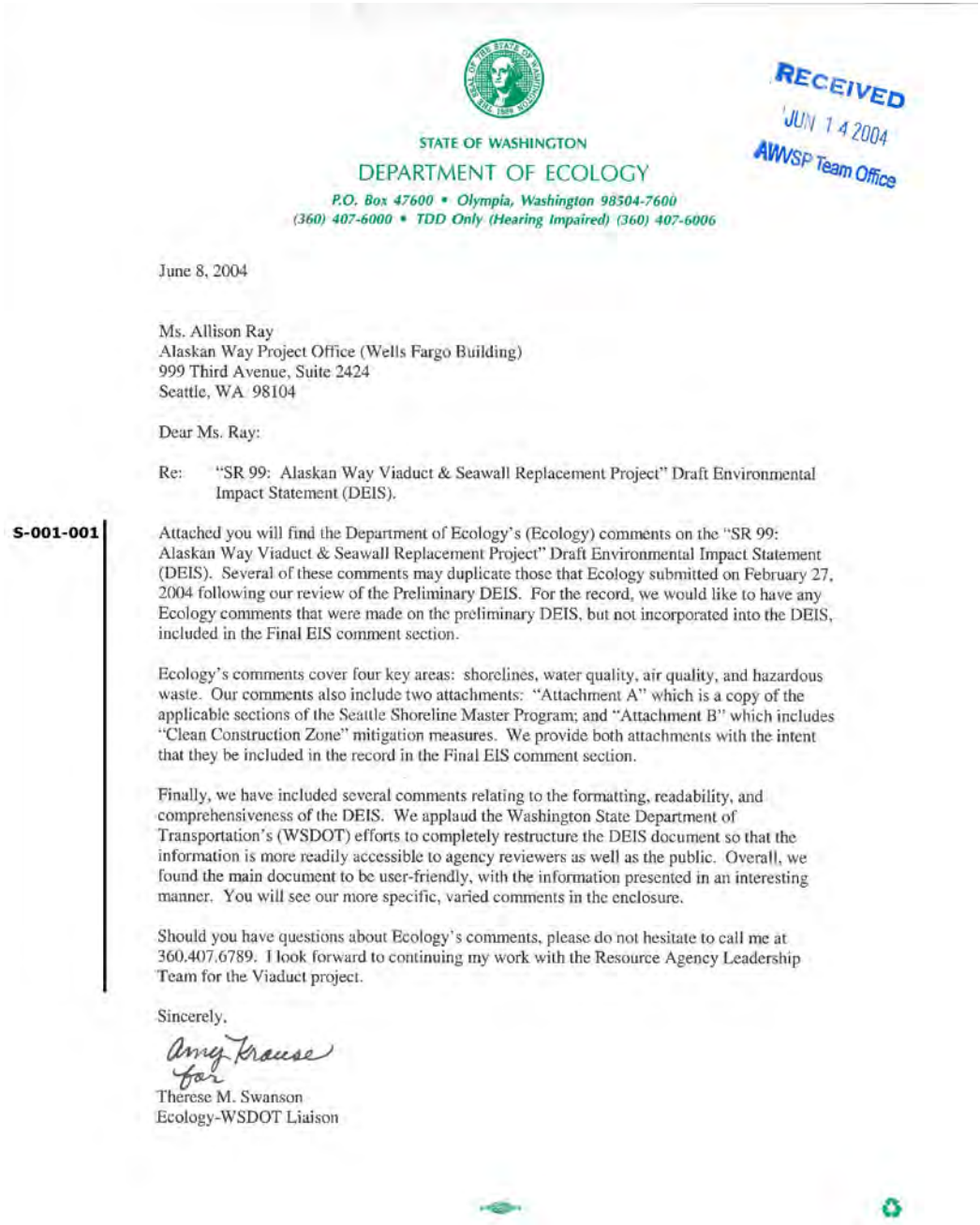

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JUN 14 2004
AWVSP Team Office

June 8, 2004

Ms. Allison Ray
Alaskan Way Project Office (Wells Fargo Building)
999 Third Avenue, Suite 2424
Seattle, WA 98104

Dear Ms. Ray:

Re: "SR 99: Alaskan Way Viaduct & Seawall Replacement Project" Draft Environmental Impact Statement (DEIS).

S-001-001

Attached you will find the Department of Ecology's (Ecology) comments on the "SR 99: Alaskan Way Viaduct & Seawall Replacement Project" Draft Environmental Impact Statement (DEIS). Several of these comments may duplicate those that Ecology submitted on February 27, 2004 following our review of the Preliminary DEIS. For the record, we would like to have any Ecology comments that were made on the preliminary DEIS, but not incorporated into the DEIS, included in the Final EIS comment section.

Ecology's comments cover four key areas: shorelines, water quality, air quality, and hazardous waste. Our comments also include two attachments: "Attachment A" which is a copy of the applicable sections of the Seattle Shoreline Master Program; and "Attachment B" which includes "Clean Construction Zone" mitigation measures. We provide both attachments with the intent that they be included in the record in the Final EIS comment section.

Finally, we have included several comments relating to the formatting, readability, and comprehensiveness of the DEIS. We applaud the Washington State Department of Transportation's (WSDOT) efforts to completely restructure the DEIS document so that the information is more readily accessible to agency reviewers as well as the public. Overall, we found the main document to be user-friendly, with the information presented in an interesting manner. You will see our more specific, varied comments in the enclosure.

Should you have questions about Ecology's comments, please do not hesitate to call me at 360.407.6789. I look forward to continuing my work with the Resource Agency Leadership Team for the Viaduct project.

Sincerely,

Amy Krause
for
Therese M. Swanson
Ecology-WSDOT Liaison

S-001-001

The project has changed substantially since the Draft EIS was submitted in 2004. Because of this, we have responded to comments submitted in this comment letter but have not included comments made on February 27, 2004.

Thank you for providing specific feedback related to the format of the Draft EIS. We are pleased that Ecology thought the document was more user-friendly and accessible to public and agency reviewers.

DEPARTMENT OF ECOLOGY COMMENTS
ALASKAN WAY VIADUCT DEIS

I. SHORELINE MANAGEMENT

S-001-002 Ecology reviewed the Draft DEIS and associated appendices (Appendix D - *Visual Quality Technical Memorandum* and Appendix G – *Land Use and Shorelines Technical Memorandum*) as they relate to the Shoreline Management Act (SMA) and the Seattle Shoreline Master Program (SMP). The key comments are related to:

- A Lack of Visual Analysis of Each Alternative
- Inconsistency Between the "Goals", "Policies" and "Regulations" Attributed to the Seattle Comprehensive Plan vs. the Seattle Shoreline Master Program
- Need to Increase Emphasis on Need for Consistency between the Shoreline Master Program and the Selected Alternative. Amendments May Be Required.
- Loss of Public Parking and Public Access Mitigation Issues
- Inclusion of Shoreline Map

Specific comments are as follows:

S-001-003 A. **A Visual Analysis of Full Build-Out for Each Alternative Should Be Provided** (Appendix D).

Additional photographs and view analyses for each alternative should be included in the EIS. For example, there are differing opinions that the Alaskan Way Viaduct is both *blocking* and *providing* views and vistas of Elliott Bay, Puget Sound, and the Olympic Mountains. A view analysis including both perspectives would provide more clarity for this issue. There are too few examples of what one is able to see or is prevented from seeing from the various points discussed. The text-only analysis should be enhanced with a view analysis and additional photographs.

S-001-004 B. **A Discussion of Mitigation Should Be Included Due to Possible Loss of Views from the Alaskan Way Viaduct** (Appendix D).

