 1997) • Technical Memorandum No. 6 (Parametrix, Sept. 7, 1999) 	<ul style="list-style-type: none"> ◆ Evaluate the proposed project to confirm that the total offsite traffic generation by all uses on the project area will not exceed the projected maximum PM peak trip generation cap of 3,000. ◆ Evaluate the proposed project to confirm that traffic generation from residential uses shall not exceed 33 1/3% of the total PM peak traffic volume for the project area. ◆ Evaluate the proposed project to ensure that a detailed analysis of the existing conditions has been developed. ◆ Evaluate the proposed project to ensure that the traffic generation of the subject site is monitored and adhered to.
16. PUBLIC SERVICE		<ul style="list-style-type: none"> ◆ Evaluate the proposed project to ensure that the impacts (including impact fees) of the proposed project on the existing Level of Service (school, emergency, fire, police etc) is evaluated and addressed.
17. UTILITIES	<ul style="list-style-type: none"> • Preliminary Wastewater Assessment Technical Memorandum No. 1 & Addendum (Parametrix, April 29, 1997) 	<ul style="list-style-type: none"> ◆ Evaluate the proposed project to ensure that each proposed development phase shall provide infrastructure which accommodates the identified impacts of that phase.

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CHICO CREEK TASK FORCE

ENCLOSURE 4

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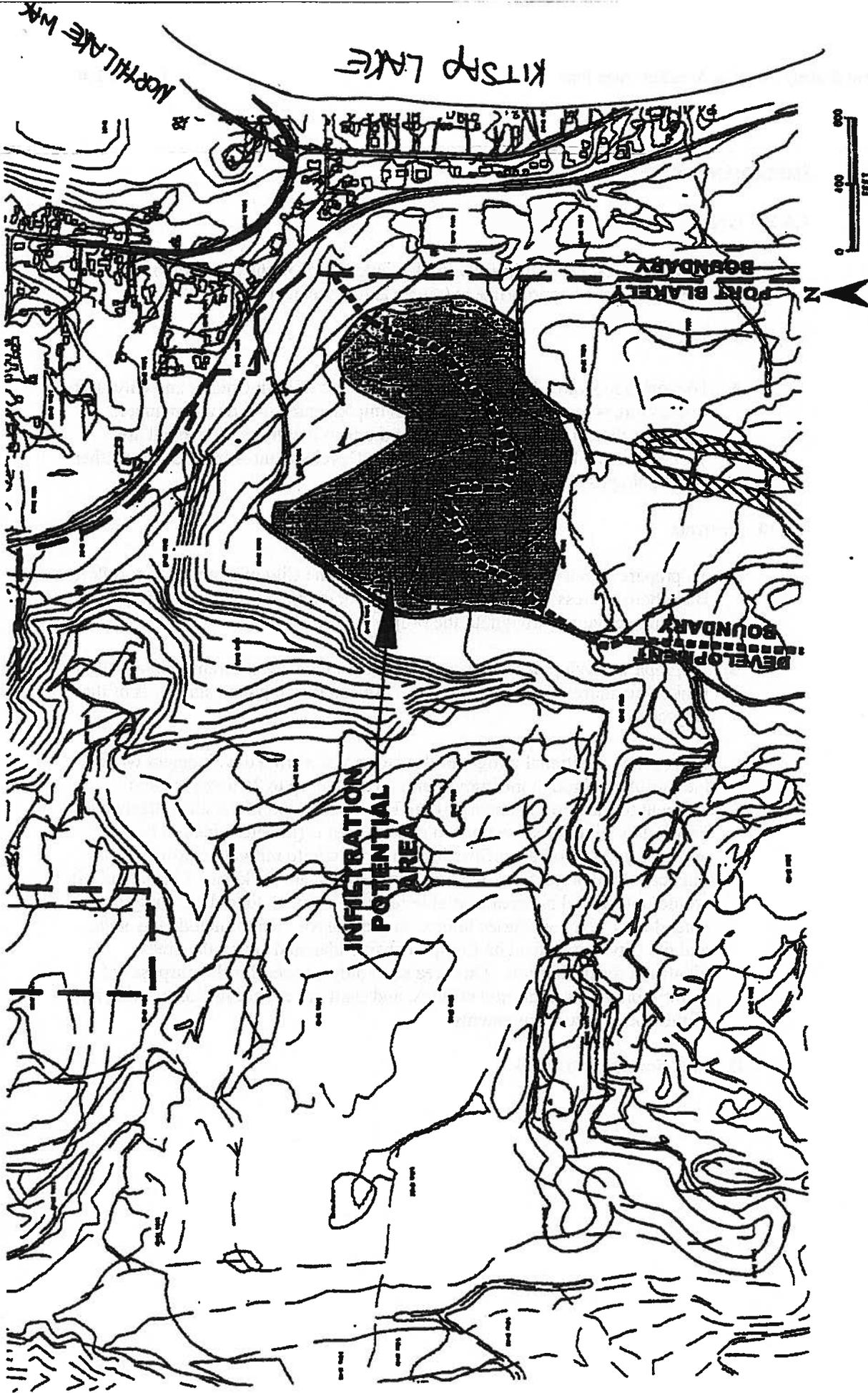


Figure 12
Infiltration Potential Map
Port Blakely Planning Area

INFILTRATION POTENTIAL MAP
PORT BLAKELY, WEST KITSAP JPA
KITSAP COUNTY, WASHINGTON

4.6 IMPLEMENTATION

4.6.10 Goals

- A.** To ensure that the plan is fully implemented through the adoption or establishment of appropriate measures and agreements.

4.6.20 Policies

- A.** To work cooperatively to coordinate the efforts of both County and City staff and resources to ensure that the plan is implemented in a timely manner. These mechanisms used to ensure that the plan is fully implemented are included in the Three-Party Agreement, a Development Agreement and other methodologies.

4.6.30 Projects

- A.** To prepare development agreements between the City of Bremerton and Port Blakely to address the infrastructure needs and impacts of those anticipated uses and activities throughout the project's life.
- B.** To prepare development agreements between the City of Bremerton and Port Blakely to address future zoning, land use and development standards of the project site.
- C.** To evaluate additional mitigation for storm water from development within the Sub-Area through infiltration into an area of up to 25 acres located adjacent to the north boundary of the UGA (as shown in the map attached as Figure 12). If all or some portion of such area is (a) determined to be an appropriate location for infiltration, (b) will help to mitigate storm water impacts of the project, (c) will not adversely impact Dickerson Creek, and (d) would not expand the area available for development, then the County may amend the UGA boundaries in its Comprehensive Plan to include this area, and the City may amend its Comprehensive Plan and annex the area identified for infiltration. This area shall only be used for the purposes of infiltration, roads, trails and utilities, and shall not count towards meeting any of the open space requirements.
- D.** Intentionally Left Blank.

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CHICO CREEK TASK FORCE

ENCLOSURE 5

LEYDA CONSULTING, INC.

114 W. Magnolia St., Ste. 400, #131 • Bellingham, WA 98225 • (360) 510-2737 • www.leydaconsulting.com

October 14, 2014

Chico Creek Task Force
P.O. Box 4773
Bremerton, WA 98312

**RE: Mineral Resource Development Wetland Review, Rating, and Impacts
Ueland Tree Farm, Kitsap County, Washington**

Mr. Stanfill:

Leyda Consulting, Inc. (LCI) prepared this document at the request of the Chico Creek Task Force in association with the proposed Ueland Tree Farm, LLC's mineral mining application. This technical memorandum presents the findings of the field visit, rating, and functional assessment of Wetland 4 on the Ueland Tree Farm. Wetland 4 is located near the proposed Basalt Quarry C, located at the southern portion of the project area (parcel nos. 242401-1-006-1003, 242401-1-007-1002; T24N/R1W W.M./S24) in Kitsap County, Washington.

LCI considered the following documents, among others, to prepare this review: the *Ueland Tree Farm, LLC Mineral Resource Development and Preliminary Reclamation Plan* civil engineering package received by Kitsap County on August 5, 2011; *Wetland Delineation and Stream Identification Report Ueland Tree Farm – Mineral Resource Development* dated February 2009; *Habitat Management Plan Ueland Tree Farm Mineral Resource Development* dated February 2009, *Hydrogeologic Report – Ueland Tree Farm Mineral Resource Development* dated February 2009, *Ueland Tree Farm Mineral Resource Development Preliminary Drainage Plan*, all by Parametrix, 4660 Kitsap Way, Suite A, Bremerton, WA; *Ueland Tree Farm Mineral Resource Development Final EIS* dated August 2009, by ESA Adolfson, 5309 Shilshole Avenue NW, Suite 200, Seattle, WA.

I. Introduction and Background

A. Wetland 4 Identification and Location

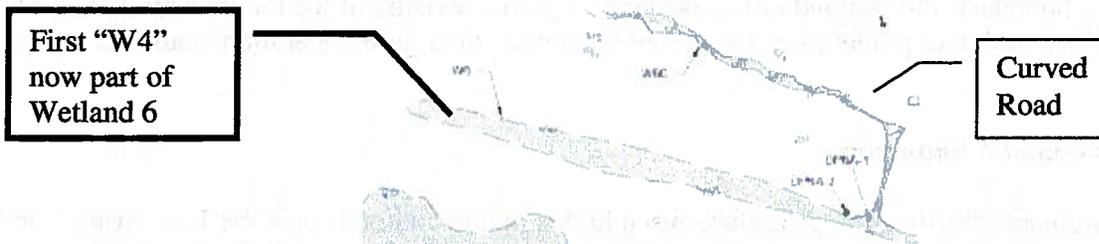
There is some ambiguity surrounding the name of the beaver pond wetland created in Dickerson Creek to the north of the proposed Quarry C. In an email from Phil Struck of Parametrix to Mark Mauren, forwarded to Dave Greetham of Kitsap County, dated 10/1/2010, Parametrix says that "Parametrix' biologists initially flagged portions of a 'wetland 4', but this wetland area was subsequently incorporated into the Wetland 6 complex. The attached field sketch generally shows how 'wetland 4' was incorporated into the Wetland 6 complex."

The sketch shows a polygon called 'wetland 4' as the north arm of Wetland 6 (Inset 1). This First Wetland 4 has been incorporated with the rest of the Wetland 6 complex.

