REC'D JUN 0 1 2004

**King County**
Department of Natural Resources and Parks
Department of Transportation
201 South Jackson Street
Seattle, WA 98104-3856

June 1, 2004

Ms. Allison Ray
WSDOT Environmental Coordinator
Alaskan Way Viaduct Project Office
999 Third Avenue, Suite 2424
Seattle, WA 98104

Dear Ms. Ray:

Thank you for the opportunity to comment on the draft Environmental Impact Statement (EIS) for the Alaskan Way Viaduct (Viaduct) project. This letter details comments from King County's Department of Transportation (KCDOT) and Department of Natural Resources and Parks (DNRP), Wastewater Treatment Division. Some of our concerns are highlighted below; more detail is provided in the full comments, found in the attachments to this letter.

First, we would like to compliment you on the work invested in making the draft EIS readable and comprehensible. The extra effort to use plain language instead of jargon and the question-and-answer format make the document far more usable than other impact statements we have reviewed. We hope this approach will become the standard for future impact statements.

L-005-001 **Transportation**

KCDOT is concerned about construction and operational impacts to downtown transit access, the Waterfront Streetcar, Paratransit, pedestrian access, and freight mobility. Among our concerns are the following:

- Once the preferred alternative is selected, significantly greater analysis and design detail will be needed to identify transit access routes and associated improvements, and transit enhancements and mitigation for each stage of construction. KCDOT is particularly interested in helping identify downtown transit access routes and related transit priority improvements, and a construction mitigation strategy, including measures to maximize transit ridership and to minimize transit delay.

L-005-002

- The draft EIS states the transit mode share will double by 2030. The forecasts emphasize the importance transit must continue to play in the corridor and in downtown Seattle. If the forecast mode split is not achieved, traffic levels and parking needs will be greater than

**L-005-001**

Thank you for your comment regarding agency coordination. Since publication of the Draft EIS in 2004, substantial progress was made on further defining the construction approach and detailed staging plans for the Alaskan Way Viaduct Replacement Project. Concurrently, transportation management plans for the construction period have advanced as well. The project team worked with King County Metro and other public transit operators to develop and assess proposed transit elements for the construction period. These include speed and reliability projects, service enhancements, and service maintenance proposals. Proposed actions are consistent with King County Metro's Transit Blueprint and also take into account the passage of Transit Now.

**L-005-002**

The project recognizes the importance, from a regional perspective, of supporting and encouraging increased use of transit services. While growth in transit mode share is anticipated in the region and in downtown Seattle, more recent travel demand forecasts estimate that it will not be as high as what was reported in the Draft EIS. The travel demand forecasting model used for the Draft EIS to develop forecasts for the year 2030 overestimated the mode shift that could occur in that time-frame. The travel demand forecasting model was updated for the Final EIS (Chapter 8, Section 4 – How would regional travel patterns compare?) and now reflects a more likely growth trend in transit mode share for the year 2030.

With respect to the SR 99 corridor, all of the build alternatives provide enough capacity to accommodate projected growth out to at least 2030.

L-005-002 estimated, or downtown growth will have to be more modest. Special attention will need to be focused on transit if it is to play the important role assumed in the environmental analysis.

L-005-003
- Of major concern is accessibility for pedestrians and the disabled during and after construction. It is likely any project alternative selected will have significant effects on movement within and around the downtown. Access to transit and services under the Americans with Disabilities Act will need to be carefully considered and maintained during construction, in particular. Similarly, facilities for pedestrian movement and access to services will need to be implemented after construction is complete.

L-005-004
- The impact to freight and goods transport to and from the Ballard/Interbay Manufacturing and Industrial Center (BINMIC) under the Tunnel and Bypass Tunnel alternatives needs to be fully explored. The option to connect SR 99 or the Alaskan Way surface roadway to the Western/Elliott corridor should be seriously considered, especially if the Broad Street underpass is not constructed.

Please contact Rob Fellows at (206) 684-1449 if you have any questions regarding KCDOT comments.

L-005-005 **Wastewater Treatment Division**

The Wastewater Treatment Division (WTD) notes that all the project alternatives include a stormwater management approach relying substantially on King County wastewater facilities for conveyance, treatment and discharge.

This stormwater management alternative is problematic from technical, policy and permitting perspectives. In particular, the WTD offers the following observations:

- Introducing a new source of stormwater to the King County system, as proposed by the Convey and Treat Approach, would constitute a reversal of longstanding King County [and City of Seattle] policies. Founded on the fact that stormwater dilutes wastewater and causes variations in flow that can reduce the effectiveness of wastewater treatment, Seattle and King County spent hundreds of millions of dollars over the past 40 years, and will spend hundreds of millions more in the future to control Combined Sewer Outflows (CSOs). Adding additional stormwater into the system is not consistent with current policy.
- The water quality appendix to the draft EIS shows the Best Management Practices (BMP) Approach to stormwater management to be slightly more effective for pollutant removal than conveying and treating via King County facilities. This viable approach does not require variances or cause adverse impacts to King County facilities. The only obvious and substantive effect of the Convey and Treat Approach is to shift the locations where facility pollutants are discharged from the City's stormwater outfalls on the waterfront to King County's Denny Way and Royal Brougham CSO treatment plants. Mass loadings of pollutants are not substantially affected.
- The draft EIS identifies a treatment technology: ballasted sedimentation, for the future Royal Brougham CSO treatment plant and predicts the resulting quality of the discharge, including stormwater from the SR 99 project. The impact statement does not substantiate its conclusions that ballasted sedimentation would achieve the stated level of pollutant removals.

**L-005-003**

Pedestrian access will be maintained at all times during construction activities. At times, it will be necessary to reroute pedestrians using temporary facilities/detours, but these detours will be designed to minimize any inconvenience. Wayfinding systems will also be installed to facilitate pedestrian access in and near the project construction area.

Any pedestrian facility (e.g., sidewalk, bridge, path, etc.) that may be removed to accommodate construction activities will be replaced with a temporary facility in a nearby location. All pedestrian facilities that are relocated or rebuilt during and after construction activities will be built to the standards laid out by the Americans with Disabilities Act (ADA).

**L-005-004**

The effects on freight and goods transport to and from the BINMIC and connections to the Elliott and Western Avenue corridor is addressed in the Final EIS Appendix C, Transportation Discipline Report.

Throughout the project development process, the lead agencies (FHWA, WSDOT, and the City of Seattle) have been working with the freight community to understand and account for their needs under all of the proposed alternatives.

**L-005-005**

The Royal Brougham CSO Treatment Facility is no longer proposed for any of the alternatives. As a result, the Royal Brougham (Connecticut) outfall will not be modified.

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

L-005-005



Thus, water quality impacts in the draft EIS may be understated. Furthermore, analysis in the draft EIS does not support its conclusion that a new outfall will not be required at Royal Brougham; the final EIS should either provide such conclusive analysis or address the impacts of constructing a new outfall at that location.

- The Denny Way CSO treatment plant will come on line in 2005. It was not designed to receive stormwater from the SR 99 project; the added water from SR 99 will change the loading and efficiency of the new Denny Way facilities. The draft EIS does not provide sufficient information to conclude that the Denny Way facility would be able to meet its permit limits with the additional stormwater flows. More analysis is required in order to know whether or not this would cause a significant adverse impact to water quality at Denny Way or to the sediments surrounding the outfalls. (The volume of the one untreated overflow per year at Denny Way could increase significantly under the Convey and Treat Approach.) Additional Denny Way facilities required to accommodate the SR 99 stormwater should be identified and impacts addressed.

WTD believes a viable approach that does not require variances from policies and codes or cause adverse impacts to King County facilities can be identified. Some added hydraulic and water quality analysis is needed to supplement information in the draft EIS in order to conclude that all probable significant adverse impacts are identified. Based on the information available at present, WTD supports the BMP Approach. Please contact Karen Huber, Water Quality Engineer, at 206-684-1246 to discuss WTD's comments and to coordinate assumptions for additional analysis.