Views within shoreline jurisdiction are one of the key elements of the Shoreline Management Act. While there are some photographs of views and view blockages in the general DEIS, there are no photographs of views or vistas as seen *from* the AWV towards Elliott Bay and Puget Sound in either the DEIS or Appendix D. The Alaskan Way/Alaskan Way Viaduct is designated as a State scenic route and corridor from which approximately 110,000 people per day have the vistas of Elliott Bay, Puget Sound, and the Olympic Mountains.

It should be acknowledged that the views from this public shoreline visual access route will be removed under the Surface, Tunnel, and Bypass-Tunnel Alternatives. Mitigation for the proposed loss should be discussed, since there is no requirement or proposal in

1

S-001-002

Thank you for reviewing the 2004 Draft EIS, Appendix D, and Appendix G. Responses to your key comments are addressed in the specific responses to comments that follow.

S-001-003

Views from the existing Alaskan Way Viaduct, and similar views from the Elevated Structure, Cut-and-Cover Tunnel, and Bored Tunnel Alternatives were assessed in the Final EIS. Appendix D, Visual Quality Discipline Report, and Appendix E, Visual Simulations, were also prepared to support the Final EIS. These documents provide an assessment of the visual character and quality of the views, as well as the likely viewer response of drivers and passengers. Scenic views from the SR 99 roadway are described in the text as an element of enjoyment for drivers and passengers.

For all the alternatives, a variety of scenic views are available to a variety of groups of viewers with a range of sensitivity based on the activities of the viewers. A thorough discussion of both visual resources and viewer response is provided in the Final EIS and its Appendix D, Visual Quality Discipline Report. Decision-makers are provided with an assessment of the range of visual quality impacts for the alternatives as one of a multitude of factors.

S-001-004

Many people have expressed that they enjoy the views when traveling on the viaduct. The visual character and quality of the views, as well as the likely viewer response of drivers and passengers, were discussed for each alternative in the 2004 Draft EIS, 2006 and 2010 Supplemental Draft EISs, and Final EIS.

The Final EIS analysis considers views in the SR 99 corridor, which is designated as a City of Seattle Scenic Route, and identifies and

S-001-004

this DEIS that the land vacated by the removal of the Viaduct will remain as open space. Instead, development might occur on private or public land in the vacated corridor that would block much more shoreline and water views from the uplands than the 50 ft. high Alaskan Way Viaduct.

S-001-005

C. **Inconsistently Referenced and Worded Goals, Policies, and Regulations between the Seattle Comprehensive Plan and Shoreline Master Program (Appendix G - Land Use and Shorelines Technical Memorandum)**

The "goals" and "policies" are the driver of a Shoreline Master Program and are therefore critical to understand in the course of developing a project in shoreline jurisdiction.

In this case, the goals, policies and regulations in Appendix G that are attributed to both the Seattle Comprehensive Plan and the Seattle Shoreline Master Program do not appear in either planning document as quoted in the AWV documents.

For example, the Goals and Policies for Shoreline Economic Development are listed as on p. 46 of Appendix G as:

LG99 Encourage economic activity and development of water dependent uses by *supporting the retention and expansion of existing water-dependent businesses and* planning for the creation of new developments in areas now dedicated to such uses.

LG100 Allow a multi-use concept of development, provided that the major use is water dependent and development provides public access to the shoreline yet maintains the economic viability of the use.

The italicized phrase above is not in the current, official, Ecology-approved Seattle Shoreline Master Program (July 31, 1997). The Economic Development goals and policies in the formally adopted Seattle SMP are:

S-001-006

Economic Development:

GOALS

G87 Encourage economic activity and development of water dependent uses by planning for the creation of new developments in areas now dedicated to such use.

G88 Allow a multi-use concept of development, provided that the major use is water dependent and that provides public access to the shoreline yet maintains the economic viability of the use.

2

assesses designated view corridors primarily along east-west streets. Views from the road and of the road are both assessed. Visual quality mitigation measures are presented in Chapter 8.

S-001-005

Your comments about inconsistency in the 2004 Draft EIS are noted. Please note that Appendix G, Land Use Discipline Report, has been revised since the publication of the 2004 Draft EIS.
See Appendix G, Land Use Discipline Report, of the Final EIS for the current discussion of the Seattle Comprehensive Plan and Seattle Shoreline Master Program goals and policies.

S-001-006

The project would support Goals G 87 and G 88 identified in this letter in much the same manner as Goals LG 99 and LG 100 in the Comprehensive Plan. The build alternatives would provide access to the downtown and waterfront areas. Improved visual and pedestrian connections may also result from the build alternatives, especially with the tunnel alternatives. These changes may assist in encouraging new development and economic activity downtown and along the waterfront.

Regarding Policies L186 through L189 in this letter, the proposed project would not direct potential land uses to certain areas along the waterfront. It may result in opportunities for new uses in places along the project route; however, the type of uses and where they might be concentrated or otherwise located would be determined by other factors such as zoning and development regulations. These regulations may or may not meet policies calling for incentives for public amenities on private property and objectives for water-dependent businesses or other uses. Additionally, the City has the Central Waterfront Plan and the Central Waterfront Project that will help guide potential development opportunities in this area.

S-001-006

POLICIES

L186 Concentrate industrial and commercial shoreline uses by planning for the creation of new developments in areas now dedicated to such use.
L187 Identify and designate appropriate land adjacent to deep water for uses that require such condition, such as industry or commerce.
L188 Provide incentives for public amenities on private property.
L189 City-wide objectives for different types of water-dependent businesses and industries (A-G).

Discrepancies should be eliminated and the AWV Alternatives should be reviewed in light of the goals and policies in the official SMP as approved by Ecology. In addition, if the numbering and lettering system in the Comprehensive Plan and Municipal Code differ from those employed in the official Shoreline Master Program, cross references or cross citation should be used.

As there are unexplained discrepancies between the stated goals and policies of the Seattle Comprehensive Plan and Seattle SMP in Appendix G, it is important that the official goals and policies of the Seattle SMP be made clear to the public. The approved SMP Goals and Policies are provided in Attachment A.

S-001-007

D. **Selected Alternative Must Be Consistent with the Current or Amended SMP**

The choice of the preferred Alternative is likely to drive the development or re-development of the Central and South Harbor front. The current shoreline designations in the SMP, with their preferred and permitted uses, should impact the way the Alternatives are assessed. Discussion of the various Alternative designs should acknowledge and reflect the specific SMP components mentioned in Attachment A. The discussion should reflect how they are consistent with the adopted Seattle SMP Goals and Policies and how they support the preferred uses. Alternatively, the DEIS could explain how the current SMP would need to be amended to allow the various Alternatives. The SMP would have to be amended according to Chapter 173-26 WAC prior to commencement of the shoreline permitting process.

S-001-008

E. **Provide A More Complete Description and Focus on the Seattle Shoreline Master Program** (Appendix G, Section 4.8.2. - Local Plans and Policies, p.33)

This section of Appendix G lists and describes various plans that apply to the project, including the Seattle Comprehensive Plan and Shoreline Master Program. There is a high degree of focus on the Comprehensive Plan.

The Seattle Shoreline Master Program is discussed in one sentence as being a part of the Seattle Municipal Code. Put simply, this not enough information to adequately convey the importance of the Seattle SMP and its associated goals, policies, shoreline designations, and development regulations on this project corridor.

3

S-001-007

It is not certain that the "choice of a preferred alternative is likely to drive the development or redevelopment of the Central and South Harbor front." Future development would also be determined by a number of other factors, like local economic conditions. Development and zoning regulations will have a strong influence on future development throughout the project area. Additionally, the City has the Central Waterfront Project which also will help to guide development there.

Shoreline goals and policies, as expressed in Attachment A, would provide additional guidance for future uses along the waterfront. The project will comply with appropriate shoreline regulations in place at the time of construction. Permit conditions likely to be attached to project approvals would help assure this compliance. Regarding goals and policies of the shoreline program, it is expected that the project would be consistent with the intent of many of these objectives, as indicated in the Final EIS Appendix G, Land Use Discipline Report.