**UELAND TREE FARM MINERAL RESOURCE DEVELOPMENT
WETLAND REVIEW, RATING, AND IMPACTS**

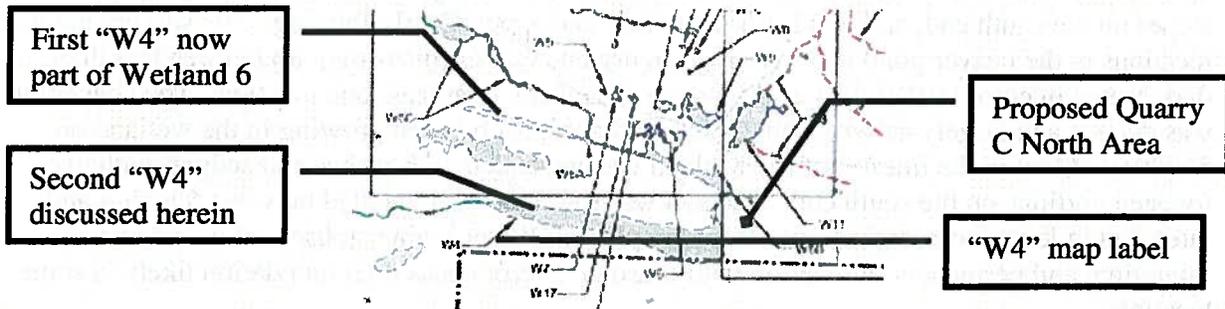


Inset 1. First mention of Wetland 4, sketch included with 9/30/2010 email. The roads show the location of this W4 is actually the blind north end of Wetland 6. North is to the left of the page.



Inset 2. Wetland Delineation Report Figure 3-2 showing the first W4 incorporated into Wetland 6. Note the curved road that corresponds to the road in Inset 1. North is to the left of the page.

The second mention of a Wetland 4 is in the Wetland Delineation Report, which clearly has a wetland labeled “W4” with an arrow pointing to the beaver pond formed in Dickerson Creek. This second wetland called Wetland 4 (“W4”) is not the one incorporated into Wetland 6 as described in the 9/30/2010 email. This second Wetland 4 is the subject of this memorandum.



Inset 3. Wetland Delineation Report Figure 3-1 showing Wetland 6 and the second Wetland 4 (beaver pond in Dickerson Creek). North is to the left of the page.

The proposed quarries are shown in the project documents at different distances from Wetland 4. Wetland 4 is shown on Figures 1-2 and 3-1 of the wetland delineation report, and appears to be approximately 120 feet from the north edge of the proposed Quarry C when measured on Figure 1-2. This differs from the *Mineral Resource Development and Preliminary Reclamation Plan* engineering package received by Kitsap County on August 5, 2011 as a permit application submittal, which shows Wetland 4 as 200 feet from the proposed quarry on sheet C11. LCI will use the engineering package measurement for the purpose of this analysis because

WELAND TREE FARM MINERAL RESOURCE DEVELOPMENT WETLAND REVIEW, RATING, AND IMPACTS

it is the best and most accurate representation of what will actually be constructed. The plans are also drawn to scale, and the features clearly labeled in close-up views.

The wetland delineation report states the purpose of the report is to “delineate, survey and document wetland and stream boundaries and types within 300-ft of the development footprint.” The engineering plans show the proposed Quarry C 200 feet from Wetland 4 as mapped by Parametrix. However, Wetland 4 was omitted from the discussion in the wetland delineation report, was not rated, and no data from Wetland 4 was presented to establish the boundary shown. In the absence of recorded data, it is unclear how the boundary of Wetland 4 was determined in the Parametrix report.

This LCI memorandum provides a critical review the wetland delineation report, the mapped Wetland 4 boundary, the wetland rating assignment, and a revision of the Parametrix Wetland 6 rating. A discussion of potential and expected impacts of the mining operation is also included.

B. Wetland 4 Boundary

The wetland identification procedures used in this memorandum follow the U.S. Army Corps of Engineers *Wetlands Delineation Manual* (Environmental Laboratory, 1987), *Interim Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Corps, 2008), and the *Washington State Wetlands Identification and Delineation Manual* (WA DOE, 1997).

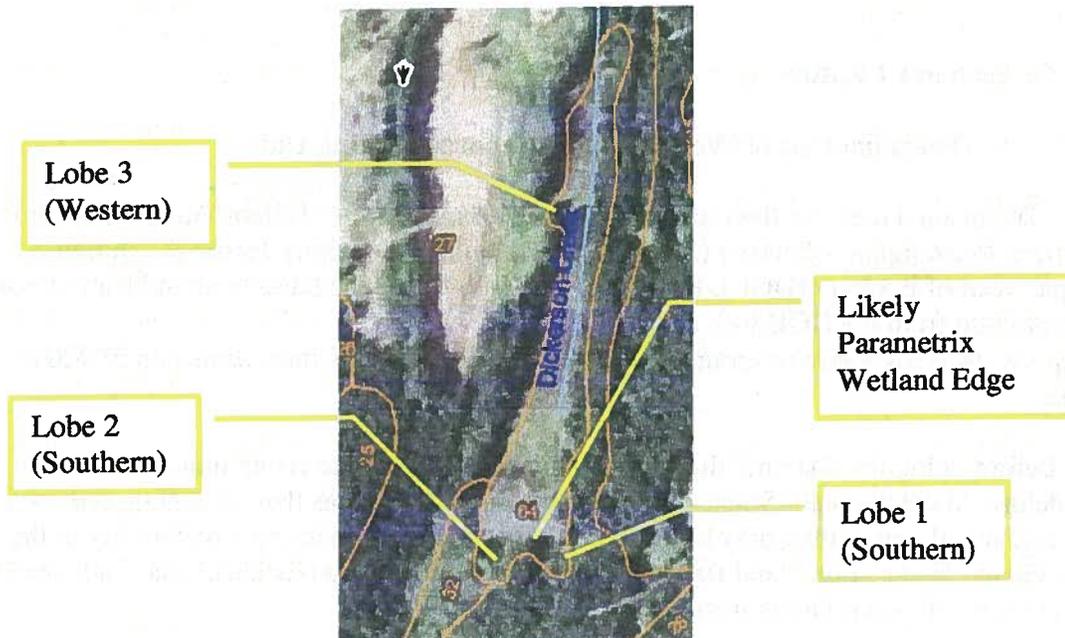
LCI circumnavigated Wetland 4 as mapped in the wetland delineation report and recorded data in 11 locations on May 5 and 22, 2012. This wetland is a depressional class wetland created by a beaver dam in Dickerson Creek at the north end, and by groundwater discharge at the toe of slopes on the south end, and to a lesser extent by Dickerson Creek flooding. The soil texture in 7 locations in the beaver pond was very high in organic matter (histosols), up to three feet thick, dark brown in color (10YR 2/2), and producing methane in at least one location. The vegetation was diverse and largely native, with 25 different species observed growing in the wetland on 5/4/2012. Most of the interior of the wetland was vegetated with rushes and sedges, with two forested portions on the south end. The soil was saturated or inundated between 6 inches and three feet in locations sampled, and deeper in places. Water regimes observed included soil saturation, and permanent inundation with seasonal and/or occasional inundation likely in some locations.

Historical air photos on Google Earth show inundation in the beaver pond as early as 1997, and most likely earlier. The outlet where the water over-tops the beaver dam was approximately four feet wide at the time of observation. Water depth in the wetland is dependent on the height of the dam, the flows in Dickerson Creek, rainfall and runoff, infiltration, and evaporation/evapotranspiration. Vegetation patterns on the eastern bank to the south of the dam shows that water levels were one or more feet higher in the past or at other times of high flow. A beaver lodge was identified a few hundred feet south of the dam. A more recent beaver gnaw was observed, with the wood chips lacking any decomposition or fungal staining. An older, blown-out beaver dam was observed in the central portion of the wetland.

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The Wetland 4 boundary observed by LCI in the field was different from the boundary as shown by Parametrix and in the *Mineral Resource Development and Preliminary Reclamation Plan*. Notably, two lobes were found on the south end (Lobe 1 and Lobe 2) that project toward the proposed Quarry C, and one additional lobe (Lobe 3) was found on the western edge. Lobe 2 on the south end has Dickerson Creek running through it, with a defined channel and ordinary high water mark (Photo 24). LCI did not follow the channel to the source, but observed it within the boundary of Wetland 4. Lobe 1 is forested with tree, partial shrub, and herb layers, and mostly inundated soils (see Sample Plot 9). Lobe 1 is the smaller of the two, and is approximately 75-feet wide at the beaver pond end, and approximately 75-feet long (approximately 5,625 square feet or less). Lobe 2 is forested, with tree, shrub, and herb layers, and two western redcedar (*Thuja plicata*) trees were observed near Sample Plot 10 that had diameters greater than 24", and one of those approximately 36" in diameter. The soils in Lobe 2 are mostly saturated at or below the soil surface, with puddles in places. Lobe 2 is approximately 275' wide at the junction with the beaver pond, and approximately 200' long (approximately 55,000 square feet, or 1.26 A, or less).

Dickerson Creek was observed in Lobe 2, and the channel was approximately 5-feet wide at the observation point with a fine gravelly substrate and flowing water. A portion of the Lobe 2 wetland could be flooded by the creek during times of high flows. However, the presence of leaf litter, the location of the wetland at the base of the surrounding hills and the larger size of the wetland indicate that it is not completely inundated by creek flooding (as riverine class wetlands are), so this Lobe 2 wetland is can be classed as a sloped portion of the depressional beaver pond wetland.



Inset 4. NRCS Color Soil Map (Unit 64: Water), showing three lobes not mapped by Parametrix. North is the top of the page.

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This area might be inundated if the elevation of the beaver dam on the north end of Wetland 4 was raised. It likely receives its water from shallow groundwater discharge at the base of the surrounding slopes, from runoff, and a portion from creek flooding. This conclusion is supported by the vegetation, which is mostly facultative with fewer obligate wetland species than Lobe 1, which is mostly inundated.

The southern lobes appear in Figure 5-1 of the habitat management plan, which is an NWI wetland shape. This lobed NWI wetland shape is different from the NWI wetland shape on the NWI map in Appendix A of the wetland delineation report.