Our departments look forward to working collaboratively with the lead agencies to add detail to the preferred alternative as we move forward into the final EIS.

Sincerely,

Pam Bissonnette, Director
King County Department
of Natural Resources and Parks

Harold S. Taniguchi, Director
King County Department
of Transportation

Attachments

EIS and is most similar to the BMP Approach presented in the 2004 Draft EIS.

**Attachment 1:**
**King County Department of Transportation**

Comments on

***SR 99: Alaskan Way Viaduct & Seawall Replacement Project Draft EIS***

June 1, 2004

L-005-006

**Transit Access to Downtown Seattle from the South**

Currently, several bus routes from West Seattle and the SR 509 corridor enter the downtown area from the Viaduct at the Seneca Street exit, and leave downtown using the Columbia Street exit. Assuming that the Monorail is completed to West Seattle, many of those routes would be eliminated and replaced by monorail service. However, there will still be service from the south entering the downtown area on the Viaduct. In the Tunnel and Bypass Tunnel alternatives, the Seneca and Columbia Street ramps will be eliminated. More detail is required to determine how transit will enter the downtown area, and what improvements will be needed to minimize delays. It will be important to have more than one feasible transit route through the area, especially to avoid congestion during special events in the stadium area.

L-005-007

Our options would be to enter the downtown at SR 519, or to use the ramps in the vicinity of South King Street. Significant analysis is needed to determine the ridership and accessibility impacts of different access routes, relative travel times, and transit priority measures that would be applied to operate transit reliably through anticipated bottlenecks and long signal cycles near ramps. We look forward to assisting in this effort, but will require assistance from the Viaduct project.

L-005-008

The most likely transit routing from the Viaduct to downtown Seattle from the South is to exit and enter the facility at SR 519. Different interchange configurations are shown for this area, and the text explains that these maybe able to be mixed and matched between alternatives. All of the options bring traffic into at-grade intersections at 1st Avenue South with South Atlantic Street and South Royal Brougham Way. Transit will most likely use South Atlantic Street in both directions to reach the 4th Avenue South corridor unless future phases of the SR 519 project are completed. It will be important to be able to enter and exit SR 99 from South Atlantic Street rather than to have to turn right on 1st Avenue South and left on South Royal Brougham Way to enter the freeway southbound as is shown for the Aerial alternative.

The intersection at 1st Avenue South and South Atlantic Street will be more congested than today, since it will be the terminus for ramps to SR 99, I-5 and I-90. For transit service to function effectively through the area, transit priority treatment(s) will likely be



**L-005-006**

The project team recognizes the importance of providing transit access to downtown from SR 99. Section 5.5.1 of the Final EIS Appendix C, Transportation Discipline Report, identifies transit connections that would be provided under each of the Alaskan Way Viaduct Replacement Project alternatives. The functionality of the transit connections under each alternative is also called out in this section. Section 5.5.4 of the Transportation Discipline Report documents the evaluation results for potential effects of the build alternatives on transit travel time.

Under alternatives that replace the Columbia and Seneca ramps with access at King Street, there are several different possibilities for routing transit into the downtown area. Also, transit speed and reliability improvements that would be provided to mitigate construction impacts would still be available when the project is completed. These improvements are supported by the project.

**L-005-007**

Any effects on transit ridership would likely have to consider constraints (additional travel time) and opportunities (increased service coverage) that could occur as a result of alternate access routes. Please see the Final EIS Transportation Discipline Report, Appendix C, for updated analyses for the project build alternatives.

Note that access to and from the south directly to SR 519 is no longer proposed for any alternative. Under the preferred alternative (Bored Tunnel Alternative), access would be provided at locations in the stadium area. Transit access would be supported by a bus-only ramp for northbound travel on SR 99 between S. Holgate Street and S. Royal Brougham Way.

Additional King County Metro transit service will be provided as part of construction mitigation. Improvements to the speed and reliability of

L-005-008

needed. Bus stop facility changes may also be needed. The full requirements for transit downtown access should be identified in the Final EIS.

**Transit Access to Downtown Seattle from the North**

L-005-009

Southbound transit service from the SR 99 corridor enters the downtown area at Broad Street. Route 16 exits at Valley Street to serve the Seattle Center. Northbound buses follow Dexter Avenue North and use John Street to access SR 99. Route 16 uses Mercer Street to Dexter Avenue North, and enters SR 99 from Valley Street. Buses do not use the Denny Way northbound entrance because it is not currently possible to locate a bus stop on or at Denny Way.

In all of the alternatives, southbound traffic using the Denny Way exit will increase due to the closure of the Broad Street exit. The intersection of Denny Way and Battery Street where the SR 99 ramp terminates is a major bottleneck for transit today, and will be more of a barrier in the future unless mitigated. It will be important to maintain a southbound bus stop in the vicinity.

Northbound, Metro would like to be able to access SR 99 from the Denny Way entrance, but that would require identifying a suitable location for a northbound bus stop in the vicinity of the Denny/Battery intersection. However, we are concerned that removal of the Mercer Street off-ramp will result in tunnel traffic weaving sharply across traffic entering from the Denny Way ramp to make right turns to local streets in order to reach Mercer Street.

There is much work needed still to identify the route(s) transit will use to enter and exit SR 99 north of downtown Seattle, to determine how transit will move safely through anticipated bottlenecks, and to identify changes to bus stops and other facility improvements. Facilities and treatments required to accommodate transit operations and minimize transit delay on access routes to the downtown should be developed for the preferred alternative and included in the Final EIS.

L-005-010

**Downtown Seattle Access to and from Bus Bases and Bus Staging Areas**

There are three transit operations bases in the vicinity of the SR 519 access ramps at 4th Avenue South and South Atlantic Street at which buses are stored, maintained and deployed daily. Buses deployed from the bases travel north through downtown providing revenue services to north, northwest, northeast and east Seattle destinations. Base deployed buses also travel north through downtown to stage in the Denny Regrade prior to beginning service routes with destinations to the south, southeast, southwest and central Seattle destinations.

Additionally, buses operating Seattle, eastside and regional services, including Community and Sound Transit routes, travel to and from downtown to stage or layover at either on- or off-street locations in the southern, central and northern parts of the downtown. Transit access, for both revenue and non-revenue services, is critical for cost effective, on-time transit performance.



transit service will also be supported by the project and continue to be in place after construction is completed. While some added travel time would be incurred by buses under the Bored Tunnel Alternative, transit operations would still be maintained. However, transit service enhancements are expected in downtown Seattle; for example, Sound Transit light rail and commuter rail expansion under Sound Transit 2 and the King County Metro RapidRide bus program.

**L-005-008**

For the Final EIS, access directly to SR 519 is no longer proposed to/from the south on SR 99. Instead, access would be maintained at the Columbia and Seneca Street ramps (for the Elevated Structure Alternative) or ramps in the stadiums area (for the tunnel aalternatives). Under the Bored Tunnel Alternative, transit access would be supported by a bus-only ramp for northbound travel on SR 99 between S. Holgate Street and S. Royal Brougham Way. The Final EIS reflects the updated analyses for the project aalternatives.

**L-005-009**

Under the Bored Tunnel Alternative, transit vehicles would use the new SR 99 center lane on- and off-ramps at Harrison Street. In the northbound direction, transit vehicles entering SR 99 would serve zones along Aurora Avenue. As part of the project, transit lanes on SR 99 between Harrison Street and Denny Way and along Battery and Wall Streets would provide continuous exclusive bus treatment from Third Avenue to SR 99 in the South Lake Union area. The project would also include new east-west street connections in the north end, thereby enhancing pedestrian access to transit service.

**L-005-010**

The Transportation Discipline Report, Appendix C of the Final EIS, includes results of traffic operations assessments relating to each

L-005-011

**Construction Impacts to Transit Operation**

Impacts on transit during construction are of two types: those that affect transit demand, passenger accessibility and service requirements, and those that affect the speed and reliability of transit operations.