S-001-008

The 2004 Draft EIS Land Use Technical Memorandum did address potential impacts related to shoreline goals and policies. Although page 33 did refer to the Shoreline Management Plan in a single sentence as noted, that same report devoted six pages (pages 45 to 50) to analysis of potential impacts related to specific shoreline goals and policies. This information has been updated in the Land Use Discipline Report (Appendix G) included in the Final EIS. It is acknowledged that the shoreline program will provide important direction for future land use in the project area, including construction of the project.

S-001-008

Further explanation of the SMA and SMP as they relate to each of the alternatives, as they are all within shoreline jurisdiction, should be provided. Shoreline jurisdiction under the Shoreline Management Act (RCW 90.58) and Seattle SMP extends from the ordinary high water mark (generally the Seawall) landward 200 feet. In shoreline jurisdiction, the Seattle SMP goals, policies and regulations take precedence over other applicable plans and codes.

As a final suggestion for additional information, include the City's introductory paragraph to its SMP/Comprehensive Plan (Section H. – SHORELINES) as it succinctly identifies for the public the importance of the shoreline regulations:

> "In conformance with the goals of the State Shoreline [Management] Act, the Seattle Shoreline Master Program is established to accommodate a variety of functions and activities unique to shoreline areas, especially water dependent businesses and shoreline recreation activities, and to protect and enhance public access, natural areas and views of the water. Management of Seattle's shorelines is guided by the Area Objectives for Seattle's shorelines as established in these policies, and the purpose of the shoreline environments, the shoreline environment designations, and the use regulations and development standards established in the (Land Use Code). All of these elements combined constitute the Seattle Shoreline Master Program."

S-001-009

F. **New Over-Water Pier at Colman Dock, SMP, and Permitting**

A new over-water pier at Colman Dock and Pier 46 is proposed for all Alternatives as part of this project. If it is to be reviewed as part of this DEIS, more information is needed. The water-dependency aspect of this use is not clear. A pier that is proposed for non-water dependent uses is not consistent with the SMA (RCW 90.58.020) or the Seattle SMP.

S-001-010

G. **Parking and Public Access Mitigation Measures**

It was noted in the DEIS and Appendix G that over 700 surface parking places will be lost in the Central Harbor front if either the Tunnel and Bypass Tunnel Alternatives are chosen. The loss of that amount of parking in a retail and tourist area is likely to impact uses by causing closures of businesses and reduce public access to the shoreline due to lack of parking. Parking on the Seattle downtown waterfront is currently limited, and this would restrict access further.

The Appendix states that no mitigation for this loss is planned, but it should be considered as there is likely to be a great negative impact on the public and on the project corridor businesses that have no dedicated parking.

S-001-011

H. **Shoreline Designation Map** (Appendix G – p. 30)

S-001-009

For the preferred Bored Tunnel Alternative, the construction of a temporary ferry access bridge would not be necessary.

However, both the Elevated Structure Alternative and Cut-and-Cover Tunnel Alternative would include construction of a temporary ferry access bridge between Pier 48 and the Colman Dock ferry terminal. This would be necessary to maintain vehicular access to the ferry operations during construction. This temporary structure would be needed to allow cars to travel from remote ferry holding to the ferry loading terminal. As such, this use would be accessory to the Washington State Ferries water-dependent use. The project would obtain permits as necessary for this temporary use.

S-001-010

The lead agencies recognize that businesses along the central waterfront, Western Avenue, and Pioneer Square rely on the short-term parking in the area. The City of Seattle Department of Transportation (SDOT), in coordination with the project, has conducted parking studies as part of the process to develop mitigation strategies and better manage the city's parking resources. SDOT's studies identified a number of strategies to offset the loss of short-term parking in this area, including new or leased parking and the increased utilization of existing parking. Although the mitigation measures would be most needed during construction, many of them could be retained and provide benefits over the longer term. Specific parking mitigation strategies have not yet been determined, but the project has allocated $30 million for parking mitigation. The parking mitigation strategies will continue to evolve in coordination with the project and community partners. Parking measures under consideration and refinement include:

- Encourage shift from long-term parking to short-term parking
- Provide short-term parking (off-street), especially serving waterfront

S-001-011 Ecology recommends including a map of shoreline designations similar to the map that is included for Exhibit 4-7 - Project Area Zoning Map after Page 25.

II. AIR QUALITY

S-001-012 Ecology commends WSDOT on a thorough review of the Alaskan Way Viaduct and Seawall Replacement Project's air quality impacts due to criteria pollutants. We are, however, providing specific comments on the assessment of the air quality impacts due to air toxics from construction related activities and for associated mitigation measures to reduce air toxics generated by the proposed project.

Appendix Q, Air Quality Discipline Report, of the DEIS clearly acknowledges the identification of mobile source related hazardous air pollutants as contributing the greatest risk in the Puget Sound Region. The appendix later acknowledges that an Ecology air toxics study in Georgetown identified that the single greatest air toxics risk is associated with diesel particulate emissions. Appendix 4.10.4 states that as the project develops further, a detailed construction impact analysis will be developed that evaluates short and long duration emissions from construction activities.

The section, "Construction Impacts and Mitigation", acknowledges that roadway capacity in the corridor will be reduced on both SR99 and the Alaskan Way surface streets, neighboring streets will be closed at times, detours will be established, and congestion will increase.

The "Other Things to Consider" section addresses cumulative impacts and acknowledges that additional major transportation projects will be under construction during the same time period as that proposed for the Alaskan Way Viaduct, and that these projects will also significantly impact downtown traffic and transit. Six projects are specifically identified: the Link Light Rail Project, the Monorail, the SR 519 Intermodal Access and Surface Improvements, the Mercer Street Corridor Improvements, the I-5 Improvements, and the Coleman Dock Ferry Terminal Expansion.

Emissions from increased traffic congestion, plus the emissions from the construction of these major transportation projects, will significantly impact air quality in the downtown Seattle area for the next seven to ten years. Additionally, these impacts will offset air quality benefits that have been achieved by the Puget Sound Clean Air Agency's aggressive initiation of "Diesel Solutions", a voluntary program encouraging the use of ultra-low sulfur diesel and the retrofitting of diesel engines with emissions control technology.

While a thorough assessment of the air toxics emissions per appendix 4.10.4 could further characterize the air toxics risk for the downtown Seattle region, the impacts of diesel emissions in the Seattle area are already sufficiently well-established to support the conclusion measures are needed to reduce diesel particulate emissions. For this reason, Ecology recommends that the Department of Transportation adopt a "Clean Construction" zone encompassing all areas impacted by these major projects identified in the Alaskan Way Viaduct DEIS

5

piers, downtown retail, and other heavy retail/commercial corridors
- Implement electronic parking guidance system
- Provide alternate opportunities to facilitate commercial loading activities
- Develop a Center City parking marketing program
- Use existing and new social media and blog outlets to provide frequent parking updates
- Establish a construction worker parking policy that is implemented by the Contractor

Refer to the Parking Mitigation during Construction section in Chapter 6 of the Transportation Discipline Report (Appendix C of the Final EIS) for additional information.

S-001-011

The Seattle Comprehensive Plan designations appear on updated exhibits and in Appendix G, Land Use Discipline Report, included in the Final EIS.

S-001-012

A Memorandum of Agreement has been developed between WSDOT and the Puget Sound Clean Air Agency to help eliminate, confine, or reduce construction period emissions for many larger and longer term projects in Washington State.

Mitigation measures, including those for air quality, are described in the Final EIS.