The southern and western lobes appear on the NRCS Web Soil Survey (Figure 1, attached), accessed online on May 6, 2012. This soil unit map is the closest representation to LCI's observations in the field.

It appears as though the straight wetland boundary on the Parametrix wetland delineation maps might be the same as the forest-herb boundary shown in the air photo on Figure 1. If so, the Parametrix Wetland 4 boundary might have been drawn from an air photo such as this one, which would explain the lack of data along that southern boundary. The lobes extend beyond the Parametrix boundary, and so they would project a buffer into the proposed Quarry C area.

LCI recommends a full delineation, with data to prove the upland edges, and a licensed survey of Wetland 4 to show the actual extent of the wetland in proximity to the proposed Quarry C. The data should include upland sample plots in locations in all low spots where the quarries are planned, and where stormwater features discharge to the low points in the uplands.

C. Wetland 4 Rating

1. Determination of Wetland 4 as a Separate Rating Unit

The manual used for the rating was the *Washington State Wetland Rating System for Western Washington – Revised* (Annotated Version August 2006), by the Washington State Department of Ecology [DOE], Publication # 04-06-025. The latest Wetland Rating Form was downloaded from the DOE web site (<http://www.ecy.wa.gov/programs/sea/wetlands/ratingsystems/index.html>) on 5/7/2012 in pdf form.

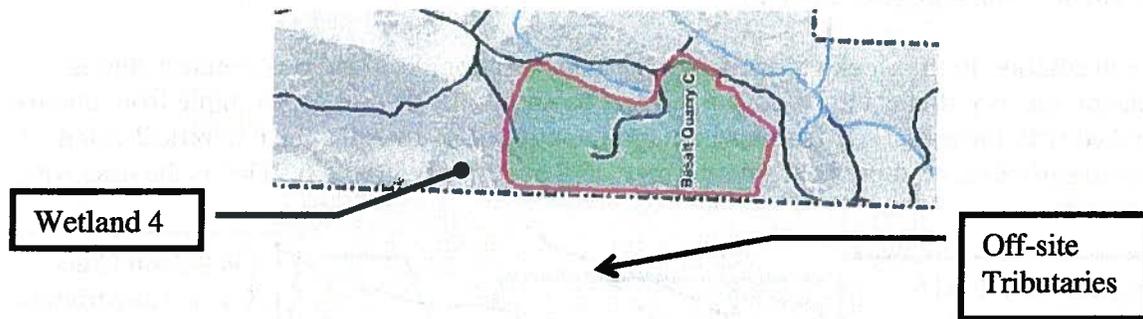
Before rating the wetland, the wetland must be divided into rating units according to guidelines in the manual. Some wetlands have distinct sections that are influenced by different factors, and although they may be connected, they may be functioning differently in the ecosystem. Water source and flow patterns, constrictions, and blockages may indicate the need to rate parts of a contiguous wetland as separate units.

Although they are connected, Wetland 4 should be rated as a separate unit from Wetland 6, and not as part of Wetland 6. The reason is that the water shows a unidirectional, down-gradient

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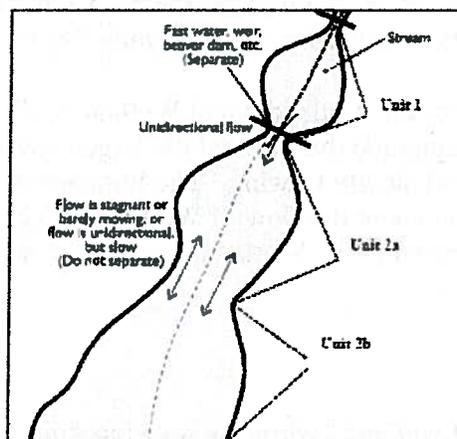
flow through a constriction where Wetland 6 joins Wetland 4. A similar constriction is present where Dickerson Creek enters Lobe 2 of Wetland 4.

The inundation (ponding) in Wetland 4 is mostly from backed up stream flow. Two small streams join offsite to form Dickerson Creek, which enters the Ueland property from the southwest. The beaver dam in the creek backs up the water to form Wetland 4, along with shallow groundwater and precipitation inputs.



Inset 5. Clipped from Habitat Management Plan, Fig. 4-1 (north is to the left). Two tributaries joining offsite from the southwest add considerable flow to Wetland 4.

Because of the position of Wetland 4 along the creek, the rating rules for “Wetlands in a Series of Depressions in a Valley” must be used. Inset 6a shows a theoretical wetland configuration graphic and how it should be divided into different rating units. The graphic shows Unit 1 as occurring above a beaver dam and below a constriction. The thick dark lines indicate the constrictions, and the arrows show the movement of the water. The arrow crossing from Unit 1 to Unit 2a has only one arrowhead, which means unidirectional flow across the dam.



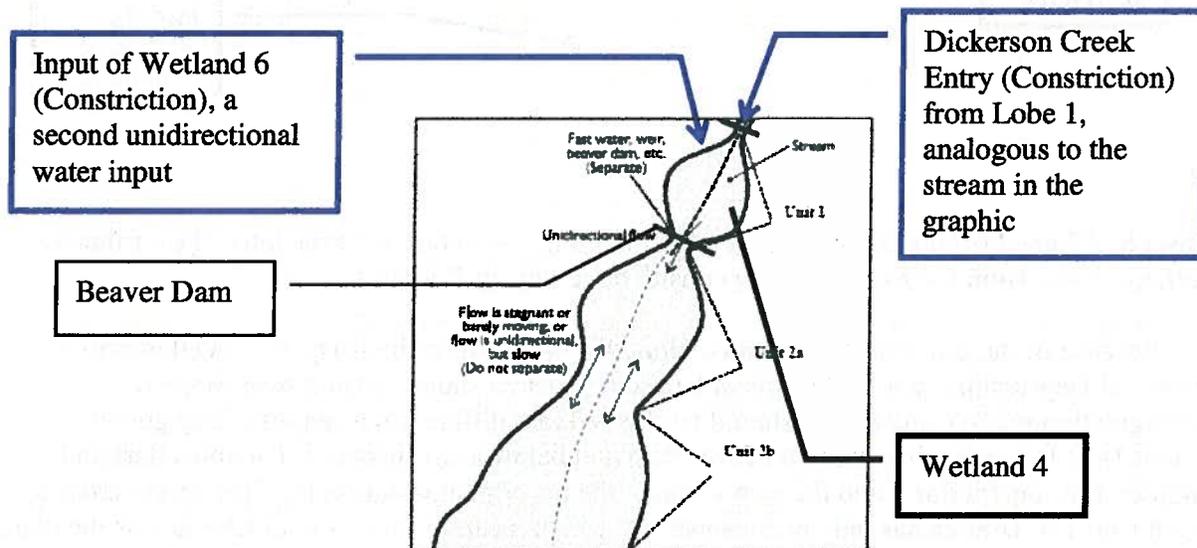
Inset 6a. Graphic from DOE Wetland Rating Manual (p. 13, Figure 1) showing theoretical divisions of the same wetland into different rating units (Units 1 and 2a, 2b).

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Dickerson Creek has a narrow width formed by natural banks as it enters Lobe 1, then widens into the beaver pond. This change in width from constricted to wide is analogous to the very top of the graphic in Inset 6a.

Wetland 4 was created by a beaver dam in a stream, like the theoretical wetland in the graphic. Wetland 4's configuration matches this theoretical configuration shown in Inset 6a. They both have a beaver dam, a stream in the middle, and a natural constriction at the top where the stream enters (edge of Lobe 2).

In addition to the creek entering through a constriction, Wetland 6 also enters through a constriction as it drains into Wetland 4. Inset 6b shows the theoretical example from the manual marked with the actual site features in diagrammatic form. Imagine the theoretical example with two constrictions on top, one from the creek, and one from Wetland 6. This is the case with Wetland 4.



Inset 6b. Graphic from manual, marked with features from Wetland 4 to illustrate the similarity of Wetland 4 to the graphic. The blue arrow callouts symbolize the water inputs to Wetland 4.

The water regime is different for Wetland 6 and Wetland 4. Wetland 6 does not receive flows of Dickerson Creek's magnitude that formed the large beaver pond, and Wetland 6's entry into Wetland 4 is constricted and slowly flowing. The Parametrix wetland delineation report contains conflicting information about the flow of Wetland 6. The stream section says "the other unnamed tributary (S-7) flowing from the Wetland 6 complex," which means Wetland 6 drains to the north and into S-7 (p. 3-30).

The Wetland 6 section says,

"The primary source of wetland hydrology is an intermittent stream from the north fed by precipitation and sustained by a high groundwater table. Depending on the topography, this stream runs either north or south, and is topographically confined to a ravine that widens and narrows throughout the course of the wetland. Soils were inundated or saturated in the upper 12 inches, and most of Wetland 6 had flowing water. The southern

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end of the wetland was dammed by old beaver activity while the northern section of the wetland ended in a large body of ponded water at least three to five feet deep with signs of recent beaver activity (Figure 3-2)" (p. 3-20).

The only mapped "stream from the north" is S-7. No ordinary high water mark is mapped in Wetland 6, which implies that the entire area is a wetland with no stream in the middle but with moving water. So, according to the above statement, Wetland 6 receives water from S7, rather than draining to it, as stated in the stream description quoted above. Inspection of the topography on delineation Figure 3-2 shows the labeled north end of Wetland 6 at approximately 540 feet in elevation; the labeled south end shows a small contour line that would be 630 feet in elevation. For this rating, LCI considers Wetland 6 to mostly drain to the north, except for some smaller portion of it that LCI observed draining into Wetland 4 near the data point SP-2 in this study.