Transit demand will be impacted by how competitive transit speeds are versus how much traffic flow and accessibility is reduced. Providing enough service to meet demand during construction will be a primary interest for Metro. Presumably a significant portion of any increase in transit demand will be met through the addition of monorail service in some of the affected areas. Viaduct construction will likely have a significant impact on auto access throughout the downtown area. Demand for transit service will likely increase; additionally, transit service efficiency will decrease for routes in the congested downtown service area.

There is little detail available in the draft EIS about how transit operations and facilities will be affected by construction. This will be an especially critical issue if construction plans are changed to require complete closure of the Viaduct for an extended period. While transit does not use the central portion of the Viaduct, closure of the Viaduct would increase traffic substantially on downtown streets, causing delays and perhaps severe cost increases for all transit service operating through the core of downtown. At the same time, transit will be called on to play a more significant role maintaining access to the downtown. Maintaining access to downtown affects not only the delivery of revenue services, but also the ability for non-revenue services to travel efficiently between route terminals located inside and outside of the downtown areas and bus staging areas located in north, central and south downtown areas. Increases in transit service result in increased in layover requirements (more surface transit traffic, more potential for delay and more cost increase).

Once a preferred alternative is chosen, we look forward to working closely with WSDOT to identify transit routes, facilities improvements, priority treatments and other mitigation to keep transit moving through each phase of the construction process, and to document those steps in the final EIS.

L-005-012

It is also unclear what the construction impact of widening the Mercer Street underpass will be. Similarly, the construction impacts of lowering Aurora Avenue North of the Battery Street tunnel are not stated. If Aurora Ave North must be completely closed for even brief periods, the impact on transit would be severe, and an extensive mitigation plan would be needed.

L-005-013

The Waterfront Streetcar will be taken out of service during construction under all alternatives. It is not clear whether replacement service will be needed, or whether a transit shuttle will be needed to cater to construction workers.

*Attachment 1:*
*King County Department of Transportation* *June 1, 2004*
*Comments on Viaduct/Seawall Draft EIS* *Page 3*

alternative. For the alternatives carried forward to the Final EIS, travel times and intersection operations affecting transit service were identified. Differences in traffic operations for these alternatives are largely confined to the areas immediately adjacent to the corridor.

WSDOT and partner agencies have or will implement several strategies to keep traffic moving during construction. For example, both the south and north portal configurations include bus priority lanes to provide reliable travel times for SR 99 transit service into and out of downtown. The streets that transition between SR 99 and the downtown street grid are designed in a manner that meets the city's Complete Street goals and include treatments for pedestrians, bicycles, freight, and adjacent land uses. WSDOT will prepare a traffic management plan, which will contain localized traffic mitigation measures. These measures will be developed as construction details are refined. Please see the Final EIS, Appendix C, Chapter 6 of the Transportation Discipline Report as well as the Final EIS, Chapter 8 Mitigation.

**L-005-011**

The project concurs with King County that major construction of the replacement of the Alaskan Way Viaduct would both directly and indirectly affect transit operations in downtown Seattle and the major travel corridors serving the downtown area.

In cooperation with King County Metro and other agencies, the project includes a set of actions aimed at managing mobility and reducing travel impacts associated with construction of the project. Many of these strategies help improve street-level transit operations through priority treatments such as preferential signal timing, queue by-pass lanes, transit only and business and transit access lanes and others. The project also will provide support for added bus service levels to accommodate potential higher demand levels during construction. Mitigation measures are included in Chapter 8 of the Final EIS.

L-005-014 Where will routes 16 and 66, now serving Colman Dock, be rerouted to? How will ferry pedestrian passengers gain access across the construction to transit service traveling on downtown avenues parallel to Alaskan Way?

L-005-015 It will be critical to the economic health of downtown Seattle to maintain access to the downtown during the extended construction period contemplated. We are encouraged by the project's commitment to providing investments to reduce single-occupant vehicle use and to increase other modes during construction. We are looking forward to working with the lead agencies to further define those investments, both to maximize transit use, and to minimize increases in operating costs, delays and disruptions to transit service during the construction period.

L-005-016 **Impacts of the Surface Alternative**

We believe that the Surface option would have a detrimental effect on the operation of transit services throughout downtown Seattle. Additional discussion of impacts on parallel surface streets, e.g., expansion of First Avenue South from two to four lanes, is sorely missing from the document. Such impacts are likely to be equally critical to the downtown function as those on Alaskan Way itself.

The Surface alternative would reduce the capacity of the Viaduct roughly in half, due to the addition of signalized intersections in the current controlled access freeway section along the Seattle waterfront. While some of the Viaduct users would cease to make trips within the study area, the majority would shift to I-5 and downtown streets. The analysis shows that many more intersections on First and Second avenues would be severely congested under this alternative, but it does not assess how slowed traffic would impact transit speeds or operating costs. Moreover, the traffic analysis considers only the impacts to First and Second avenues. It is likely that all of the north-south streets in the downtown would be affected, greatly increasing transit operating-costs while reducing ridership. If this alternative is carried forward, the full impact on transit operation in the downtown area should be assessed, and a mitigation plan will be needed to maintain reliable transit speeds and minimize increases to transit operating costs.

L-005-017 **Waterfront Streetcar**

Surface street designs are not finalized for any of the alternatives. The Metro Transit Division looks forward to working with the Viaduct design team to ensure that the functional and design requirements of the Waterfront Streetcar are incorporated into final design plans. In the future a continuous double-track configuration will be required to allow more flexible and frequent service. King County and the City of Seattle are working to identify future streetcar needs including options to move the maintenance shop from its current location at the future Sculpture Park. Active coordination is needed to incorporate these into final Viaduct plans.

L-005-018 **Flexible Transportation Plan**

Mitigation for viaduct construction includes implementation of a Flexible Transportation Package. Many elements have been identified for consideration in the final package,



**L-005-012**

Construction impacts to the area north of the Battery Street Tunnel have been evaluated in more detail since the Draft EIS was issued. Please refer to Chapter 6, Construction Effects and Mitigation in the Final EIS Appendix C, Transportation Discipline Report.

**L-005-013**

The waterfront streetcar service is not currently in service, and it is assumed that it will not be operable along the central waterfront during construction. The final location of the streetcar will be determined by the Central Waterfront Project being led by the City of Seattle.

**L-005-014**

Transit and pedestrian access to Colman Dock will be maintained during construction.

The final design and construction of the waterfront will be determined by the Central Waterfront Project being led by the City of Seattle.

**L-005-015**

We look forward to continued coordination with King County.

**L-005-016**

FHWA, WSDOT, and the City of Seattle appreciate receiving your comments on the Surface Alternative. As explained in the 2010 Supplemental Draft EIS and the Final EIS, the Surface Alternative does not meet the project's purpose and need to provide capacity to and through downtown Seattle. Because the project has evolved since comments were submitted in 2004 and 2006, please refer to the Final EIS for current information.

L-005-018

affecting a wide variety of travel options and barriers to using alternative transportation. We look forward to working with lead agencies on preparation of the final Flexible Transportation Package for the FEIS, and working on implementation of the program elements during the project. The Market Development section can provide assistance estimating budgets and program costs, and developing implementation plans and outreach strategies.

Reference is made several times to budget for the Flexible Transportation Package, but no breakdown of the budget was found. Once the preferred alternative is selected, it will be important to develop the implementation details for this package, including the length of time each element of the mitigation program will be funded.

One potential Flexible Transportation Program element is an expansion of the Metro's FlexPass program. This is envisioned as providing more attractive incentives to encourage downtown Seattle employers to offer this program to their employees. This element should be broadened to include "FlexPass or other fare media." The FlexPass program may undergo significant changes with the advent of Smartcard, which may lead to other fare programs more applicable to a broader range of employers than FlexPass by the time viaduct construction occurs.