S-001-012

An effective "Clean Construction Zone" includes the following:

- All diesel equipment uses ultra-low sulfur diesel.
- All diesel equipment fifty horse-power or greater, that is on the job for greater than thirty days, is equipped with diesel oxidation catalysts, or emission control technology or repowering that achieves similar emissions reductions.
- A staging zone is established for trucks that are waiting to load or unload material in a location where public exposure to diesel emissions is minimized.
- All idling is limited to three minutes or less.

During the past two years, staff from WSDOT, Ecology, the Puget Sound Clean Air Agency, the Puget Sound Regional Council, Region 10 EPA, the Federal Highways Administration, and the Federal Transit Association has participated in a series of air quality "Round Table" discussions associated with proposed transportation projects in the Central Puget Sound Region. During these meetings, Ecology and the Clean Air Agency regularly communicated their concerns to WSDOT regarding potential increases in toxic air emissions from transportation projects that might impact the area's residential and business districts. Ecology specifically identified reconstruction of the Alaska Way Viaduct as the project most likely to impact air quality in the downtown Seattle area.

Ecology fully supports a collaborative approach between air and transportation agencies that best serves the citizens of Washington: one that resolves these air quality concerns, while still addressing the transportation needs for the Puget Sound Region. Ecology invites the Department of Transportation to work with the Air Program to begin implementation of developing a "Clean Construction" zone by participating in a "Clean Construction" workshop hosted by Ecology scheduled for Fall, 2004. Our attachment contains comments that provide greater detail on the need for the mitigation measures described above and how best to achieve them. (See Attachment B).

III. HAZARDOUS WASTE

S-001-013

We are resubmitting the Hazardous Waste comments from Ecology's preliminary DEIS comments:

AWV Hazardous Materials Discipline Report

A. Mid-to heavy-range petroleum hydrocarbons usually contain several different polyaromatic hydrocarbons (PAHs), some of which are carcinogens. PAHs need to be addressed here. (p.87)

B. Chlorinated compounds, like TCE and PCE, produce their breakdown products, like dichloroethylene (DCE) and vinyl chloride (VC) in subsurface by anaerobic biodegradation. DCE and VC are very common constituents in contaminated dry cleaning sites. (p.87)

S-001-013

The following text has been inserted into Appendix Q, Hazardous Materials Discipline Report:

Polycyclic aromatic hydrocarbons (PAHs) – some of which are carcinogenic, are present in heavy-range petroleum hydrocarbons and are also created during the burning process as result of incomplete combustion. PAHs are also present in creosote, which is primarily comprised of heavy-range petroleum hydrocarbons. PAHs may be associated with petroleum releases, such as leaking heating oil USTs, lubricating oils from the former railroad use, burned timbers, and creosote treated timbers or pilings that may have been used to support railroad trestles, the former elevated roadway (Alaskan Way), or piers along the waterfront.

The following text was inserted in the discussion of solvents: "These compounds result in breakdown products such as dichloroethylene (DCE) and vinyl chloride that are also associated with dry cleaning operations."

IV. WATER QUALITY

S-001-014

1. Need additional discussion about why the introduction of relatively clean stormwater into the sanitary sewer system should be considered an option. For that option, need a discussion about the minimum CSO treatment that would be provided. Where that option isn't used, but stormwater is discharged directly, need a discussion about the appropriate level of stormwater treatment.

2. Need additional discussion about why the introduction of relatively clean stormwater into the sanitary sewer system should be considered an option. For that option, need a discussion about the minimum CSO treatment that would be provided. Where that option isn't used, but stormwater is discharged directly, need a discussion about the appropriate level of stormwater treatment.

S-001-015

3. According to WSDOT's analysis, the preferred alternative (i.e. convey and treat) appeared to have scored second to the BMP alternative. A detailed discussion should be provided that explains why the BMP alternative was not selected. If the discussion is not included in the FEIS, then it should be included when the facility plan is submitted.

S-001-016

4. Page 100, #22. It is not appropriate to say *changes in groundwater flows are insignificant because they are less than the natural fluctuations in groundwater that already occur.* Any increase or decrease will move the fluctuation range up or down and can affect the low of the driest years and/or the high of the wettest years. If the system is already stressed at the driest or wettest end, the change will be of concern.

V. FORMATTING COMMENTS

S-001-017

A. From the shoreline reviewer's perspective, the general DEIS, Appendix D, and Appendix G were not formatted in a manner that was easy to utilize. For example, one had to go to from the DEIS to the Technical Memoranda Appendices, and once there, there were elements missing such as photographs or referenced files (Views) or the correct language for the City SMP/Comprehensive Plan.

The lead agencies would have provided a more valuable product if it were presented in a traditional EIS format of several volumes, with both general and specific information together.

B. "The Air Quality Program extends our compliments to the Washington State Department of Transportation (WSDOT) for their excellent work in the development of the on-line format for the Environmental Impact Statement (EIS) for the Alaskan Way Viaduct and Seawall Replacement Project. We found the document to be very educational, well organized, and extremely user friendly."

S-001-014

The Convey and Treat Approach has not been carried into the Final EIS. Based on detailed modeling, continued design, and coordination efforts, a single approach to stormwater management is now being proposed for all of the alternatives evaluated in the Final EIS. This alternative is described in Appendix O, Surface Water Discipline Report, of the Final EIS and is most similar to the BMP Approach presented in the 2004 Draft EIS.

S-001-015

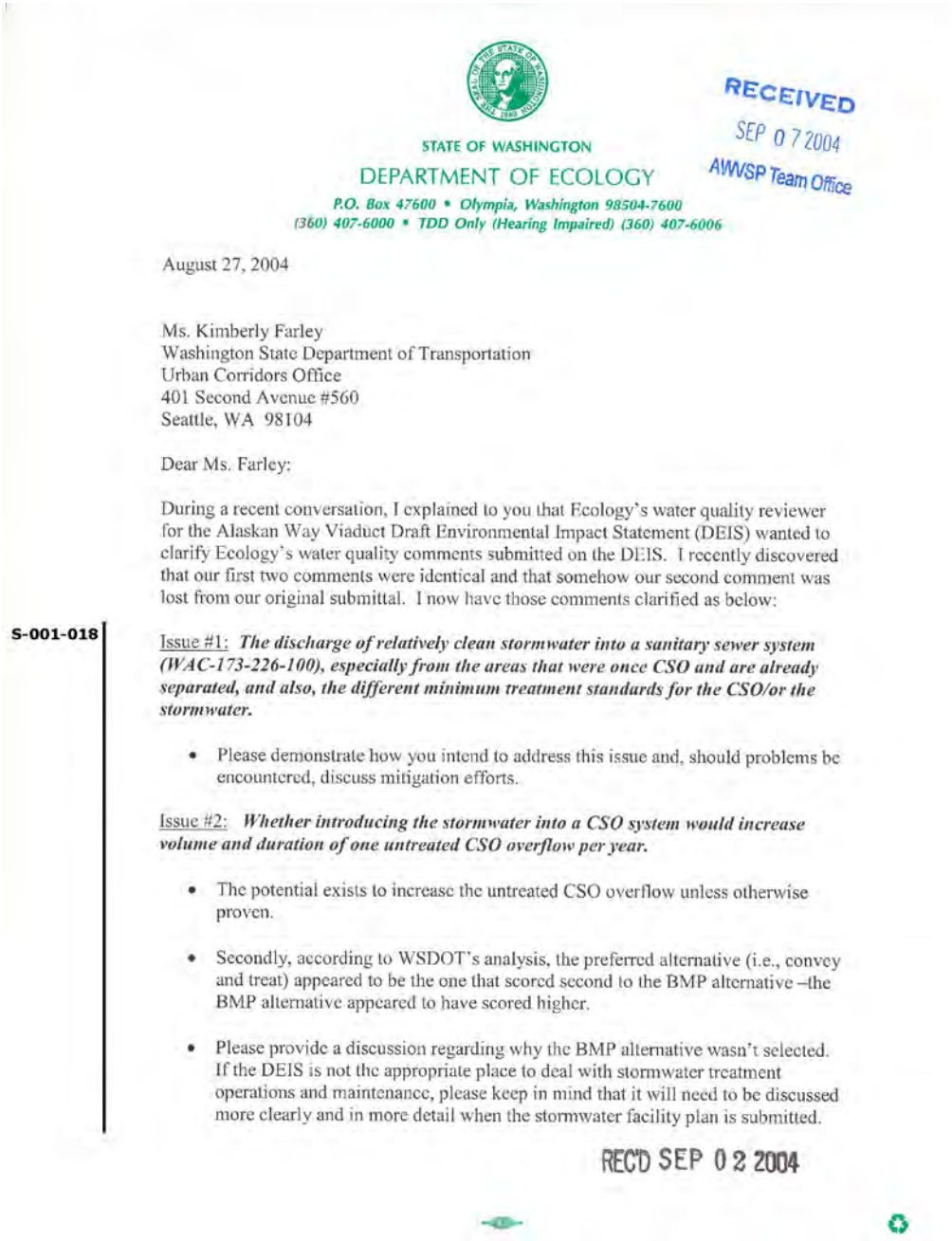
The Convey and Treat Approach has not been carried into the Final EIS. Based on detailed modeling, continued design, and coordination efforts, a single approach to stormwater management is now being proposed for all of the alternatives evaluated in the Final EIS. This alternative is described in Appendix O, Surface Water Discipline Report, of the Final EIS and is most similar to the BMP Approach presented in the 2004 Draft EIS.