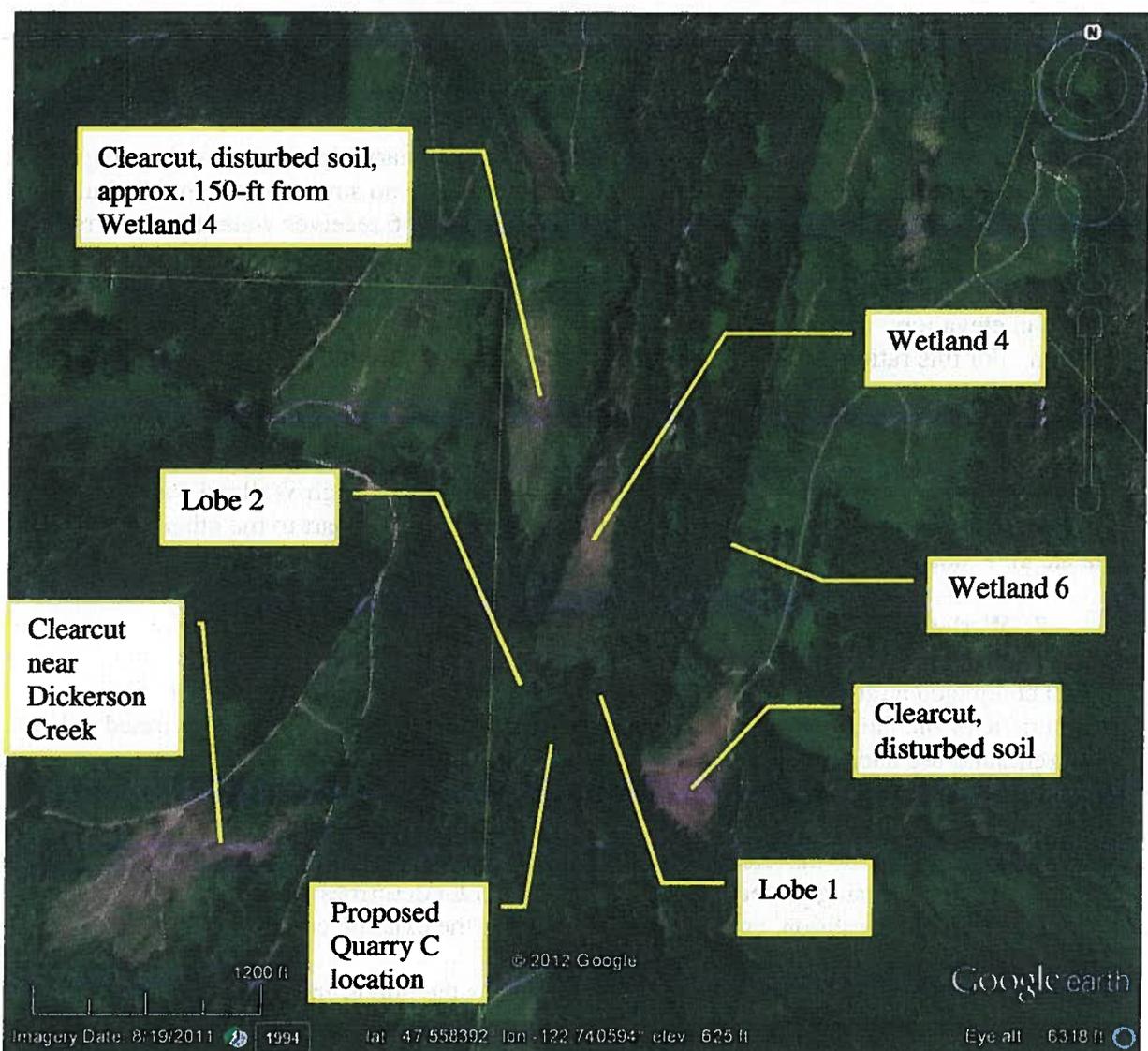
In summary, according to the manual, since the water flow through Wetland 4 is "unidirectional, down-gradient, with an elevation change from one part to the other, then a separate unit should be created" (p.13).

2. Wetland 4 Rating Results

LCI completed a rating form for Wetland 4 during and following the field visit. One characteristic of the Parametrix wetland ratings is that the report shows categories based only on the current land use and conditions, and ignores the changes that the proposed quarry developments will precipitate. When land use changes, and new pollution sources are created by the proposed road and quarry developments, the ratings can change. If the ratings change, the buffers can change. If the buffers change, then the proposed quarry developments could fall inside them, compromising protection of the wetlands. LCI describes some of these changes under the developed condition, and some changes under the existing conditions.

Wetland 4 scored 18 points for water quality, and has the opportunity to improve water quality because of clear-cut logging in the basin to the west and south (see Inset 7), and because the logged soil units surrounding the wetland are rated by the NRCS as having "Severe" and "Very Severe" erosion hazard when disturbed (Figure 2, attached). These soils are very likely to erode and be trapped by Wetland 4. The cleared area to the west is visible on the Erosion Hazard Map, and the more recently logged area is visible on aerial imagery shown here.

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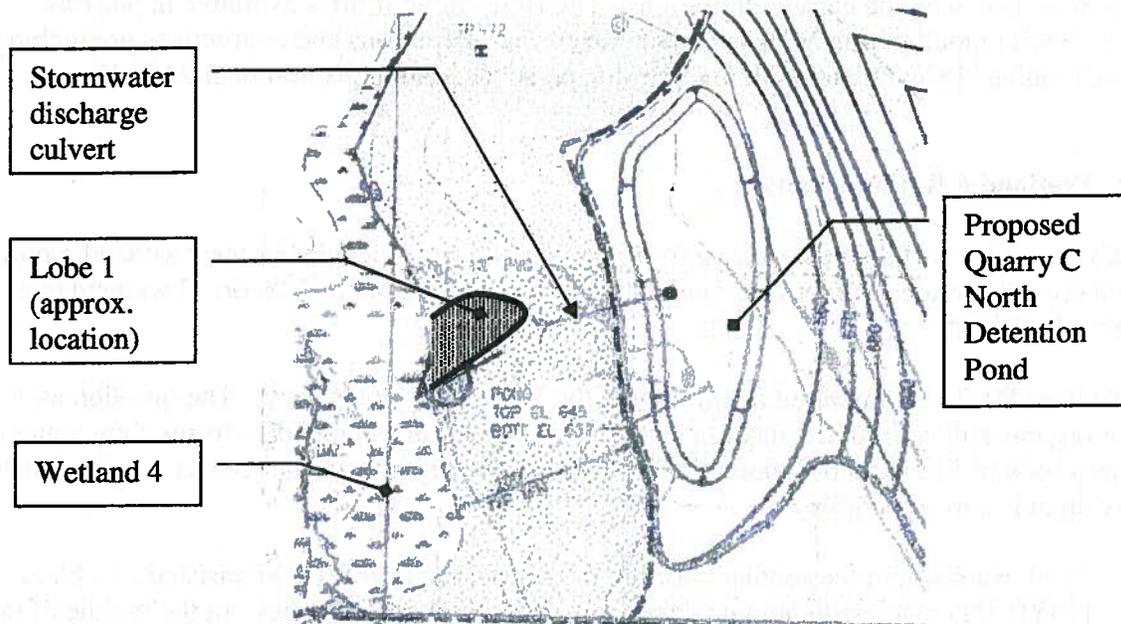
Inset 7. Clear-cut logging and disturbed soils in vicinity of Wetland 4.

The opportunity to improve water quality will exist after the proposed quarry construction, since the proposed Quarry C North detention pond is shown to discharge to a topographic low point in the Wetland 4 buffer about 120' from the edge on the map (*Mineral Resource Development Plan*, Sheet C11). In reality, that topographic low point is either in or very close to the unmapped Lobe 1. Because 50% of the stormwater will be untreated (see **F. Wetland 4 Hydrology and Proposed Quarry Stormwater Plan** herein), and because the rating manual says even treated stormwater is polluted (p. 45, comment 38), Wetland 4 will have the opportunity to improve water quality after construction.

Although the Construction Notes on Sheet G2 say that deviations from the plan may be necessary (General Erosion & Sediment Control Notes, Note 6), which means the exact culvert discharge point could deviate from the plans, the topographic low point will not change, and the stormwater will flow to that topographic low point which could be Lobe 1 of Wetland 4.

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All wetlands receiving stormwater from the proposed quarries will also have the opportunity to process pollutants, so the post-construction ratings may change for any wetland that currently does not have the opportunity box checked on its respective rating form. The development plan should be revised to provide larger buffers for wetlands with post-development rating changes.



Inset 8. Approximate location of Lobe 1, and the proposed stormwater discharge to the Wetland 4 buffer, which is very likely in or near the unmapped Lobe 1 of Wetland 4. (Clipped from *Mineral Resource Development Plan*, Sheet C11).

The score for Hydrologic Functions is 10, and includes the opportunity to reduce flooding and erosion because Wetland 4 drains to Dickerson Creek, which has flooding problems, as documented by Kitsap County's Dickerson Creek Culvert Replacement Project. Repairs are planned for the downstream areas of the creek where roads are flooded regularly.

The score for Habitat Functions is 31. This score could increase if portions of the wetland dry out in summer (Question H1.2, Hydroperiods). In the beaver pond portion, LCI observed permanent flooding to the height of the beaver dam, and areas that are only saturated occurring on the edges, and the permanently flowing Dickerson Creek, which flows through the wetland. Lobe 2 does have areas that are only saturated, and possibly has some areas that are either seasonally or occasionally flooded (depending on the creek level). Monitoring may show that inundation in the lobed areas are seasonally and/or occasionally flooded, if they draw down in the dry season when the beaver ponded area remains inundated. If so, this score could increase.

LCI observed 25 species of plants, mostly native, growing in the wetland. Recent beaver activity was present in the form of a gnawed log and stump, with fresh unstained chips. Snags and large downed logs are present throughout the wetland, and more than ¼ acre of thin-stemmed vegetation is present. Lobes 1 and 2 have forested classes, and Lobe 2 has tree, shrub, and herb layers over an area approximately 1.26 acres in size.

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The Priority Habitats (per WDFW definitions, linked by the DOE at <http://www.ecy.wa.gov/programs/sea/wetlands/ratingsystems/index.html>) present for Wetland 4 include a biodiversity corridor, riparian area, instream habitat, and snags and logs. The Parametrix rating forms lack the “instream habitat” check box; those wetland ratings may change if revised with the current definitions. The DOE rating form is available in pdf form only, to restrict modification and ensure that the current definitions and instructions are included with each rating (DOE Scientist Thomas Hruby, personal communication on 5/24/2012).

D. Wetland 6 Rating Changes

LCI reviewed the Parametrix rating form for Wetland 6, as included in their wetland report. Several corrections are in order that would change Wetland 6 from a Category II wetland to a Category I wetland.