An additional item that should be considered in the Flexible Transportation Program is "enhancing work option programs." Work option programs include support for telework and instituting flexible work hours for employees. Including support for helping employers implement work options programs may be a fairly low-cost and effective component in the mitigation package for the overall project.

A key element in achieving the mode split shown in the draft EIS analysis will be effective management of the price and supply of commuter parking. Again, we look forward to working with the lead agencies to identify and implement parking mitigation strategies consistent with the Flexible Transportation Package objectives.

L-005-019

**Accessibility Issues**

Regardless of the preferred alternative, it will be important to have an ADA compliant, accessible (elevated) pathway constructed near Colman Dock (the current crossover is too steep to be accessible) and near the University Steps (since that location lacks a 24-hour public access elevator) in order to connect the waterfront with 1st Avenue. Also consider providing an accessible path at street level from the waterfront to 1st Avenue along the entire area between Pioneer Square and Pike Place Market (current sidewalks have extreme cross-slope, the sidewalks/crosswalks are in poor condition, and some curb ramps are poorly installed).

Once the preferred alternative is chosen, plans should be developed to maintain and/or provide accessible pathways throughout each phase of construction. This should be integrated into plans for general access during construction.



**L-005-017**

With the Bored Tunnel Alternative, the final location of the streetcar will be determined by the Central Waterfront Project led by the City of Seattle. Both the Cut-and-Cover Tunnel Alternative and the Elevated Structure Alternative include the streetcar along Alaskan Way. The development of the final design plans would include participation by King County Metro.

**L-005-018**

Since the Draft EIS was published in 2004, transportation planning efforts for the construction period have greatly expanded upon the ideas introduced in the Flexible Transportation Package. Strategies proposed and described in the Final EIS are intended to help mitigate increased congestion, particularly during project construction, as well as provide and support alternative means of travel. Refer to Chapter 8, Mitigation of the Final EIS for details.

**L-005-019**

Pedestrian access will be maintained at all times during construction activities. At times, it will be necessary to reroute pedestrians using temporary facilities/detours, but these detours will be designed to minimize inconvenience. Any pedestrian facility (e.g., sidewalk, bridge, path, etc.) that may be removed to accommodate construction activities will be replaced with a temporary facility in a nearby location. All pedestrian facilities that are relocated or rebuilt during and after construction activities will be built to the standards laid out by ADA.

Final configuration of on-street parking locations and configuration along the waterfront will be addressed in the Central Waterfront Project led by the City of Seattle.

Efforts will be made to ensure that Access vehicles will have reasonable access to important stop areas near the project construction zone, such

L-005-019

Regarding accessible parking, final design should reflect the current requirement that disability spaces be further inset to allow drivers to exit the driver-side of a vehicle and not be in traffic flow. The small number of accessible parking spaces that Seattle provides under the Viaduct should be replaced in a convenient location. Parking charts in the final EIS should document existing accessible spaces and curb ramps. The final EIS should include a plan for the maintenance or relocation of those spaces and ramps both during construction and in the long-term.

Metro ***Access*** Transportation service should be considered in future discussions of transit needs. ***Access*** has approximately thirty pick-ups and thirty drop-offs per month at Colman Dock. The proposed shuttle alternative service may not provide an appropriate level of service (depending on the routing), and ***Access*** may still need access to Colman Dock.

In 2003, ***Access*** provided over a million passenger trips throughout King County with a fleet of 280 vehicles. In April 2004, ***Access*** provided 138 passenger trips per weekday to origins or destinations in the greater downtown area. Based on this ridership, 100 ***Access*** vehicles enter and leave downtown each weekday. In addition, an undetermined number of ***Access*** vehicles use Interstate 5 or the Viaduct to travel through downtown on their way to or from non-downtown destinations.

A subset of the downtown trips includes approximately 30 pick-ups and 30 drop-offs per month at Colman Dock. The proposed shuttle alternative service may not provide an appropriate level of service (depending on the routing) and ***Access*** may still need to reach Colman Dock.

As ***Access*** service is contracted out, delays in reaching destinations in the downtown or in bypassing downtown caused by construction, relocated access points or increased traffic could result in additional operating costs. Contractors are paid by "vehicle service hour" so delays could result in added service hours for the same or added vehicles. Once a preferred alternative is selected, it may be possible to approximate any increased costs using estimated travel speeds.

Since eligibility for ***Access*** includes an inability to travel to or from a bus stop or other boarding location, construction impacts on pedestrians with disabilities could result in an increased number of eligible riders and, therefore, an increased number of trips. The final EIS should consider these and other foreseeable impacts to the Seattle's disabled population.

L-005-020

**Freight and Goods Movement**

The Viaduct corridor is the freight lifeline for businesses located in the Ballard/Interbay Manufacturing and Industrial Center (BINMIC). Businesses in this area access points south of the Seattle downtown, including I-5 and major freight routes, using 15th Avenue West, Western and Elliott avenues, and the Viaduct corridor.



as Colman Dock. Construction mitigation measures will be further developed as part of the construction transportation management plan that is developed as construction plans evolve.

**L-005-020**

The Bored Tunnel Alternative (preferred alternative) does not retain access to the Elliott and Western Avenue ramps. Access for the BINMIC area to the SODO industrial area and other industrial areas south of downtown could be made via Alaskan Way (via Broad Street), I-5, and Mercer Street to the Republican Street access ramps to SR 99 bored tunnel. Trucks carrying flammable or hazardous materials would not have access to the tunnel and would have to remain on surface streets. Analysis of these routing options can be found in the Final EIS Appendix C, Transportation Discipline Report.

L-005-020

The Tunnel and Bypass alternatives do not provide for this functional connection because ramps to the Elliott and Western corridor are not provided. Instead, traffic headed to the BINMIC area is routed along the waterfront on Alaskan Way, crossing the BNSF railroad at Broad Street to reach Western and Elliott Avenues. The Broad Street crossing can be blocked for long periods of time by freight trains. This causes extensive backups today, and if all traffic headed to the BINMIC area must use Alaskan Way the backups at this at-grade crossing may be intolerable.

King County believes that the better approach is to retain the Western/Elliott ramps in the Tunnel alternative, and to construct an arterial connection from Alaskan Way to the Western/Elliott corridor for the Bypass Tunnel alternative, especially if the proposed Broad Street underpass is removed from consideration. Before discarding these design options, we believe an analysis of the impacts of road/rail conflicts at Broad Street should be conducted, and economic analysis of the potential displacements to BINMIC area businesses must be carried out if a fast and safe freight link cannot be provided into and out of the area.

L-005-021

**Cumulative Impacts**

The impacts on transit and freight discussed elsewhere in this letter could be far more significant if the Viaduct project is constructed at the same time as other disruptive projects in the same area. It will be important to reassess the cumulative impacts and mitigation needed for multiple public and private projects likely to interact with the Viaduct project as the project nears the implementation stage and the time frame for these projects becomes more definite.



**L-005-021**

Comment noted. Please see the Final EIS, Chapter 7, for the current discussion on cumulative effects for the project.

**Attachment 2:**
**King County Wastewater Treatment Division**

Comments on

***SR 99: Alaskan Way Viaduct & Seawall Replacement Project Draft EIS***

June 1, 2004

The Wastewater Treatment Division of the King County Department of Natural Resources and Parks is providing the comments below in response to the *SR 99: Alaskan Way Viaduct & Seawall Replacement Project Draft Environmental Impact Statement* (EIS). We begin with a summary discussion of King County's concerns. This is followed by more detailed comments organized by topic. Under each topic, specific sections or pages in the draft EIS or appendices are referenced, when appropriate.

**General Comments**

L-005-022

The Alaskan Way Viaduct and Seawall Replacement Project would result in improved water quality along the Seattle waterfront. The two proposed stormwater management approaches differ, however, in the level of improvements to water quality as well as in consistency with adopted policies, the impacts to the effectiveness of King County's wastewater facilities, and the level of responsibility, cost, and liability that King County and the region's rate payers would incur in managing the system.