S-001-016

Groundwater levels along the alignment were monitored for a year to evaluate potential seasonal variability. Data was collected hourly using pressure transducers and dataloggers. The groundwater data was also compared to Elliott Bay tide levels at Colman Dock. Groundwater fluctuations are primarily in response to tides. The intent of the EIS statement was that the existing subsurface currently experiences a fluctuation due to tides and the proposed structure is not anticipated to cause greater fluctuations than currently experienced. This issue will be further addressed in the final design of the structure. Mitigation measures for groundwater mounding are included in the Final EIS.

S-001-017

Thank you for providing feedback on the Draft EIS. The majority of



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RECEIVED
SEP 07 2004
AWVSP Team Office

August 27, 2004

Ms. Kimberly Farley
Washington State Department of Transportation
Urban Corridors Office
401 Second Avenue #560
Seattle, WA 98104

Dear Ms. Farley:

During a recent conversation, I explained to you that Ecology's water quality reviewer for the Alaskan Way Viaduct Draft Environmental Impact Statement (DEIS) wanted to clarify Ecology's water quality comments submitted on the DEIS. I recently discovered that our first two comments were identical and that somehow our second comment was lost from our original submittal. I now have those comments clarified as below:

S-001-018

Issue #1: ***The discharge of relatively clean stormwater into a sanitary sewer system (WAC-173-226-100), especially from the areas that were once CSO and are already separated, and also, the different minimum treatment standards for the CSO/or the stormwater.***

- Please demonstrate how you intend to address this issue and, should problems be encountered, discuss mitigation efforts.

Issue #2: ***Whether introducing the stormwater into a CSO system would increase volume and duration of one untreated CSO overflow per year.***

- The potential exists to increase the untreated CSO overflow unless otherwise proven.
- Secondly, according to WSDOT's analysis, the preferred alternative (i.e., convey and treat) appeared to be the one that scored second to the BMP alternative –the BMP alternative appeared to have scored higher.
- Please provide a discussion regarding why the BMP alternative wasn't selected. If the DEIS is not the appropriate place to deal with stormwater treatment operations and maintenance, please keep in mind that it will need to be discussed more clearly and in more detail when the stormwater facility plan is submitted.

REC'D SEP 02 2004

Ecology reviewers that provided comments liked the format of the document. We acknowledge that this view is not shared by all Ecology reviewers, and we appreciate your comments.

The lead agencies are glad to hear that the Air Quality Program found the format useful, educational, and user-friendly.

S-001-018

The Convey and Treat Approach has not been carried into the Final EIS. Based on detailed modeling, continued design, and coordination efforts, a single approach to stormwater management is now being proposed for all of the alternatives evaluated in the Final EIS. This alternative is described in Appendix O, Surface Water Discipline Report, of the Final EIS and is most similar to the BMP Approach presented in the 2004 Draft EIS.

Please accept these comments as a replacement to the first three comments in the Water Quality section that we originally submitted to your office on June 8th, 2004. Comment #4 in our original submittal remains unchanged.

I hope that this resubmittal of our comments does not pose an inconvenience for you. If you have any questions regarding this letter, please do not hesitate to contact me at (360) 407-6789 or via e-mail at tswa461.@ecy.wa.gov.

Sincerely,

Therese M. Swanson
Ecology-WSDOT Liaison

Attachment A

Attachment A: Current Seattle Shoreline Master Program Goals and Policies

The Seattle Shoreline Master Program consists of the:

Shoreline Master Program Policies (Ecology-approved, July 31, 1997), which is included in the Seattle Comprehensive Plan - Land Use Element as Section H – SHORELINES; and

Shoreline Master Program Regulations (Ecology-approved, January 16, 1998), which is included in the Seattle Municipal Code as Section 23.60 – Shoreline District.

These two components together comprise the current, official Seattle Shoreline Master Program. Copies are located at both Department of Ecology Headquarters in Lacey and at the Northwest Regional Office in Bellevue.

The Shoreline Master Program Policies/Seattle Comprehensive Plan Land Use Element, Section H – SHORELINES addresses numerous aspects of the Seattle shoreline, including Shoreline Use; Access; Transportation; Conservation; Economic Development; Recreation; History, Culture, and Enhancement; Process; Area Objectives for Seattle's Shorelines; Height in the Shoreline District; and Land Use Figure 9 – Seattle Shorelines, (environment designations map).

The current formally adopted SMP goals and policies pertinent to the Harbor front and the Project Corridor are listed below:

SHORELINE USE

GOALS

G75 Establish shoreline uses that result in long term over short term benefit.
G76 Plan for and encourage the integration and location of compatible uses within segments of the shoreline.
G77 Locate all non-water dependent uses upland to optimize shoreline use and access.
G78 Provide a management system that will plan for and permit all reasonable and appropriate use through a system of priorities.
G79 Protect those areas of shoreline that are geologically dangerous or fragile, or biologically fragile.

POLICIES

L163 Permit only those uses or conditions that retain use options for future generations unless identified benefits clearly outweigh the physical, social, and/or economic loss to future generations since competition between uses for shoreline does not generally occur at one moment, but over a period of time. Water dependent uses generally shall have priority. Preference will be given in the following order:

1st Protection and enhancement of natural areas or systems; those identified as containing or having unique geological, ecological, or biological significance.

2nd Water-dependent uses: all uses that cannot exist in any other location and are dependent on the water by reason of the intrinsic nature of their operations. However, because of their historic role and legal recognition by the City, floating home moorages are designated as a water-dependent use. Such designation does not imply support for increase of floating home moorages. The intent of this policy is to recognize the existing floating home community in Lake Union and Portage bay, while protecting natural areas, reserving public access to the shoreline, and preventing the displacement of water dependent commercial and manufacturing uses by floating homes. Areas with substantial concentrations of existing floating homes shall be given a designation that preserves residential uses.

3rd Non-water dependent uses: those uses that do not need a waterfront location to operate.