Question D1.2 was answered incorrectly in the Parametrix rating form. The question asks if clay or organic soil is present 2 inches below the surface. The wetland data forms show mucky (organic) soils in 3 of the 5 data points in Wetland 6. The report says the soils are predominantly mucky organic soils (histosols):

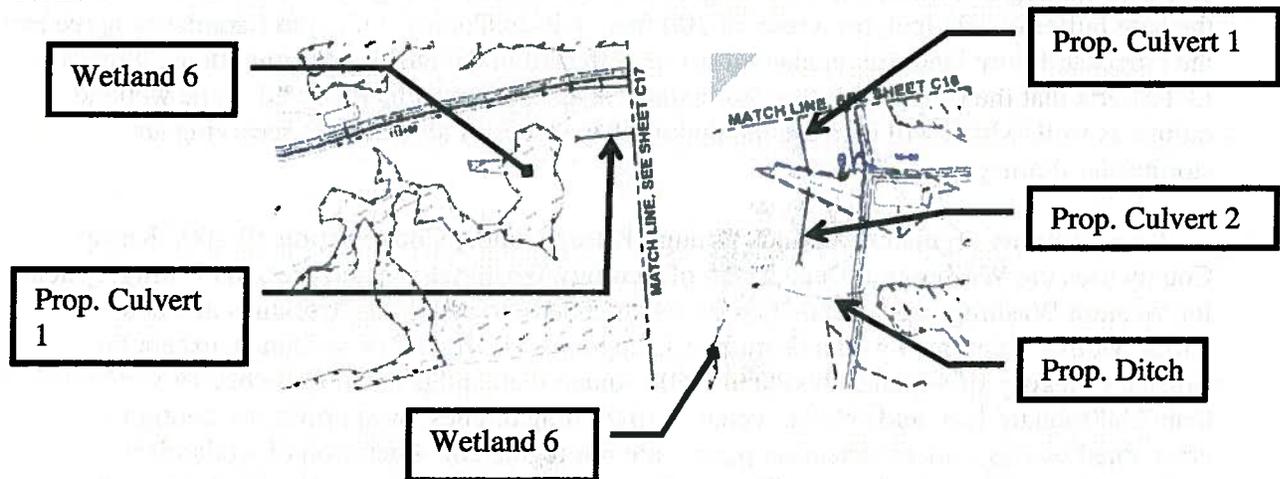
“Soil examined in the southern portion of the wetland (DP W6-1) consisted of a black (10YR 2/1) muck with organic debris to a depth of eighteen inches. In the middle of the wetland (DP W6A-1), soil examined here consisted of a black (10YR 2/1) mucky loam with few, small and prominent dark yellowish brown (10YR 5/8) mottles to a depth of twelve inches. Below this horizon was a very dark grayish brown black (10YR 3/2) silt loam with few, medium-sized and prominent dark yellowish brown (10YR 4/6) mottles. Organic streaking was noted in the lower horizon of this soil profile. At the northern end of the wetland (DP W6C-1), a black (10YR 2/1) sandy muck was observed to a depth of eighteen inches. This horizon had strong brown (10YR 5/8) mottles that were few, fine and distinct. Hydric soil indicators include high organic content in the surface layer, low chroma matrix colors, and redoximorphic features.” (p. 3-20).

So, the box on the rating form for Question D1.2 should be checked “Yes,” and four points added to the score. This addition will make the “Total for D1” box read 15 points instead of 11 points.

Question D2 asks if the Wetland 6 has the opportunity to improve water quality. The recorded answer is “No.” The correct answer is “Yes,” for similar reasons that Wetland 4 has the opportunity to improve water quality discussed above. Wetland 4 and most of Wetland 6 are in the same drainage basin (see Inset 6), and will experience similar reactions to the same pollution sources. Wetland 6 has the opportunity to do the same to improve water quality because of clear-cut logging in the basin to the south, and has had the opportunity in the past based on the previously cut area to the east (see Inset 7).

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Like Wetland 4, the opportunity will exist for Wetland 6 to improve water quality after the proposed quarry and road construction, since the proposed roadside detention pond is shown to discharge to a topographic low point in the Wetland 6 buffer (*Mineral Resource Development Plan*, Sheets C20 and C21), and will likely cause stormwater to enter the wetland. Because 50% of the stormwater will be untreated (see **F. Wetland 4 Hydrology and Proposed Quarry Stormwater Plan** herein), and because the rating manual says even treated stormwater is polluted (p. 45, comment 38), Wetland 6 will have the opportunity to improve water quality after construction. All wetlands receiving treated and untreated stormwater from the proposed roads will also have the opportunity to process pollutants, so the post-construction ratings may change for any wetland that currently does not have the opportunity box checked on its respective rating form.



Inset 9. Sheets C20 (left) and C21 (right) from *Mineral Resource Development Plan*. The Match Lines apply to each of these insets (they are labeled with the incorrect sheet numbers on the drawings). The culvert from the roadside detention pond in C21 extends to C20 and will discharge to Wetland 6. Also, the other culvert shown completely in C21 will discharge to a proposed ditch that will route road runoff into Wetland 6 at another location.

Based on the engineering drawings, Wetland 6 will receive road runoff, so the opportunity will exist to improve water quality if the proposed construction takes place. This will cause the multiplier to double the Water Quality score from 15 to 30.

Question D4 asks if Wetland 6 has the opportunity to reduce flooding and erosion. The box is marked "No," but the correct answer is "Yes." The Dickerson Creek drainage basin has flooding problems, and roadways in the area are flooded during large storm events. Kitsap County's Dickerson Creek Culvert Replacement Project is directed at reducing flooding, and shows the importance of the hydrologic function of Wetland 6 in attenuating flood flow. Wetland 6 is a headwater wetland, since stream S7 emerges from it, but no stream enters the wetland. Also, Wetland 6 drains to S7, which drains to Dickerson Creek. Another portion of Wetland 6 drains to Wetland 4, which is a beaver pond formed from Dickerson Creek. For these reasons, Wetland 6 clearly has the opportunity to reduce flooding, so the Hydrologic Function score is doubled from 12 to 24.

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The opportunity score changes result in Wetland 6 having a Water Quality score of 30, a Hydrologic score of 24, and a habitat score of 30, for a total of 84 points, which equals a Category I wetland. The base buffer is therefore 200 feet, and under a high intensity land use, with a forested class, and with a high water quality and habitat score, the buffer changes to 250 feet.

E. Regulatory Summary

Wetland 4 is regulated by Kitsap County. Wetland 4 carries a 200-foot buffer because the proposed mining condition will be a “high intensity” land use category, which adds 100 feet to the base buffer of 100 feet, for a total of 200 feet. Kitsap County, LCI, and Parametrix agree that the proposed future land use intensity must be reflected in the buffer determinations. Similarly, LCI asserts that the proposed future stormwater discharges must be reflected in the wetland ratings as well, which will increase the opportunity scores of all wetlands receiving any stormwater drainage.

Kitsap County regulates wetlands through Kitsap County Code Section 19.200. Kitsap County uses the Washington Department of Ecology Washington State Wetland Rating System for Western Washington, revised 2004 (or as amended), to categorize wetlands and determine buffer widths. Regulated wetlands include Category I, II, III, and IV wetlands, except that isolated Category III wetlands less than 2,500 square feet, and isolated Category IV wetlands less than 7,500 square feet, and created wetlands (including ditches, farm ponds not contiguous, grass-lined swales, canals, detention ponds) are not regulated. Alteration of wetlands is prohibited, including clearing, grading, earthwork, and construction. Only regulated wetlands carry a buffer. KCC 19.150.170 defines buffers as “a non-clearing native vegetation area which is intended to protect the functions and values of critical areas.” Buffers are measured horizontally from the wetland edge. Buffers typically range from 250 feet to 25 feet in width, and depend on wetland category, land use intensity, various sub-scores from the rating system, and administrative decision by the county. Reduction in buffers is possible as described in KCC 19.19.220.C.

The Washington Department of Ecology (DOE) regulates wetlands through the state Water Pollution Control Act RCW 90.48, the Shoreline Management Act RCW 90.58, and Section 401 of the federal Water Pollution Control Act 33 U.S.C. 1251 et. seq.. The DOE permits wetland fills in coordination with the U.S. Army Corps of Engineers through the 401 water quality certification program, which states that federally permitted discharges to Waters of the United States must be approved by the state in which the discharge occurs. The DOE may also issue an administrative order to stop a discharge to waters of the state, or prior to the discharge if the discharge has not yet occurred. The DOE uses an administrative order to regulate wetlands that the Corps of Engineers does not regulate in some cases.

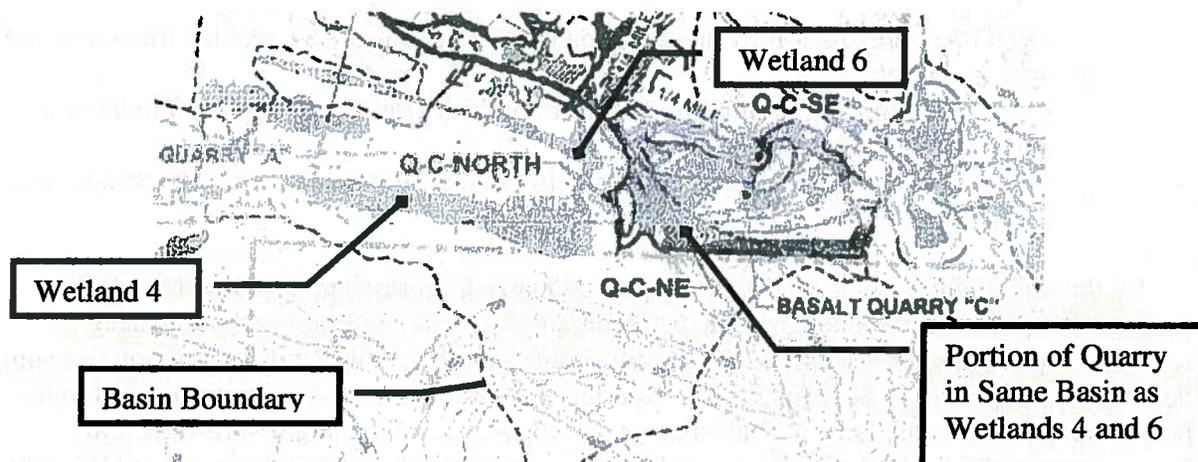
The United States government regulates wetlands by authority of Section 404 of the federal Clean Water Act 33 U.S.C. 1251 et. seq., 33 CFR 320-331, 36 CFR 800-899, 40 CFR 22, 230, 233, 233G, 1500 et seq., 50 CFR 400-499, 600, by Section 10 of the Rivers & Harbors Act, U.S. Supreme Court rulings, and various other related laws and regulations. Wetlands are considered