The BMP Approach would maintain stormwater discharges at their current locations but provide treatment. The Convey and Treat Approach, however, would change the way stormwater is managed along the waterfront. Currently, stormwater in many areas is collected separately from wastewater and is discharged directly into Elliott Bay. The Convey and Treat Approach would capture stormwater, put it into the combined sewer system with sanitary sewage, and split the flow between King County's West Point Treatment Plant, the soon-to-be-completed Denny Way Combined Sewer Overflow (CSO) Treatment Plant, and the proposed Royal Brougham CSO Treatment Plant. This approach would shift the pollutant load primarily to the north and south of the waterfront. In addition, the solids and associated pollutants removed from the stormwater at the West Point Treatment Plant would be incorporated into biosolids for use in agriculture or forestry. By changing the way stormwater is managed, the Convey and Treat Approach would shift operating costs and responsibility and any environmental liabilities from the City of Seattle to King County without providing any environmental benefit over the BMP Approach.

The draft EIS indicates that the BMP Approach would reduce pollution along the central waterfront more effectively than the Convey and Treat Approach. The draft EIS states that the BMP Approach would reduce the amount of pollutants discharged by approximately 85



**L-005-022**

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.

L-005-022

percent, and the Convey and Treat Approach would reduce the amount of pollutants by approximately 80 percent. However, it is uncertain whether either approach can consistently achieve the stated percent removal in practice.

King County's greatest concern is that the Convey and Treat Approach would conflict with existing State and County policies that prohibit the introduction of new stormwater sources into the sewer system. When stormwater enters the wastewater system, the resulting dilution and variable rate of flow reduces the effectiveness of wastewater treatment facilities. The viewpoint that the impacts of stormwater on wastewater systems should be minimized has led the City of Seattle to spend $480 million and King County to spend $350 million over the last 40 years in CSO control programs. King County is committed to spending another $370 million and the City of Seattle has committed to spending another $90-$110 million on CSO control in the future.

In addition to making CSO control a priority, King County and the agencies it serves currently are engaged in a large effort to reduce the amount of comparatively clean water that enters the sewers through infiltration and inflow. The Convey and Treat Approach would directly conflict with that goal.

A major issue for King County is the large impact that the Convey and Treat Approach would have on the Denny Way CSO facility, a joint King County/City of Seattle CSO control project that is not yet in operation. The facility has been designed and constructed to treat up to 250 million gallons per day of flow during peak flow events. Under the Convey and Treat Approach, the City of Seattle would send a substantially greater volume of flow than the facility was designed to accept. This would change the parameters of the designed treatment process and would significantly affect the facility's performance and ability to meet regulatory requirements.

King County is not desirous of taking on the additional cost and liability that would result from the Convey and Treat Approach, especially since the BMP Approach is a viable alternative for managing stormwater. The BMP Approach would be consistent with adopted policies; it would not require variances from regulations; and it would not cause adverse impacts to King County facilities. We hope that any approach that would discharge stormwater to the sewer system will be eliminated from further consideration.

**System Description**

King County is providing the attached figure, which shows existing King County wastewater facilities superimposed on a map of the viaduct/seawall project area. Also attached is a table showing King County wastewater facilities within the construction area for the Tunnel Alternative. We also are providing the following comments on Appendices O and S to clarify the description of the existing stormwater and combined sewer collection system:

**L-005-023**

*Appendix O: Public Services and Utilities Technical Memorandum*

Page 71, Section 5.1.3: In the subsection titled "Major Combined Sewer Interceptors," please note that the Lake Union Tunnel, South Hanford Street Regulator, and Denny Way Regulator should not be affected during construction. Also, the Lake Union Tunnel begins at Terry Avenue North and Republican Street (Manhole W10-129A).

Page 72, Section 5.1.3: The subsection titled "Outfalls and Drainage System" states, "Almost all storm water in the AWV Corridor ultimately drains into Puget Sound." King County believes that this statement should be clarified. By far the majority of the "800 storm drainage, combined and sanitary sewer manholes within the study area" are either combined or sanitary sewer manholes. Stormwater flowing through these manholes is transported either to the West Point Treatment Plant where it is treated and then discharged directly to Puget Sound, or it is discharged through City of Seattle and King County outfalls as combined sewage into Elliot Bay. The stormwater discharged to Elliott Bay is ultimately transported by currents to Puget Sound.

**L-005-024**

*Appendix S: Water Resources Disciplines Report*

Page 11: The following statement greatly oversimplifies the combined sewer system, creating a misimpression of management effectiveness:

> 2. They collect stormwater and convey it to the City's combined sewer system, and then on to the County's combined system and the West Point Treatment Plant.

The pipes convey flows to four potential places: City of Seattle CSOs, King County CSOs, the King County Denny Way CSO facility, or the West Point Treatment Plant. It is likely that West Point receives less than half the stormwater.

Pages 15 and 17, Exhibits 3-3 and 3-4: The legend and footnote 1 in each figure refers to a "diversion structure." Which diversion structure is this?

Page 22, paragraph 3: The description of the King County Wastewater Service Area is not entirely accurate. The actual service area extends north into Snohomish County to include portions of the Alderwood, Brier, Cross Valley, and Silver Lake Sewer Districts, south into



**L-005-023**

These clarifications have been incorporated into the Final EIS Appendix K, Public Services and Utilities Discipline Report.

**L-005-024**

Descriptions throughout the Final EIS have been updated to more accurately describe the County's combined sewer system.

L-005-024

Pierce County to include the City of Pacific, east to include the Cities of Sammamish and Black Diamond, and west to include Vashon Island. Please see the attached figure.

Page 22, paragraph 3: It would be helpful to clarify that the combined sewer system exists only within the City of Seattle. As stated, it sounds like combined systems may exist throughout the King County system (Federal Way to Issaquah to Snohomish County) when, in fact, only Seattle contributes stormwater directly to the King County system.

Page 22, paragraph 5: The statement, "Portions of the combined system have limited capacity" is misleading. The entire King County system has limited capacity, and, most importantly for this discussion, the Elliott Bay Interceptor has limited capacity.

Pages 26-27, Sections 3.4.2 through 3.4.5: The Washington, Madison, and University sub-basins underwent partial separation in the early 1990s, which means some of the stormwater was separated and now is discharged directly to surface waters; however, some of the stormwater continues to enter the combined system, potentially going to West Point. There also may be low-flow diversion structures in the Washington, Madison, and University sub-basins.

Page 27, Section 3.4.5: This section states that stormwater from the University Sub-basin "is now collected and discharged in a stormwater-only drainage system" and discharged to Elliott Bay and that "None of the stormwater runoff from this sub-basin is diverted to the West Point TP." However, saltwater from the stormwater drainage system is, in fact, entering the Elliott Bay Interceptor and being conveyed to the West Point Treatment Plant. Please see the report, "Saltwater Intrusion into the King County Sewer System," issued November 6, 2003, by the King County Wastewater Treatment Division. Please explain how saltwater from overflows at the University Street outfall is entering the combined sewer system.

Page 29, Section 3.5.1: The King Sub-basin discharges to the Elliott Bay Interceptor under all but the most extreme storm conditions (see attached figure showing King County wastewater facilities). This makes it, in effect, a "high-flow diversion" for the basin stormwater, transferring all of the stormwater pollutants to Denny Way CSO, other King County CSOs, or West Point.

Page 29, Section 3.5.1: Part of the storm flows from the King Sub-basin go into the 30-inch pipe downstream of the King Street Regulator; because these flows enter the system downstream of the regulator, they are conveyed to and treated at the West Point Treatment Plant. The flows that do go into the regulator are either treated at the West Point Treatment Plant or discharged as CSO flow at the King Street outfall.

Page 29, Section 3.5.2: Stormwater from the Pike Sub-basin is discharged through City of Seattle CSOs or the Denny Way CSO, or it is transferred to West Point.