L164 Define in the Land Use Code all appropriate shoreline uses and provide site development performance standards and other appropriate criteria indicating minimal acceptable standards and other appropriate criteria indicating minimal acceptable standards to be achieved. Uses shall be preferred in the following order: (A-E)

A. On waterfront lots:

1. Protection and Enhancement. Uses that provide for protection and enhancement of natural areas or systems.
2. Water-dependent uses. Uses which are dependent on the water by the intrinsic nature of their operation.
3. Water-related uses. Uses which are not intrinsically dependent on a waterfront location but whose operation cannot occur economically without use of the water adjacent to the site.
4. Non-water-dependent uses with regulated public access. Uses that are neither water-dependent nor water related because they do not use the water, although a waterfront location may increase their profitability. Such uses provide a public benefit because they provide an opportunity for substantial numbers of the people to enjoy the shorelines of the City.
5. Non-water-dependent uses without regulated public access.

B. On upland lots: Preferred uses are those that complement uses on adjacent waterfront lots.

C. The preference for natural areas shall be accomplished by prohibiting uses that would disrupt natural areas or by providing enhancement of such areas where necessary.

D. Preferred uses will vary according to the purpose of the environment:

1. If the purpose of the environment is to encourage water-dependent and water related uses, these uses shall be preferred by prohibiting and/or restricting non-water-dependent uses on waterfront lots.
2. If the purpose of the environment is to provide public access, providing public access shall be preferred by permitting non-water-dependent uses and requiring public access.

E. The determination that a shoreline area is suitable for a particular water-dependent use shall be made by comparing the area's physical characteristics and existing land-use patterns to the locational requirements of water-dependent uses.

L165 Identify those areas of shorelines that are geologically or biologically dangerous or fragile and regulate development to prevent damage to property or organisms and the general public.

L166 Encourage the development of support industries and services on upland lots by permitting a wider range of uses and more flexible development standards than waterfront lots, and avoiding potential incompatibility with water dependent uses on waterfront lots.

SHORELINE ACCESS

GOALS

G80 Provide for the optimum amount of public access – both physical and visual – to the shorelines of Seattle.

G81 Preserve and enhance views of the shoreline and water from upland areas where appropriate.

POLICIES

L167 Increase opportunities for substantial numbers of people to enjoy the shorelines, by permitting non-water-dependent uses providing public access to locate in waterfront areas less suited for water dependent uses, and by requiring public access on public property.

L168 Promote public enjoyment of the shorelines through public access standards by requiring improvements that are safe, well designed, and offer adequate access to the water.

L169 Except for single family residences, maintain standards and criteria for public access and private use of publicly owned or controlled shorelines to achieve the following:

A. Provide linkages between shoreline public facilities via trails, paths, etc., to connect with terminal boating and other recreational facilities.

B. Indicate by use of signs and graphics all publicly owned or controlled shoreline.

C. If appropriate, offer bonuses for the provision of public access in private property.

D. Require public agencies such as the City, Port of Seattle, and King County Metro, etc., to provide public access opportunities at new shorelines facilities and encourage these agencies to provide similar opportunities in existing facilities.

E. Provide standards and criteria for view and visual access from upland and shoreline areas.

F. Give priority to the operating requirements of the water dependent and water related uses over preservation of views in those environments where water dependent uses are encouraged.

G. Limit off premise signs and regulate other signs to enhance and protect views.

L170 Waterways in Lake Union and Portage Bay are for public navigation access and commerce and in general, the City shall not request that the designation be removed from waterways. The City may request that waterways be vacated only when the City reclaims the area as street right of way or for public park purposes. The City may request that the dry land portion of a waterway be re-designated for the additional purpose of providing permanent public access improvements.

TRANSPORTATION

GOALS

G82 Develop a transportation network that supports and enhances use of and access to the shorelines.

G83 Relocate transportation facilities which are functionally or aesthetically disruptive to the shoreline.

POLICIES

L171 Encourage the transport of materials and cargo via modes having the least environmental impact.

L172 Encourage the maintenance and future development of inter-modal commuter ferry services, complimentary to other public transportation systems, from both intra-city locations and regional activity centers.

L173 Streets, highways, freeways and railroads should be located away from the shoreline in order to maximize the area of waterfront lots and minimize the area of upland (in shoreline jurisdiction) lots. Streets, highways, freeways and railroads not needed for access to shoreline lots shall be discouraged in the Shoreline District.

L174 The primary purpose of waterways in Lake Union and Portage Bay is to facilitate navigation and commerce by providing navigational access to adjacent properties, access to the land for loading and unloading of watercraft, and temporary moorage. The importance of waterways in providing public access from dry land to the water is also recognized.

L175 Public access shall be preferred use for recaptured rights-of-way. Public rights-of-way may be used or developed for uses other than public access, provided that such cases are determined by the City to be in the public interest and that public access of substantial quality and at least comparable to the right-of-way is provided.

L176 Shoreline street ends are a valuable resource for public use and access. Public or private use or development or street ends shall be designed to enhance rather than reduce public access.

L177 Provide public transportation convenient to the shoreline.

CONSERVATION

GOALS

G84 Preserve, protect and restore areas such as those necessary for the support of wild and aquatic life or those identified as having geological or biological significance.

G85 Insure that all future uses will preserve and protect environmental systems, including wild and aquatic life.

G86 Insure continuing scientific study of Seattle shoreline ecosystems.

POLICIES

L178 Protect the natural environment through use and development standards governing shoreline activities including Best Management Practices (for stormwater).

L179 Areas identified as special wildlife or fisheries habitat should be developed only if no reasonable alternative locations exist and then only if the project is designed to minimize and mitigate habitat damage.

L180 Require that all commercial, industrial, or other high activity uses provide means for treating natural or artificial urban run-off to acceptable standards. Developments with industrial and commercial uses that use or process substances potentially harmful to public health and/or aquatic life shall provide means to prevent, to the extent possible, point and non-point discharge of the harmful substances.

L181 Dredging and disposal of dredge materials shall be conducted in a manner that minimizes short and long-term environmental damage.

L182 Permit landfill on submerged land that does not create dry land where necessary for a water-dependent or water-related use, for the installation of a bridge or utility line or for wildlife or fisheries habitat mitigation or enhancement. Permit landfill that creates dry land only where necessary for the operation of a water-dependent or water-related use, to repair pocket erosion, or for wildlife habitat mitigation or enhancement. Large amounts of dry land may be created in Lake Union only if specifically approved by the Council for a public park purpose.

L183 Identify those areas that have potential for restoration to natural conditions, develop standards for the conditions in those areas, and provide incentives for achieving such standards.

L184 Support programs that inform the public about shoreline conservation practices, and identify methods by which pubic and private shoreline owners or community groups may encourage wild, aquatic, and botanical life, and require such methods when appropriate.

L185 Support the study of the shoreline systems that will provide a continuously updated baseline against which to judge the impact of any action.

ECONOMIC DEVELOPMENT

GOALS

G87 Encourage economic activity and development of water dependent uses by planning for the creation of new developments in areas now dedicated to such use.

G88 Allow a multi-use concept of development, provided that the major use is water dependent and that provides public access to the shoreline yet maintains the economic viability of the use.

POLICIES

L186 Concentrate industrial and commercial shoreline uses by planning for the creation of new developments in areas now dedicated to such use.

L187 Identify and designate appropriate land adjacent to deep water for uses that require such condition, such as industry or commerce

L188 Provide incentives for public amenities on private property.

L189 City-wide objectives for different types of water-dependent businesses and industries:

A. Cargo Handling Facilities.

1. Reserve space in deep water areas with adequate backup space to permit the Port of Seattle and other marine industries to remain competitive with other ports
2. Work with the Port of Seattle to develop a long-range harbor plan in order to provide predictability for property owners and private industry in the Duwamish and Elliott Bay.