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“Waters of the United States,” and the U.S. Army Corps of Engineers is the primary federal regulatory agency for permitting any discharges, including fill material for construction, into those waters. Isolated wetlands are not regulated by the Clean Water Act, however, the Corps of Engineers reserves the right to determine if a particular wetland or Water of the U.S. is isolated or adjacent on a case-by-case basis. The Corps of Engineers regulates most wetland fills through either the nationwide permit system or through the individual permit system. Nationwide permits are general permits with pre-determined conditions for approval depending on the type of discharge and associated project. Individual permits are specific permits that require special consideration and involve a public interest test, inter-agency and public comment, and other factors. Only a small number of individual permits are granted each year. Notification to the Corps of Engineers is required for all wetland fills, regardless of wetland size, fill amount, or permit type, in order to comply with the General Conditions. The Joint Aquatic Resource Permit Application (JARPA) is used to notify the Corps of Engineers for all work in Waters of the U.S., including filling wetlands. Failure to notify the Corps of Engineers of discharges to Waters of the U.S., including wetlands, is a federal offense punishable by fines and/or imprisonment.

F. Wetland 4 Hydrology and Proposed Quarry Stormwater Plan

Sheet C11 of the *Mineral Resource Development and Preliminary Reclamation Plan* shows the discharge point for the northern-most pond, labeled QC-North, in the 200-foot buffer to Wetland 4, with an invert elevation of 635 feet. The *Preliminary Drainage Plan* shows the Wetland 4 contributing basin on Figure 2-1. The basin line includes a portion of Basalt Quarry C, Pond QC-North, and Wetland 4.



Inset 10. Wetland 4 and Quarry C North Watershed Basin (Figure 2-1, *Preliminary Drainage Report*). North is the left side of the page.

This discharge location may actually be one of the southern lobes of Wetland 4, as previously described in this memorandum (see Inset 8). If the 200-foot buffer were preserved, then the stormwater pond would have to be moved to the south to accommodate the new buffer location from the lobes. LCI will assume that whatever discharge point is proposed, that it will be located

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in the middle of the upland buffer, similar to the drawing on Sheet C11. The discharge into the upland buffer will result in surface soil erosion in a Severe Erosion Risk soil type (Figure 2). The construction of the discharge point will also cause a buffer impact, and no mitigation is proposed for these temporary or permanent impacts.

Section J on Sheet C12 shows an ambiguous location for the edge of Wetland 4. The Plan on Sheet C11 shows a 200-foot upland buffer between the edge of the quarry and Wetland 4. The plan is to scale; measuring along Section J shows that the edge of Wetland 4 is 240-feet from the stormwater pond edge. Section J shows less than 140 feet between the stormwater pond and the Wetland 4 edge. Thus, the engineering plans do not show the real location of the wetland edge with respect to the stormwater pond.

The *Preliminary Drainage Plan* also states that the ponds will be temporary and will not hold a 100-year flood event:

“The stormwater facilities for Q-A, Q-B and Q-C are considered temporary due to the temporary operational characteristics of the quarries. Consequently, these ponds have been designed to provide for sediment removal as if they were a temporary sediment pond. They also provide flow control during the interim operational period” (p. 2-8).

“Detention facilities for Q-A, Q-B and Q-C will provide flow control for 50% of the two year through the 50-year recurrence interval events. To mitigate for potential downstream impacts to aquatic habitat or organisms, the following stormwater treatment BMPs are proposed:

- S&G A: permanent infiltration ponds with amended soils to provide treatment and flow control;
- Q-A, Q-B and Q-C: temporary ponds to provide flow control and sedimentation during quarry operations;
- Q-A, Q-B and Q-C: permanent ponds to provide flow control for revegetated quarry conditions;” (p. 2-10).

By this statement, it is clear that the proposed Quarry C stormwater pond will not fully protect downstream water quality. The differences between a temporary and permanent stormwater pond are not discussed; if they are significant, then additional degradation of water quality can be expected. Based on LCI’s experience in residential development in Washington, permanent ponds usually have a small-diameter outflow pipe, and a larger spill-over point. Temporary pond QC-North only has no spill-over and one discharge shown on Sheet C11, which could be larger than it would be for a permanent pond, since 50% of the 2-year storm must overflow.

Furthermore, flow control is only designed for 50% of the 2-year storms through 50-year storms, and Parametrix expects downstream effects. This means that 50% of the stormwater for a 2-50 year event is not treated by the detention facility, and 100% of any additional flows beyond the 50-year volume from a 100-year event will not be treated. Untreated mine stormwater is therefore expected to enter Wetland 4 and any other receiving bodies.

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According to the *Hydrogeologic Report*, a perched water table flows from the proposed Quarry C location to Wetland 4, and that it is important in maintaining the wetland hydrology:

“A relatively thin layer of topsoil and weathered material overlies the bedrock. Water that infiltrates the ground surface can only slowly penetrate through the cracks and fissures in the bedrock. Therefore, water tends to accumulate in the soil zone, forming a very shallow water bearing zone overlying the very low permeability bedrock material. Typically, groundwater movement through this interflow zone is restricted to the wet months of the year. This near surface groundwater is strongly influenced by topography and generally flows downslope, parallel to the land surface, closely following surface drainages. Flow direction in the perched interflow zone is therefore highly variable” (p. 3-10).

“Quarry “C” groundwater flow is in a general northerly direction toward wetland and intermittent stream complexes that are associated with tributary to both Dickerson Creek and Heinz Lake. Refer to the Wetland Delineation and Stream Identification Report (Parametrix 2007b) for additional detail on location of drainage basins, wetlands and streams on the site.

Recharge from the interflow zone is an important component of wetland hydrology at the site. Figures 3-4, 3-5, and 3-6 show subsurface conditions in proposed quarry areas.

Subsurface information indicates that shallow interflow zone is the primary component of groundwater flow in quarry areas. Flow within the interflow zone is highly seasonal and dependant on precipitation, commonly occurring from approximately November through April, with minor flow continuing into June. Peak flows typically occur in December, January and February, while there is usually no flow from July through October in most water years (AES 2000)” (p. 3-10) (cites Associated Earth Sciences 2000. *Deep Subsurface Exploration Reconnaissance Results, Kitsap Central Business District*. Prepared for Port Blakely Communities. September.)

The *Wetland Delineation Report* says that wetland hydrology for Wetland 6 is “sustained by a high groundwater table” (p. 3-20). The same high groundwater table will feed the streams that flow year-round, like Dickerson Creek, which are also in low topographic areas.

The proposed quarry will interrupt this shallow, perched water table. Instead of discharging naturally through the ground to Wetland 4 and its supporting creeks, the water will be collected along with the Quarry C surface runoff in pond QC-North. From there, it will be discharged as surface flow into the uplands and eventually Wetland 4.

In conclusion, the Parametrix reports and plans show that a portion of the natural flow of groundwater will be replaced by surface flow from the temporary stormwater pond QC-North. The water from the proposed Quarry C North will be both treated and untreated stormwater.

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G. Hydrologic Impacts to Wetland 4 from the Proposed Quarry C

The *Hydrogeologic Report* says, “Due to very limited infiltration potential, water quality impacts from basalt quarry activities are associated primarily with surface water” (p. 4-4), and that

“Quarry blasting would generate dust and fines, and rock processing would generate fine sediments. If surface water flows from excavation and processing areas are not controlled, sediment movement and transport to surface water is possible. The steep slopes and soils of moderate erodability in the quarry area could mobilize sediments to tributaries to Dickerson and Gorst Creeks if sediment release is not controlled.”

“The primary objective of stormwater management in quarry areas will be to maximize infiltration by constructing large stormwater detention systems within upper permeable soil unit. This infiltration will be monitored to avoid excessive saturation that could potentially result in adverse geologic hazards such as slope instability” (p. 4-4).

The statement that the soils are of “moderate erodability” likely comes from the map in the Hydrogeologic Report, Figure 5-1, Geologic Areas of Concern. The moderate rating is not supported by the NRCS Soil Erosion Hazard Map (Figure 2, attached). In fact, the opposite appears to be true for Quarry C, since the erosion hazard ratings are “Severe” and “Very Severe.” This discrepancy should be addressed. Wetland functional assessments such as the Oregon Rapid Wetland Assessment Protocol base erosion potential on the NRCS soil erosion hazard ratings, which demonstrates the accuracy of these erosion hazard ratings for wetland assessment.

Furthermore, this report states that the infiltration is limited, but that ponds will be constructed in the basalt quarry areas to maximize infiltration. The *Preliminary Drainage Plan* specifies flow control ponds will not hold standing water, and will dry out (p. 2-8). Appendix D of the *Preliminary Drainage Plan* lists the QC-North pond infiltration rate as “not applicable” (first page, spreadsheet, pdf page 242). It is unclear how ponds that do not hold permanent water and only catch at most 50% of the 2+year storm flows will infiltrate in areas determined to have no applicable infiltration potential.

The numerical differences in flow rates are apparent in the pre- and post-development conditions (Photo 6). The low runoff numbers for the pre-developed state mean more water is infiltrating into the soil during the storm event. A portion of that water becomes the shallow groundwater interflow that nourishes Wetland 4. The hydrologic change from groundwater interflow to surface runoff via pond QC-North is known to have negative effects on wetlands.

For example, a 6-month storm event will raise the runoff rate in the proposed quarry by 6.69 times above natural levels ($4.428/0.661 = 6.69$). The post-development outflow rate from the proposed pond is much less than the pre-development rate ($0.638/1.071 = 59.5\%$ of normal). The changes from the pre-developed condition to the post-developed condition will both reduce the natural infiltration and reduce the natural surface runoff, producing changes on both ends of the runoff spectrum.