Page 29, Section 3.5.3: During large storm events, salt water from the Vine Street outfall gets into the Elliot Bay Interceptor for treatment at the West Point Treatment Plant. See the report,

L-005-024

"Saltwater Intrusion into the King County Sewer System," issued November 6, 2003, by the King County Wastewater Treatment Division. Please explain how saltwater from overflows at the Vine Street outfall is entering the combined sewer system.

Pages 31-32, Section 3.7.1, last paragraph: Harbor Island is also a Superfund site, and the boundary of the Harbor Island site has been extended across the East Waterway.

**Policies and Regulations/Permits**

Washington State and King County policies address stormwater and wastewater discharge and collection.

L-005-025

*Washington State Regulations*

The Convey and Treat Approach for managing stormwater from the viaduct and seawall replacement project (Draft EIS, page 20) would collect stormwater and convey it to the combined sewer system for treatment at the West Point Treatment Plant or, during large storms, at the soon-to-be-completed Denny Way or proposed Royal Brougham CSO Treatment Facilities. However, WAC 173-226-100 prohibits the discharging of stormwater into municipal sewerage systems. Paragraph (2) states:

> The following discharges to municipal sewerage systems are also prohibited:
> (h) Any of the following discharges, unless approved by the department under extraordinary circumstances (such as lack of direct discharge alternatives due to combined sewer service or need to augment sewage flows due to septic conditions …
> (ii) Storm water and other direct inflow sources …

*Appendix S: Water Resources Discipline Report* (Section 10.2.4) should be revised to accurately represent the state prohibition on discharge of stormwater to the sewer system. WAC 173-226-100(2)(h) states that the discharge of stormwater to the sewer system is prohibited "unless approved by [the Washington State Department of Ecology] under extraordinary circumstances (such as lack of direct discharge alternatives due to combined sewer service…)". The presence of combined sewers is not the reason to discharge stormwater into them; it's the lack of alternatives that would provide a reason. Direct discharge alternatives often co-exist with combined sewers. Partially separated areas have both types of systems, and separated areas are frequently interspersed with combined areas. This is the situation along the waterfront. The project, as proposed, has viable alternatives to discharging stormwater into the combined sewer system. King County believes that the reconstruction of the viaduct and surface street is the opportunity to design and construct stormwater outfalls from the viaduct to Elliot Bay and thus remove stormwater runoff from the sanitary sewer system.



**L-005-025**

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.

References to these Washington state regulations and to King County Ordinance 13680 (as King County Code Chapter 28.86) have been added to Section 2 of Appendix O, Surface Water Discipline Report.

L-005-025

*King County Policies*

The citation of King County policies in *Appendix S: Water Resources Discipline Report* (Section 10.5.1) is not complete nor is it completely accurate. The correct citation of Ordinance 13680, Policy CSOCP-4 is as follows:

> Although King County's wastewater collection system is impacted by the intrusion of clean stormwater, conveyance and treatment facilities shall not be designed for the interception, collection and treatment of clean stormwater.

Appendix S excludes the word "although." The word "although" acknowledges the influence of stormwater on the system and demonstrates the intent that the policy exists *in spite of* the influence of stormwater on the system.

Another policy in Ordinance 13680 addresses the need to remove infiltration and inflow (I/I) into the system:

> Policy I/IP-1: King County is committed to controlling I/I within its regional conveyance system and shall rehabilitate portions of its regional conveyance system to reduce I/I whenever the cost of rehabilitation is less than the costs of conveying and treating that flow or when rehabilitation provides significant environmental benefits to water quantity, water quality, stream flows, wetlands or habitat for species listed under the ESA.

Policy also communicates the expectation that the stormwater would be taken only from industry, and states King County's intent to collect fees to manage that stormwater:

> Policy CSOCP-5: King County shall accept stormwater runoff from industrial sources and shall establish a fee to capture the cost of transporting and treating this stormwater. Specific authorization for such discharge is required.

Policy directs that King County's stormwater management programs should not overlap or conflict with City of Seattle programs:

> Policy CSOCP-6: King County, in conjunction with the city of Seattle, shall implement stormwater management programs in a cooperative manner that results in a coordinated joint effort and avoids duplicative or conflicting programs.

(King County has limited stormwater management responsibilities for only the Lander and Densmore drains.)

L-005-026 **Liability/Cost**

The analysis of stormwater alternatives should include an analysis of how costs and liabilities would be borne by the affected agencies:

- Agency liability for pollutants from stormwater/CSO sources must be clarified. Pollutants may be found in the water column or sediments off of outfalls or in the biosolids at the West Point Treatment Plant. Provisions must be made to allow proportionally appropriate shared liability for future pollutant concerns that may not currently be known or fully understood (for example, endocrine disrupting chemicals).

- The Convey and Treat Approach would have financial impacts on existing and future King County CSO facilities. For example, the Draft EIS assumes that the size of the Royal Brougham CSO treatment plant would need to be increased by 11 percent. King County anticipates that the capital cost for this facility would be $31 million in 2001 dollars. An increase of 11 percent would be approximately $3.4 million. The City of Seattle must estimate the proportionally appropriate costs to construct, operate, and maintain a larger Royal Brougham CSO treatment plant. King County expects that costs would be reimbursed on a pro-rated basis. The administrative costs associated with determining the above on an annual basis should be factored into the costs of replacing the viaduct and seawall.

- The draft EIS should provide more analysis of the impacts of the Convey and Treat Approach on King County's existing agreement with the Washington State Department of Ecology regarding the treatment of flows from the Denny Way CSO treatment plant. The City of Seattle would need to identify any additional costs incurred to maintain treatment levels and sediment quality at the Denny Way CSO and would need to compensate King County for those costs.

L-005-027

- The analysis of the stormwater alternatives did not factor into the cost evaluation the effects on liability and environmental effects from contaminated sediments off of outfalls. Each scenario would change the existing discharge points and would have varying effects on the sediment contamination levels at those outfalls. The difference in the sediment contamination needs to be disclosed and the cost implications quantified to fully understand the project alternatives' true impacts and costs.

L-005-028

- *Appendix O: Public Service and Utilities Technical Memorandum* (Section 5.1.3, Sanitary Sewer and Storm Drainage) should state that while the project area is predominantly combined, it includes areas of separated sewers and areas where partial separation has occurred. This section also states, "King County bills SPU for services provided." The statement should be clarified to say that King County bills Seattle Public Utilities for wastewater management services based on Seattle's water use. There is currently no mechanism to bill for stormwater management.



**L-005-026**

The Convey and Treat Alternative has not been carried into the Final EIS. Improvements to the CSO system are now considered independent projects and are not part of any of the alternatives. Therefore, cost and liability analysis of these measures is not part of this study.

**L-005-027**

The project would not involve outfall work and only one stormwater management approach is now being considered. To the extent possible, this stormwater management approach does not change sub-basin boundaries or receiving waters.

**L-005-028**

This detail has been deleted from Appendix K, Public Services and Utilities Discipline Report.

L-005-029

- The Convey and Treat Approach would increase stormwater flow to the Royal Brougham CSO treatment plant. King County used data from Figure 2 in the 1972 report *Seattle Intense Rainfall and Storm Runoff*, by Harvey W. Duff and George C. C. Hsieh, to calculate the amount of peak flow that could result from the new stormwater. Using rainfall curves for a frequency of once-in-25-years and durations of 30 minutes and 60 minutes, the peak flow for the 26.8-acre area would be 51 cfs and 18 cfs, respectively.

  The Washington State Department of Ecology recently has indicated that any new outfall will be required to meet water quality criteria at the end of the pipe. The increased stormwater flow to the Royal Brougham CSO treatment plant that would result from the Convey and Treat Approach could create the need for either increased storage facilities or a new outfall at the plant that otherwise would not be needed. King County assumes that the Washington State Department of Transportation and the City of Seattle would be responsible for increased costs for any enhanced treatment that would be needed in order to meet this new water quality requirement, along with the cost to permit and construct a new outfall.