B. Tug and Barge Facilities. Retain Seattle's role as the Gateway to Alaska and maintain space for Puget Sound and Pacific trade

C. Shipbuilding, Boatbuilding, and Repairs. Maintain a critical mass of facilities in Seattle in order to meet the needs of the diverse fleets that visit or have a home port in Seattle, including fishing, transport, recreation and military vessels.

D. Moorage. Meet the long term and transient needs of all of Seattle's ships and boats including fishing transport, recreation and military. Locate long-term moorage in sheltered areas close to services, and short –term moorages in more open areas. Support the efficient use of Fishermen's Terminal, the Shilshole Marina and other pubic moorage facilities. Reduce the displacement of commercial moorage by recreational moorage by encouraging the full use of submerged lads for recreational moorage in areas less suited for commercial moorage. Require large recreational marinas to provide some commercial transient moorage as part of their facilities.

E. Recreational Boating. Maintain Seattle's unofficial status as a "boating capital." Allow a variety of boating facilities from launching ramps for small "car top" boats to major marinas. Provide long –term recreational moorage for residents and sufficient short-term moorage close to cultural and recreational centers for visitors.

F. Passenger terminals. Maintain and expand the opportunity for residents and visitors for convenient travel by ship to local and distant ports. Encourage more passenger only ferries and cruise ships on the Central Waterfront.

G. Fishing Industry. Maintain a critical mass of support services including boat building and repair, moorages, fish processors, and supply houses to permit Seattle fishermen to continue to service and have a home-port for their vessels in Seattle waters. Recognize the importance of the local fishing industry in supplying local markets and restaurants. Recognize the economic contribution of distant water fisheries to Seattle's maritime and general economy.

RECREATION

GOALS

G89 Manage publicly owned shorelines that are suitable for public recreation to optimize their potential.
G90 Increase the amount of shorelines dedicated to public recreation and open space.
G91 Identify, protect and reserve for public use and/or enjoyment those areas containing special shoreline qualities that cannot be easily duplicated.

POLICIES

L190 Allow for increased opportunity for the public to enjoy water-dependent recreation including boating, fishing, swimming, diving and enjoyment of views.
L191 Designate as suited for water dependent recreation areas having natural beaches, large amounts of submerged land for moorage or sheltered waters and the absence of heavy ship traffic and incompatible heavy industry.
L192 Provide for recreational boating facilities including terminals, moorage and service facilities on publicly owned land and encourage the provision of such facilities on private property, if the environmental impact is acceptable.
L193 Increase publicly owned shorelines, giving priority to those areas that lack recreational facilities.
L194 Explore alternative means (other than acquisition) to provide public recreation at the shoreline and on the water.
L195 Use submerged lands for underwater parks when feasible.

HISTORY, CULTURE, RESTORATION, AND ENHANCEMENT

GOALS

G92 Appropriately designate sites and areas of shoreline having historical or cultural significance.
G93 Support and encourage the restoration of hose areas or conditions of the shoreline now unsuitable for private or public use, consistent with economic and environmental goals.
G94 Upgrade and/or beautify the public shoreline.

POLICIES

L196 Support and encourage the restoration, preservation and maintenances of areas of the shoreline having significant historical or cultural significance, and a program for shoreline restoration and beautification.
L197 Consider protection of individual sites or aspects of areas identified as being of historical significance through landmark designation.

PROCESS

GOALS

G95 Continue shoreline planning by periodically updating the inventory, goals and policies and regulations to respond to changing attitudes and conditions in Seattle's shorelines.

POLICIES

L198 Conduct periodic assessments of the performance of and the need for change in the Shoreline Master Program.

AREA OBJECTIVES FOR SEATTLE'S SHORELINES

GOALS

G96 Recognize the unique opportunities in different areas of our shorelines to accommodate different types of water-dependent businesses and shoreline recreation, and to protect and enhance natural areas and views of the water.

G97 Restore Lower Duwamish Watershed habitat while maintaining the urban industrial nature of the area, its neighborhoods, and the importance of sustaining a healthy and diverse working waterfront and marine ecology.

G98 Strengthen the vitality of a functioning ecosystem within the Lower Duwamish Watershed by integrating projects into their surrounding environments by supporting a diversity of habitats and by strengthening connections between habitats throughout the Watershed.

POLICIES

L199 The Lower Duwamish Watershed Habitat Restoration Plan (December 1996, as may be amended from time to time) should be considered by agencies when conducting planning or permitting activities within the watershed.

L200 It is the intent of the Area Objectives to indicate which of the Shoreline Areas Goals and Policies are to be met on each specific section of shoreline. The Management System for Appropriate Uses as required by the Shoreline Management Act shall consist of the Area Objectives for the diverse areas of Seattle's shorelines, the purposes of the shoreline environments, the shoreline environment designations, and the use regulations and development standards of the Land Use Code.

L201 The Area Objectives for Seattle Shorelines illustrated in Land Use Figure 9 are as follows:

A. Area Objectives for Shorelines of Statewide Significance

1. Puget Sound (Residential and Recreational Areas)

(The Puget Sound area includes all of the shorelines on Puget Sound within the City limits except the Shilshole area, Elliott Bay, the Harborfront and the Duwamish Waterways).

- Protect the fragile ecology of the natural beaches and fish migration routes.
- Encourage and enhance shoreline recreational activities, particularly in developed parks.
- Provide for quality public access to the shoreline.
- Preserve and enhance views of the water.
- Protect areas developed for residential use in a manner consistent with the Single Family and Multi-family Residential Area Policies.

2. Elliott Bay

(Elliott Bay area is all shoreline area from 24th Avenue West to SW Atlantic Street, except the Harborfront, Harbor Island, and the Duwamish Waterways)

- Reserve waterfront lots for major port terminals, large water dependent and water related manufacturing and industrial facilities and major water dependent recreational developments.
- Choose shoreline environments that are appropriate for recreational and industrial uses based on water depth, amount of dry land, topography and truck and rail access.
- Protect and enhance migratory fish routes and feeding areas.

3. Harborfront (Central Waterfront)

- Encourage economically viable marine uses to meet the needs of waterborne commerce.
- Facilitate the revitalization of downtown's waterfront. Provide opportunities for public access and recreational enjoyment of the shoreline.
- Preserve and enhance elements of historic and cultural significance.
- Preserve views of Elliott Bay and the land forms beyond.

4. The Duwamish

(The Duwamish area includes the Duwamish River from the south city limits north to South Massachusetts on the east side and Southwest Bronson Street on the west side, and including Harbor Island and the East and West Duwamish Waterways.)

- Preserve the statewide interest by encouraging industrial and port uses in this area where such uses are already concentrated while also protecting migratory fish routes.

- Protect Kellogg Island as an important natural resource for fish and wildlife habitat and the opportunity for the public to view those resources.
- Work with appropriate government agencies and shoreline users to reduce the input of pollutants, restore contaminated areas and regulate disposal of dredge spoils.
- Increase public access and recreational opportunities through the Duwamish Public Access Plan.

5. The Shilshole Area

   (The Shilshole area is the shoreline area from Northwest 80th Street on the north, to the Chittenden Locks [on the south]). (Three items)

   - Retain the strong water-dependent recreational character of the area. Water-dependent recreational uses and their supporting services are the preferred uses for this area.
   - Permit non-water-dependent commercial uses when providing access to the water, protecting views and not usurping land usable for future water-dependent recreational uses.
   - On waterfront lots new residential uses may be permitted when adjacent to existing residences. Protect the fish migration routes.

6. Lake Washington and Union Bay (6 items)

B. Area Objectives for Other Shoreline Areas

1. The Ship Canal (2 items)
2. Lake Union and Portage Bay (5 items)
3. Green Lake (2 items)

HEIGHT IN THE SHORELINE DISTRICT

POLICY

L202 The 35-foot height limit of the Shoreline Management Act shall be the standard for maximum height in the Seattle Shoreline District. Exceptions in the development standards of a shoreline environment may be made consistent with the Act and with the underlying zoning where:

A. A greater height will not obstruct views of a substantial number of residences AND the public interest will be served.