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Tr (Years)	Subbasin 1 Runoff Predevelopment* Flow(cfs)	Subbasin 1 Runoff Postdevelopment* Flow(cfs)	Pond Outflow Node Postdevelopment** Flow(cfs)
6 Month	0.661	4.428	
2-Year	1.071	5.715	0.626
5 Year	1.662	7.259	1.929
10-Year	2.163	8.378	1.395
25 Year	2.956	9.914	1.749
50 Year	3.685	11.149	1.990
100-Year	4.558	12.459	2.045
200 Year	5.603	13.857	2.545

* Recurrence Interval Computed Using Generalized Extreme Value Distribution
** Computed Using Gringorten Plotting Position

Inset 11. Runoff rate table for Quarry C-North (*Preliminary Drainage Plan*, pdf p. 282).

A scientific study shows the similarity of mine land to urban land in terms of the negative ecological effects compared to forest:

“There are some parallels between a forest to mineland conversion and a forest to urban land-use conversion. In both cases soil permeability decreases; in one case due to soil compaction and in the other due to addition of buildings and pavement... Some of the reported symptoms include a flashier hydrograph, elevated concentrations of nutrients, ... , reduced biotic richness, increased dominance of tolerant species, ... , and a decrease in leaf breakdown.”¹

The mine areas are generally impervious, but to replicate the effects of the urban landscape, the land surface does not have to be 100% impervious. Urban landscapes include areas such as lawns, medians, and natural areas as well as pavement. It is common knowledge among civil planners that urban areas with greater than 12% impervious surface will produce negative effects from runoff. Some cities, such as the City of Bellingham, Washington, mandate that new developments limit impervious area to about this level in order to protect water quality.

The proposed Quarry C will produce effects that will mimic urban stormwater runoff according to the research. It will catch natural perched groundwater and turn it into surface flows, discharged through stormwater pond QC-North. As shown by the *Preliminary Drainage Plan*, the flows will become flashier and change from the natural condition on both amount of runoff and discharge rate. Therefore, scientific studies that examine effects of urban runoff on wetlands apply to the proposed mines.

Changing the water flow from groundwater interflow to surface water point discharge will change one or more of the three important elements of wetland hydrology: depth, duration, and/or timing. The changes in runoff rates and the studies quoted above show that. Research has shown that changes in the depth, duration, and timing of hydrology can change wetland plant survival.² Research by experts and professional engineers has shown that such water routing

¹ Simmons, Jeffrey A, William S. Currie, Keith N Eshleman, et al. Forest to Reclaimed Mine Land Use Change Leads to Altered Ecosystem Structure and Function. *Ecological Applications*, 18(1), 2008, pp. 104-118.

² Azous, Amanda L. and Richard G. Horner, Ed. *Wetlands and Urbanization: Implications for the Future. Final Report of the Puget Sound Wetlands and Stormwater Management Research Program*. Published by Washington

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produces major negative effects in wetlands that impair ecological functions, kill sensitive native plants, and allow weed invasion. This is important since Wetland 4 has 25 native plant species, as observed by LCI.

Other areas in the Pacific Northwest have experienced large-scale changes to the landscape similar to the proposed mine and have seen negative results of engineered stormwater systems. These areas face similar challenges and are analogous to the landscape changes the proposed mine would produce.³ By looking at scientific research in the Pacific Northwest, insight is gained into the effects of the proposed mine's stormwater system on the surrounding landscape, and Wetland 4, which is the bottom of the basin. Other wetlands receiving treated and untreated storm runoff carry the same risks of pollution.

Research on the effects of stormwater system discharges into wetlands has shown that the wetland plant community declines from the changes in hydrology, despite the best intentions of the design engineers.⁴ Observations confirm that even newly engineered systems harm wetlands, and a large number of scientists and engineers agree that the systems do not actually replace the effects of native forest soil when it comes to harming wetlands.^{5, 6}

The proposed mine stormwater system is similar to others that actually do harm the wetland vegetation and wildlife. The effects of mining are similar to the effects of urbanization because impervious surface is created⁷ and similar ineffective stormwater engineering models are used to allegedly protect the downstream waters. As a result, runoff increases, and carries pollution with it, such as fine sediment from mining and blasting, as mentioned in the *Hydrogeologic Report* (p. 4-4). Engineered systems catch the extra runoff, detain it, slow it down, and discharge it at a calculated rate. As seen by the numbers in Photo 6, the rates are different from the natural condition. Even the newest stormwater runoff models produce treatment systems that harm wetlands, especially those vegetated with a wide variety of sensitive native plants.^{8, 9, 10}

State Department of Ecology, Olympia, WA; King County Water and Land Resources Division; the University of Washington, Seattle, WA. 1997.

³ Simmons, Jeffrey A, William S. Currie, Keith N Eshleman, et al. Forest to Reclaimed Mine Land Use Change Leads to Altered Ecosystem Structure and Function. *Ecological Applications*, 18(1), 2008, pp. 104-118.

⁴ Cornwall, Warren. "The Painful Cost of Booming Growth." *The Seattle Times*. May 11, 2008. Accessed online on 11/23/10 at http://seattletimes.nwsourc.com/html/localnews/2004405985_growth_stormwater20m0.html.

⁵ Cornwall, Warren. "The Painful Cost of Booming Growth." *The Seattle Times*. May 11, 2008. Accessed online on 11/23/10 at http://seattletimes.nwsourc.com/html/localnews/2004405985_growth_stormwater20m0.html.

⁶ Concerned Scientists and Engineers. Letter to Puget Sound Partnership, "Partnership Recommendations To: Improve Water Quality and Habitat by Managing Stormwater Runoff; Protect Ecosystem Biodiversity and Recover Imperiled Species; Provide Water for People, Fish and Wildlife, and the Environment." October 26, 2006. Accessed online on 11/23/10 at <http://seattletimes.nwsourc.com/ABPub/2008/05/10/2004406008.pdf>.

⁷ Simmons, Jeffrey A, William S. Currie, Keith N Eshleman, et al. Forest to Reclaimed Mine Land Use Change Leads to Altered Ecosystem Structure and Function. *Ecological Applications*, 18(1), 2008, pp. 104-118.

⁸ Cornwall, Warren. "The Painful Cost of Booming Growth." *The Seattle Times*. May 11, 2008. Accessed online on 11/23/10 at http://seattletimes.nwsourc.com/html/localnews/2004405985_growth_stormwater20m0.html.

⁹ Azous, Amanda L. and Richard G. Horner, Ed. *Wetlands and Urbanization: Implications for the Future. Final Report of the Puget Sound Wetlands and Stormwater Management Research Program*. Published by Washington State Department of Ecology, Olympia, WA; King County Water and Land Resources Division; the University of Washington, Seattle, WA. 1997.

¹⁰ Concerned Scientists and Engineers. Letter to Puget Sound Partnership, "Partnership Recommendations To: Improve Water Quality and Habitat by Managing Stormwater Runoff; Protect Ecosystem Biodiversity and Recover

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H. Water Quality Impacts to Wetland 4 from the Proposed Quarry C

The Washington Department of Ecology discusses surface mining impacts to wetlands:

“Surface mining generates large quantities of unusable rock that is often left on the surface after it is extracted. This exposes the rock (called spoils) to an oxidizing environment, resulting in a complex series of chemical reactions. The minerals contained in the spoils are not in equilibrium with the oxidizing environment and almost immediately begin weathering and mineral transformations.

The reactions are analogous to ‘geologic weathering’ which takes place over extended periods of time (hundreds to thousands of years) but the rates of reaction are orders of magnitude greater than in “natural” weathering systems. The accelerated reaction rates can release damaging quantities of acidity, metals, and other soluble components into the environment (U.S. Department of the Interior, Office of Surface Mining 2003).

Thus, the two major disturbances created by surface mining are (Adamus et al. 2001):

- An increase in the levels of heavy metals that are toxic to many organisms
- An increase in the acidity of surface waters”¹¹.

Although the *Preliminary Drainage Plan* states that basalt will be piled away from stormwater features (p. 2-9), the fact that the proposed temporary stormwater pond will collect all the runoff from the mine means that the runoff could still contain chemicals or particulates that could harm water quality. No stockpile areas are shown outside the Quarry C plan, so it is assumed that the proposed detention ponds will catch the runoff from the stockpiles and transmit at least 50% of the polluted runoff to Wetland 4 or other receiving water bodies. Therefore, according to the DOE, acid damage to Wetland 4 could occur.

Acid drainage potential is not discussed in the *Preliminary Drainage Plan* or in the *Hydrogeologic Report*. Acidification of surface runoff was not mentioned in the EIS. Monitoring of groundwater pH is proposed in some locations (*Hydrogeologic Report*, p. 4-6), but no discussion of how to effectively stop acid mine drainage is mentioned. “Acid mine drainage

Imperiled Species; Provide Water for People, Fish and Wildlife, and the Environment.” October 26, 2006.

Accessed online on 11/23/10 at <http://seattletimes.nwsources.com/ABPub/2008/05/10/2004406008.pdf>.

¹¹ Sheldon, D., T. Hraby, P. Johnson, K. Harper, A. McMillan, T. Granger, S. Stanley, and E. Stockdale. March 2005. *Wetlands in Washington State - Volume 1: A Synthesis of the Science*. Washington State Department of Ecology. Publication #05-06-006. Olympia, WA. (p. 3-33). [Author cites U.S. Department of the Interior, Office of Surface Mining. 2003. *Factors Controlling Acid Mine Drainage Formation*. Available: <http://www.osmre.gov/amdform.htm>. Accessed: May 23, 2003; and cites Adamus, P.R, T.J. Danielson, and A. Gonyaw. 2001. *Indicators for Monitoring Biological Integrity of Inland, Freshwater Wetlands: A Survey of North American Technical Literature (1990-2000)*. EPA 843-R-01. Fall 2001. Available: <http://www.epa.gov/owow/wetlands/bawwg/monindicators.pdf>. U.S. Environmental Protection Agency, Office of Water.]