L-005-030

**Convey and Treat Approach**

The King County Wastewater Treatment Division has the following comments on the Convey and Treat Approach:

*Appendix S: Water Resources Discipline Report*

Page 70, Exhibit 5-1: The data in Exhibit 5-1 indicate that both the BMP Approach and the Convey and Treat Approach benefit water quality. These results are from a very rough analysis, but suggest that the Convey and Treat Approach would:

- Release more pollution overall than the BMP Approach.
- Shift 1-2 percent of pollution from Elliott Bay to Puget Sound via the West Point discharge.
- Move remaining pollution from the central waterfront to a little north via the Denny Way CSO discharge and a little south to the Royal Brougham CSO discharge.

Page 100, Section 7.6: It is stated that the Convey and Treat Approach will increase the volume and duration of CSO events but that "this is a very small volume compared to the total volume". King County believes there is not sufficient information to make this statement. It is possible that this approach could increase the volume of the "one untreated overflow per year" at the soon to be completed Denny Way CSO project by a factor of three. King County anticipates that under current conditions the Denny Way facility would discharge an average of 8 million gallons of untreated CSO per year. If the estimate of a three-fold increase is correct, the Convey and Treat Approach could increase the discharge to 24 million gallons per year, a significant loss of the effectiveness planned for the Denny Way facility. The Convey



**L-005-029**

The Royal Brougham CSO Treatment Facility is no longer proposed for any of the alternatives. As a result, the Royal Brougham (Connecticut) outfall will not be modified.

**L-005-030**

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.

L-005-030

and Treat Approach would increase the volume of the treated discharge as well and possibly would increase the number of events.

In addition, sending flows to the Denny Way CSO would change the chemistry of the facility's discharge by changing the ratio of flows from the Elliott Bay Interceptor to those from the new Mercer Street Tunnel. The Denny Way CSO project has been designed to blend these flows to meet permit discharge limits. The blended flows will receive screening and disinfection prior to discharge; however, flows from the Mercer Street Tunnel will receive primary treatment (physical settling) while only limited flows from the Elliott Bay Interceptor will enter the tunnel for settling. The increased stormwater from the Convey and Treat Approach would increase the ratio of untreated flows (from the Elliott Bay Interceptor) to treated flows (from the Mercer Street Tunnel). This change could result in the Denny Way CSO not being able to meet permit discharge limits and not being consistent with the project's Biological Assessment and the requirements of the Endangered Species Act.

*Draft EIS*

Page 20–Convey and Treat Approach:
The discussion of the Convey and Treat Approach describes how stormwater would be managed for the completed project. However, it was not clear in the Draft EIS, whether stormwater and/or dewatering water would be discharged to the combined sewer system during construction. How does the City of Seattle plan to manage stormwater and dewatering water during construction?

If dewatering water is discharged to the sanitary sewer, it would have an effect on parameters such as salinity, pH, sulfides, and turbidity. Does the AWV project plan to build a temporary stormwater treatment facility? If so, a permanent facility to treat the stormwater after construction may be a more viable option than a combined sewer/stormwater facility. The feasibility of this option should be evaluated in the final EIS.

It would be helpful to clarify how stormwater and dewatering flows would be managed during construction so that King County can identify impacts and determine whether a discharge authorization would be required, pursuant to King County Public Rule PUT 8-14 (PR).

**BMP Approach**

*Draft EIS*

Page 18–How do the alternatives affect water quality? Exhibit 2-25 on page 20 indicates that different stormwater management approaches would be used for different project alternatives. It also indicates that the BMP Approach for the Rebuild and Tunnel Alternatives is slightly better environmentally than the Convey and Treat Approach for the Bypass Tunnel and Surface Alternatives or the BMP Approach for the Aerial Alternative. However, the text of the draft EIS makes no mention of different approaches for different alternatives or different water quality benefits, but confusingly states under Convey and Treat Approach that the

L-005-030

Convey and Treat Approach "will reduce the volume of untreated stormwater, resulting in a higher quality discharge." It would be helpful to explain in the text the different approaches for different alternatives and discuss the different water quality benefits that would result from each.

Page 18–BMP Approach: The section on the BMP Approach should discuss the benefits of the BMP Approach and state that the BMP Approach, as well as the Convey and Treat Approach, "will reduce the volume of untreated stormwater, resulting in a higher quality discharge." Appendix S indicates that the BMP Approach will perform as well, even better, than the Convey and Treat Approach.

**Denny Way CSO Treatment Plant**

*Draft EIS*

Page 20–Convey and Treat Approach: The draft EIS should provide more analysis of the impacts of the Convey and Treat Approach on Denny Way CSO discharges. The Denny Way CSO project has been designed and constructed to manage about 85 million gallons per year of combined flow from the City of Seattle CSOs, primarily from the Lake Union area. The Convey and Treat Approach would significantly increase the loading over the design conditions and may impair the facility's ability to meet NPDES discharge permit requirements. (See earlier comments under "Convey and Treat Approach.")

*Appendix S: Water Resources Discipline Report*

Page 100, Section 7.6: The discussion of the Bypass Tunnel Alternative acknowledges that the Convey and Treat Approach would increase the volume of stormwater in the combined sewer system compared to existing conditions, but states that "this is a very small volume compared to the total volume." The fair comparison is not project stormwater volume to total sewage, but project stormwater volume to the volume of combined sewage that would not reach West Point for full secondary treatment. The Convey and Treat Approach would at least double the volume to be managed as CSO.

**Royal Brougham CSO Treatment Plant**

King County has the same concerns about the increased risk from human pathogens that would result from more stormwater being discharged through the Royal Brougham CSO Treatment Plant as described in the previous section for the Denny Way CSO.

*Appendix S: Water Resources Discipline Report*

Page 60, Exhibit 4-9, and Appendix B: Exhibit 4-9 provides removal efficiencies for different treatment methods. The removal efficiencies provided for the Royal Brougham CSO treatment plant are 80 percent for total suspended solids (TSS), 79 percent for total copper, and 86 percent for total zinc. These levels were based on the assumption that ballasted

L-005-030

sedimentation (Actiflow) technology would be used for the proposed treatment plant. This is the same technology used at the City of Bremerton CSO treatment plant, and the analysis in Appendix S assumed that removal efficiencies at Royal Brougham would be the same as in Bremerton. However, influent concentrations and loading in Bremerton are different from those in King County, and thus the removal efficiencies would differ as well. The Royal Brougham facility would likely not achieve the levels of pollutant removal assumed for the Convey and Treat Approach.

**Compare/Model/Provide More Information**

*Draft EIS*

Page 28–What issues remain to be resolved? The AWV project needs to provide better hydraulic modeling of the Convey and Treat Approach and better assessments of the impacts of stormwater management on King County's wastewater facilities and the environment before King County can decide if we can agree to that approach. Discussions will need to resolve how operational costs will be reimbursed and how costs to address changing regulatory requirements and liability issues will be addressed. There needs to be significantly increased dialogue between King County and Seattle Public Utilities before decisions are made. King County is eager for these to occur.

L-005-031

*Appendix S: Water Resources Discipline Report*

Pages 2-3, Section 1.2: The analysis in Appendix S and the draft EIS provides a very rough estimate of the more chronic impacts of stormwater management based on annual mass load. As part of the planning for the Alaskan Way Viaduct and Seawall Replacement Project, King County was invited to provide information to the Resource Agency Leadership Forum, and, for the past year and a half, King County has been meeting with project consultants to share information developed for the Denny Way CSO project. To allow a gross, initial screening of the alternatives, the King County Wastewater Treatment Division provided rough estimates of what would happen in both the King County and City of Seattle systems based on limited system-wide information developed for the Denny Way project. However, the information is not adequate for detailed comparisons. It will be very important to do a peak flow analysis to look at potential acute effects. The information needed for a more in-depth analysis, such as modeling of wastewater or stormwater systems, was not available for this study. King County recommends that more project specific and detailed modeling be done to support final decisions.