B. Greater height is necessary for bridges or the operational needs of water dependent or water-related uses or manufacturing uses; or

C. A reduced height is warranted because of the underlying residential zone; or

D. A reduced height is warranted because public views or the views of a substantial number of residences could be blocked.

Air Quality Program Comments
on Draft EIS for Proposed Alaskan Way Viaduct
and Seawall Replacement Projects

Attachment B

A "Clean Construction" zone would require that most construction equipment be equipped with emissions control technology, that diesel vehicles use ultra-low sulfur diesel, that staging zones for truck loading and unloading are established, and that idling time be restricted. The following points provide details on the need for mitigation measures and how best to achieve them.

1. **Federal, state, and local air agencies, and the U.S. Federal Highway Administration have identified diesel particulate matter as significantly and adversely impacting human health at the national, regional, and local level.**

   The U.S. EPA's National Air Toxics Assessment (as reported in the 2002 Seattle Times Headline, "Seattle Air Ranked in Nation's Worst 5%) indicates that air toxics in the Puget Sound Region are in the top five per cent in the nation. Local air monitoring data indicate that the total air toxics risks is approximately 700 in one million, and the risk from diesel particulate is approximately 500 in one million. Ecology's Air Quality Program has determined that statewide, 90% of the associated cancer risk due to hazardous air pollutants is due to diesel particulate matter.

   The U.S. EPA has determined that diesel particulate matter is a likely human carcinogen, and the California Air Resources Board has determined that diesel particulate matter is a human carcinogen. The Washington Comprehensive Cancer Control Plan identifies three environmental carcinogens, diesel particulate, arsenic, and radon. Ecology's Air Toxics Plan identifies diesel particulate matter as the number one toxic air emission of concern.

   In addition to carcinogenic effects, fine particles from diesel exhaust pose a significant health risk because they can pass through the nose and throat and lodge deeply in the lungs, causing lung damage, premature death, and aggravating conditions such as asthma and bronchitis. Children, the elderly, and people with existing heart or lung disease, asthma, or other respiratory problems are most sensitive to the health effects of fine particles. Diesel exhaust also contains substantial NOx, VOC, CO2 and sulfate emissions that contribute to ozone formation, acid rain, regional haze, and global climate change.

2. **Construction equipment is a significant source of diesel particulate matter in Washington.**

   Statewide in 2003, mobile sources emitted 29 tons of diesel particulate matter into the atmosphere. Diesel emissions from off-highway equipment and vessels exceeded on-highway vehicles, accounting for 75% of the emitted diesel particulate matter. Construction equipment is the largest individual source category of diesel soot, emitting 7.7 tons per year, compared to on-road, heavy-duty trucks, which emit 6.0 tons per year.

3. **Toxic emissions from construction projects can significantly impact downwind populations.**

A recent study, conducted by the Northeast States Coordinated Air Use Management (NESCAUM) monitored both upwind and downwind diesel particulate at the following urban and rural locations: a New York City building construction site, a Maine lumberyard, a New Hampshire building construction site, a New Hampshire roadway construction project, and a Vermont dairy farm. Samples were collected within the equipment cabs and at the worksite perimeters, which included nearby residences.

- In all locations, diesel equipment activity substantially increased fine particulate matter exposures for workers and nearby residents, in some cases by as much as 16 times.
- Individual workers' estimated 24-hour exposures exceeded current air quality standards by nearly two to 3.5 times – substantially increasing health risks of workers and nearby residents.
- Diesel PM was estimated to exist at levels that pose risk of chronic inflammation and lung damage in exposed individuals.
- Measured ambient concentrations of acetaldehyde, benzene and formaldehyde around the tested non-road equipment operations were as much as 140 times the federally established screening threshold for cancer risk.

4. **Diesel emissions from construction equipment can be controlled through mitigation measures. We cite three case studies.**

Case Study 1: I-95 New Haven Harbor Crossing Corridor Improvement Program, Connecticut Clean Air Construction Initiative.

The following contractor requirements apply:

- Emission control devices (such as diesel oxidation catalysts) and/or clean fuels (such as PuriNOx) are required for diesel powered construction equipment with engine horsepower ratings of 60 HP and above that are on the project for assigned to the contract in excess of 30 days.
- Truck staging zones will be established for diesel-powered vehicles waiting to load or unload vehicles. The zones will be located where the diesel emissions will have the least impact on abutters and the general public.
- Idling is limited to three minutes for delivery and dump trucks and other diesel-powered equipment (with some exceptions).
- All work will be conducted to ensure that no harmful effects are caused to adjacent sensitive receptors, such as schools, hospitals, and elderly housing by locating diesel-powered engines away from fresh air intakes, air conditioners, and windows.

Case Study 2: Boston "Big Dig" Central Artery Tunnel Project.

Contractors must:

- Keep equipment properly maintained to minimize emissions.

- Turn off diesel combustion engines not in active use and on dump trucks that are idling while waiting to load or unload material for five minutes or more.
- Establish a staging zone for trucks that are waiting to load or unload material at the work zone in a location where diesel emissions from trucks will not be noticeable to the public.
- Locate construction equipment away from sensitive receptors such as fresh air intakes to buildings, air conditioners, and windows.

The Massachusetts Turnpike Authority in collaboration with the Massachusetts Department of Environmental Protection Agency and the Northeast States Coordinated Air Use Management developed a diesel retrofit program requiring large diesel construction equipment be retrofitted with diesel oxidation catalysts.

Case Study 3: New York City legislation (Introductory #191-A), December 22, 2003.

Any engine fifty horsepower or greater, that is owned or leased by the city, or that is used in any city construction project, must be powered by ultra-low sulfur diesel and the best available technology for reducing emissions of pollutants. This bill initially applies to Manhattan, but will be phased in Citywide over the next two years.

5. **The benefits of reducing diesel emissions from construction equipment significantly outweigh the costs.**

U.S. EPA Administrator Mike Leavitt's comments on EPA's recently signed federal regulations requiring stringent emissions standards for non-road equipment and a national cap of 15 parts per million sulfur content for both on-road and non-road diesel fuel clearly express the White House Administration's belief in the benefits of reducing diesel emissions.

- Equipping off-highway equipment with diesel oxidation catalysts cost between $1,500 and $3,000 per unit, and reduces diesel soot by 20%-30%.
- Using ultra-low sulfur diesel increases fuel costs by three to seven cents a gallon, and reduces diesel soot by 13% to 28%.
- The Regulatory Impact Analysis for EPA's proposed "Non-road Rule" determined that the annual health benefits for requiring cleaner engines and cleaner fuels outweigh the annual cost to comply by a factor of 58:1.

6. **Washington State government recognizes the need protect public health by reducing diesel emissions.**

Since the operational lifetime of a diesel engines is often twenty-five years or greater, we should not expect to significantly benefit from recent federal rules on diesel engine and fuel standards during the life of the Alaskan Way Viaduct project. Consequently, state agencies must act accordingly to protect public health by reducing diesel emissions. For this very reason, the Washington State legislature granted Ecology $5,000,000 per year for five years to reduce diesel particulate matter generated by school buses. Governor Locke's Executive Order for Sustainability (# 02-03) directs state government to develop model business

practices, based upon a systematic evaluation of the long-term impacts of an activity or product on health and safety, communities, and the environment for both current and future generations. The workgroups assembled to implement this executive order have determined that reducing air toxics from contracted services is a high priority. Ecology encourages WSDOT to follow the lead of both the Governor and the State Legislature by adopting mitigation measures that reduce diesel emissions from transportation projects.