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from active and closed mines poses a serious pollution problem in receiving waterways because of acidity and metals that spread downstream from the point source.”¹²

pH is the measure of acidity, and it is a logarithmic scale from 1-14 that expresses the number of hydrogen ions (H⁺) in a sample. The lower the pH, the higher the acidity. A neutral pH is 7, and water is usually close to this value. Stomach acid has a pH of around 2. “pH is a major factor determining metal toxicity. Some metals may compete with H⁺ at binding sites, reducing their uptake and toxicity, while the toxicity of other metals may increase in the presence of high H⁺ concentrations, probably due to changes in their speciation, mobility and bioavailability (Cummins, 1993). In addition, the uptake of one metal by the organism is dependent on several factors, e.g. the nature of the membrane where the uptake takes place, the presence of complexing agents in the water, or the developmental state of the organism. Therefore, metals’ bioavailability and concomitant toxicity to benthic invertebrates may be considered species specific (Gerhardt, 1992). Metals when in toxic concentrations may act as metabolic poisons (Earle and Callaghan, 1998) or having several other modes of action (e.g. inactivation of enzymes) that in general have reflexes on important biological processes such as growth, reproduction or oxygen consumption (Depledge et al., 1993). However, the H⁺ ions themselves exert adverse effects (Cummins, 1993), affecting several physiological functions such as Na⁺ regulation, respiration, Ca₂₊.”¹³

In addition to the detrimental effects of pH on the downstream Wetland 4, the metals in the runoff can affect organisms downstream. “Acid-mine drainage (AMD) originating from these sites typically has a low pH and contains high concentrations of metals. Once AMD enters a stream, a number of processes may occur, including a decrease in stream pH, precipitation of metal oxyhydroxides, and scavenging of other metals by sorption and/or co-precipitation with these metal oxyhydroxides. Precipitates may settle to the streambed as sediment or coatings on sand and rocks, or they may travel downstream as suspended sediments (Stumm, 1992; Schemel et al., 2000).”¹⁴

¹² Duongruitai Nicomrata, Warren A. Dick, Mark Dopson, Olli H. Tuovinen. Bacterial phylogenetic diversity in a constructed wetland system treating acid coal mine drainage. *Soil Biology & Biochemistry* 40 (2008) 312–321.

¹³ Macedo-Sousa, Joaquim A., Almut Gerhardt, et al. Behavioural responses of indigenous benthic invertebrates (*Echinogammarus meridionalis*, *Hydropsyche pellucidula* and *Choroterpes picteti*) to a pulse of Acid Mine Drainage: A laboratorial study. *Environmental Pollution* 156 (2008) 966–973. [author cites Cummins, C.P., 1993. Acid solutions. In: Calow, P. (Ed.), *Handbook of Ecotoxicology*. Blackwell Scientific Publications, Oxford, pp. 21–44; Gerhardt, A., 1992. Review of heavy metals on stream invertebrates with special emphasis on acid conditions. *Water Air Soil Poll.* 66, 289–314; Earle, J., Callaghan, T., 1998. Impacts of mine drainage on aquatic life, water uses, and man-made structures. In: Brady, K.B.C., Smith, M.W., Schueck, J. (Eds.), *Coal Mine Drainage Prediction and Pollution Prevention in Pennsylvania*. Pennsylvania’s Department of Environmental Protection, Harrisburg, pp. 4.1–4.10; Depledge, M.H., Weeks, J.M., Bjerregaard, P., 1993. Heavy metals. In: Calow, P. (Ed.), *Handbook of Ecotoxicology*. Blackwell Scientific Publications, Oxford, pp. 79–105.]

¹⁴ Butler, Barbara A. Effect of pH, ionic strength, dissolved organic carbon, time, and particle size on metals release from mine drainage impacted streambed sediments. *Water Research* 43 (2009) 1392–1402. [Author cites Stumm, W., 1992. *Chemistry of the Solid-water Interface: Processes at the Mineral-water and Particle-water Interface in Natural Systems*. John Wiley & Sons, New York, New York, 428 pp.; Schemel, L.E., Kimball, B.A., Bencala, K.E., 2000. Colloid formation and metal transport through two mixing zones affected by acid mine drainage near Silverton, Colorado. *Applied Geochemistry* 15, 1003–1018.]

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Metals that are toxic to fish and other aquatic organisms include zinc, copper, and others. The discharge of untreated stormwater (50% of the 2-50 year storms) from the proposed Quarry C could release metals and lower the pH of the water in Wetland 4 and the stream reaches below. The toxic acids and metals from the proposed Quarry C could therefore harm fish and other organisms that depend on the aquatic features. "Acid mine drainage (AMD) is the leachate from a mining operation that typically contains high concentrations of sulfuric acid, Fe, Al, Mn, and numerous toxic metals."¹⁵

The acid mine drainage and associated metals can also disrupt the phosphorus dynamics of aquatic ecosystems, and cause phosphorus in the water column to enter sediments, and even co-precipitate with metals.¹⁶ This is important in wetlands, where plant growth and decay creates phosphorus-rich environments. "Lower dissolved P in the water column could lead to lower productivity by periphyton and slower decomposition by microorganisms."¹⁷

II. Conclusion and Recommendations

Wetland 4 has not been delineated and described by collecting data typical to the delineation process. Wetland 4 should be delineated with flags in the field to show the extent of Lobes 1 and 2 that LCI observed. The flags should be surveyed by a licensed surveyor to reveal the true wetland edges and determine the buffer offsets.

The delineation should also include mapping the ordinary high water marks (OHWMs) of Dickerson Creek in Lobe 2, and include mapping of the offsite Dickerson Creek OHWMs to show whether the stream buffers will enter the proposed quarry sites. All stream OHWMs should be delineated for buffer determination rather than relying on the centerlines that appear on the plans. Centerlines are not OHWMs, and the buffers will likely project farther into the uplands if offset from the OHWMs.

Wetland 4 is a Category II wetland that scores high for water quality and habitat functions. It should be considered a separate rating unit from Wetland 6. The wetland ratings should reflect the increased opportunity for the wetlands to improve water quality under the proposed stormwater discharge plans for all wetlands proposed to receive stormwater.

The proposed Quarry C operation will change the runoff characteristics of the basin, which will have negative effects on wetlands, similar to urban runoff impacts. The proposed Quarry C will also release large amounts of untreated stormwater during 2-year and higher intervals. These changes in hydrology have been proven to negatively affect plant diversity in wetlands such as Wetland 4. Wetland 4 has a high number of native plants, and changes in plant diversity can be expected according to the best available science.

¹⁵ Simmons, Jeffery A. Phosphorus Removal by Sediment in Streams Contaminated with Acid Mine Drainage. *Water Air Soil Pollut* (2010) 209:123–132.

¹⁶ Simmons, Jeffery A. Phosphorus Removal by Sediment in Streams Contaminated with Acid Mine Drainage. *Water Air Soil Pollut* (2010) 209:123–132.

¹⁷ Simmons, Jeffery A. Phosphorus Removal by Sediment in Streams Contaminated with Acid Mine Drainage. *Water Air Soil Pollut* (2010) 209:123–132.

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Wetland 6 is and will certainly be a Category I wetland after the proposed mine development and the buffers should be increased to protect it if the proposed development proceeds.

Research shows that these untreated mine releases can contain acid mine runoff and heavy metals. The acidity and metals could be directly toxic to aquatic organisms, as they have in other cases. The metals and acids can also disrupt the phosphorus cycle of Wetland 4, which is a concern given the high number of native plant species in the wetland. The resident beavers depend on plants for food, and significant declines in the plant community could negatively affect them. For these reasons, LCI recommends additional review and analysis of these issues by the County and applicant prior to the applicant receiving a SDAP.

Sincerely,

Leyda Consulting, Inc.



Joseph D. Leyda, MA
Professional Wetland Scientist
Certified Ecologist



COMMENT #50

Allison Satter

From: Judith Friedberg-Nerf <jnerf@comcast.net>
Sent: Monday, February 23, 2015 11:30 AM
To: Allison Satter
Cc: Eric Younger; Roy Runyon; Greg Wheeler
Subject: Questions re: Comp Plan Update

Hello Allison,

I attended the recent Land Use Open House gathering and appreciate the invitation for citizen feedback.

I'd like to submit some comments soon; but first I'm seeking additional information with respect to land use designations.

I've looked at City website, and I've been unable to find definition of General Commercial development parameters in the CompPlan 2035 section. It would be helpful to have these in hand in order to understand and compare the impacts of proposed changes from Limited Commercial, Commercial Corridor, Neighborhood Center and Neighborhood Business designations to that of General Commercial. Can you please provide a copy General Commercial development parameters?

Also with respect to the re-creation of Multifamily Residential designation, I understand that unintended problems arose when that designation was removed from the existing Comp Plan. I understand that multifamily properties that were "rezoned" became "non-conforming", and that property owners are experiencing negative impacts as a result. Could you please briefly explain what consequences arose from rezoning these properties and why property owners are experiencing constraints - it would be interesting to have an idea about how many properties have been impacted? Is it being proposed that all condo developments across the City be designated "Multifamily Residential" (like the one near the corner of Shorewood Drive and Kitsap Way in Council District 7, Draft Land Use Map #3)? Will there be uniform development parameters for all Multifamily Residential properties - and could you please provide a copy of these?

I live in Council District 7, and have a high interest in proposals that potentially affect the Oyster Bay/Kitsap Way corridor areas. Since our home faces the Oyster Bay Channel, we are strongly connected to the entire residential community surrounding Oyster Bay - as well as to the Kitsap Way commercial corridor that lies just South of R10 zone below Oyster Bay. Council Districts are divided such that issues affecting Oyster Bay area fall into two districts - so some of my questions actually relate to parts of Council District 6 as well.

Thank you so much for any information you can provide.

Also, I want to say that the website postings of council district-by-district profiles - stats and maps - are helpful and useful. I don't know who is responsible, but kudos to all involved in organizing and posting this information. And special thanks to staff and council members who took time to put their feet on the ground to develop these profiles. I hope this effort continues on a regular basis. And maybe in the future, citizens and business owners from each council district will be invited to go along and participate? And as an outcome of this activity, would there ever be a possibility of publishing district-by-district map reflecting empty/underutilized commercial buildings?

Sincerely,

Judy Friedberg-Nerf
1600 Madrona Point Drive
Bremerton 98312

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