**L-005-031**

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.

The proposed stormwater management approach is based on a presumptive approach to compliance using the WSDOT and Seattle Stormwater Manuals. To the extent possible, this approach does not change sub-basin areas or the volume of water discharged to the combined sewer system.

**L-005-032** Page 21, Exhibit 3-6: A low-flow diversion should be considered stormwater treatment. King County has suggested that application be made to the Washington State Department of Ecology for recognition of low-flow diversions as BMPs. The assumption in the Water Resources Discipline Report that a diversion structure captures only 10 percent of the pollutant load may underestimate pollutant removal. Low-flow diversions continually take all stormwater up to a certain level and divert the rest to direct discharge. Therefore all the stormwater from smaller storms is captured. Better information is needed on:

- How much stormwater goes into the wastewater system.
- The pollutant load of that stormwater. (Is there a first-flush?)
- How much of that pollutant load would go to the West Point Treatment Plant and how much would go to the Denny Way and Royal Brougham CSO treatment plants.

With better information we can identify if greater than "minimal" treatment occurs for these flows and obtain appropriate pollutant control credit.

**L-005-033** Pages 41-53, Section 4.2: By applying the BMP Approach to some of the alternatives and the Convey and Treat Approach to the others, it is difficult to compare results since several variables change. It would be more straightforward to look at both the BMP Approach and Convey and Treat Approach for at least one alternative to see more clearly how the stormwater management methods effect loading with all other variables held constant.

**L-005-034** Page 60, Exhibit 4-9: The reported treatment efficiency for ballasted sedimentation is based on limited experience using it for CSOs and in situations fairly different from those that exist here. It must also be remembered that pollutants captured in the ballasted sedimentation process would undergo a second treatment process at West Point that would remove about 75 percent of the solids but still discharge about 25 percent to Puget Sound. The overall true capture efficiency would be only 75 percent of the 80 percent reported as the ballasted sedimentation efficiency to equal 60 percent removal overall.

It would be useful to footnote that the reported West Point treatment efficiency (75 percent) for TSS is the average during high flow (storm) treatment that we have reported to the Washington State Department of Ecology when other King County CSO plants are operating. During these high-flow events, one cannot expect to see the +85 percent removal that is actually a monthly average including low flow periods.

**L-005-035** Page 60, Exhibit 4-10: The percentages of annual volume treated shown in this exhibit are gross oversimplifications based on more system-wide information developed for the Denny Way CSO project, but these percentages are all that is currently available for this assessment. More specific hydraulic modeling needs to be done.



**L-005-032**

The complex flow routing analysis is no longer required because the Convey and Treat Approach has been dropped from consideration. Pollutant loads are calculated using the approved WSDOT method as discussed in the Environmental Procedures Manual and the Surface Water Discipline Report. This method does not account for off-site treatment.

**L-005-033**

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.

**L-005-034**

The Royal Brougham CSO Treatment Facility is no longer proposed for any of the alternatives. As a result, the Royal Brougham (Connecticut) outfall will not be modified.

**L-005-035**

The detailed analysis using flow routing was not used for the Final EIS because the Convey and Treat Approach has been dropped from the analysis and a single approach to managing stormwater is being proposed. WSDOT's standard method for evaluating annual pollutant loads was used to compare each alternative.

L-005-036 Page 60, paragraph 2: The reported volume of one untreated event per year is a very rough estimate. That event will be larger and last longer than such an event without the Convey and Treat Approach.

L-005-037 Pages 64-66, Exhibits 4-13 through 4-15: The stormwater runoff flow diagrams are extreme simplifications because the information provided is the only information available. King County views the diagrams as useful only for gross alternative screening. They tell us nothing about what is happening under peak flow conditions when peak toxicity is a concern. Better modeling will be needed for more accurate alternative comparisons.

**Impacts to Water Quality, Fish, and Wildlife**

*Draft EIS*

L-005-038 Page 17–How do effects to fish and wildlife vary between the alternatives? Recent studies indicate that juvenile salmon "hold up" and spend significant time in the East Waterway of the Duwamish River during their migration to sea. The Convey and Treat Approach to stormwater management would move much of the stormwater from the project area to an outfall in this location and discharge the stormwater in the form of increased volumes of treated and untreated CSO. This would result in greater exposure of juvenile salmon to pollutants at a critical life stage. This should be acknowledged in the final EIS. (This concern also should be addressed in Appendix R: Fisheries, Wildlife and Habitat Disciplines Report, Section 4.1.2.)

A more detailed analysis of impacts to wildlife, human health, and the environment from increased discharge at Royal Brougham needs to be conducted, especially as it relates to endangered species and the habits of salmon in the nearshore area at the mouth of the Duwamish River.

In addition, the Convey and Treat Approach would increase the volume of treated and untreated CSO discharged at the Denny Way CSO. This would change the conditions used as the basis of the Biological Assessment and Biological Opinion that was prepared for the Denny Way project in compliance with the Endangered Species Act. If the Denny Way CSO conditions were to change, it could result in King County needing to renew consultation with the National Oceanic and Atmospheric Administration/Fisheries and the U.S. Fish and Wildlife Service. King County would consider this to be a significant impact.

L-005-039 Page 18–How do the alternatives affect water quality? The Draft EIS states:

> The project area, approximately 98 acres, is less then 5 percent of the total surface area of the drainage basin. Because the project area contributes a very small portion of the total stormwater flow within the drainage basin, the overall effect of the project on water quality will not be substantial.

The area-based context of this conclusion is misleading. See the earlier discussion.



**L-005-036**

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.

**L-005-037**

Peak toxicity is no longer a concern because the proposed project will not affect CSOs. Potential toxicity of stormwater discharges is discussed in the Biological Assessment prepared for the preferred alternative.

**L-005-038**

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. An updated pollutant load analysis is also included in the Final EIS. Also, please see the updated Wildlife, Fish, and Vegetation Discipline Report, Appendix N of the Final EIS, for a discussion of project effects on fish and wildlife.

**L-005-039**

This statement has been removed from the text.

L-005-040

**Impacts to Sediments**

- The draft EIS completely ignores the effects of the project on areas where sediments are contaminated to levels above the state cleanup standards. If the project is proposing to disturb those areas during construction, sediment contaminants will be spread over a broad area and will impact the marine environment and enhance the bioavailability of contaminants to marine organisms. This would be a significant environmental effect that has not been identified or evaluated in the impact statement. This effect has to be included to understand the environmental and public health effects of the project adequately.

- In addition, if the project affects areas of sediment that are contaminated to levels above the state cleanup standards, the state cleanup standards require the contamination to be addressed. This means that the areas of contamination along the portion of the project that intrude into the marine environment will have to be remediated. This remediation is a significant component of the project that was not included in the evaluation of impacts. In addition to the impacts discussed above, remediation will affect large areas of the nearshore environment and displace the marine community for several years until recolonization starts to return the area towards fully functional habitat.

  For some of the alternatives, a portion of the project intrudes into marine habitat around the Washington Street pier. This area has been documented as exceeding sediment standards and is on Washington State's contaminated site list. Intrusion into this area would affect those sediments and require cleanup, an impact that is not identified as part of the project or evaluated in the EIS.

L-005-041

- The draft EIS states that PAHs are not of concern in runoff from stormwater from this project based on national data. However, this conclusion disregards local data that contradicts this conclusion and demonstrates PAHs to be a significant concern from this type of runoff. Specifically, data collected on runoff from SR-520 on the Lake Washington floating bridge, from I-5 stormwater outfalls into Thea Foss waterway in Tacoma, and from stormwater outfalls along the City of Tacoma waterfront all show that PAHs are of significant concern and collect in the sediments near the outfalls. This data can be easily obtained from the King County Department of Natural Resources and Parks, the Washington State Department of Transportation, and the city of Tacoma. Given this local information, the effects of PAHs from the project outfalls needs to be assessed to fully understand the potential impacts.

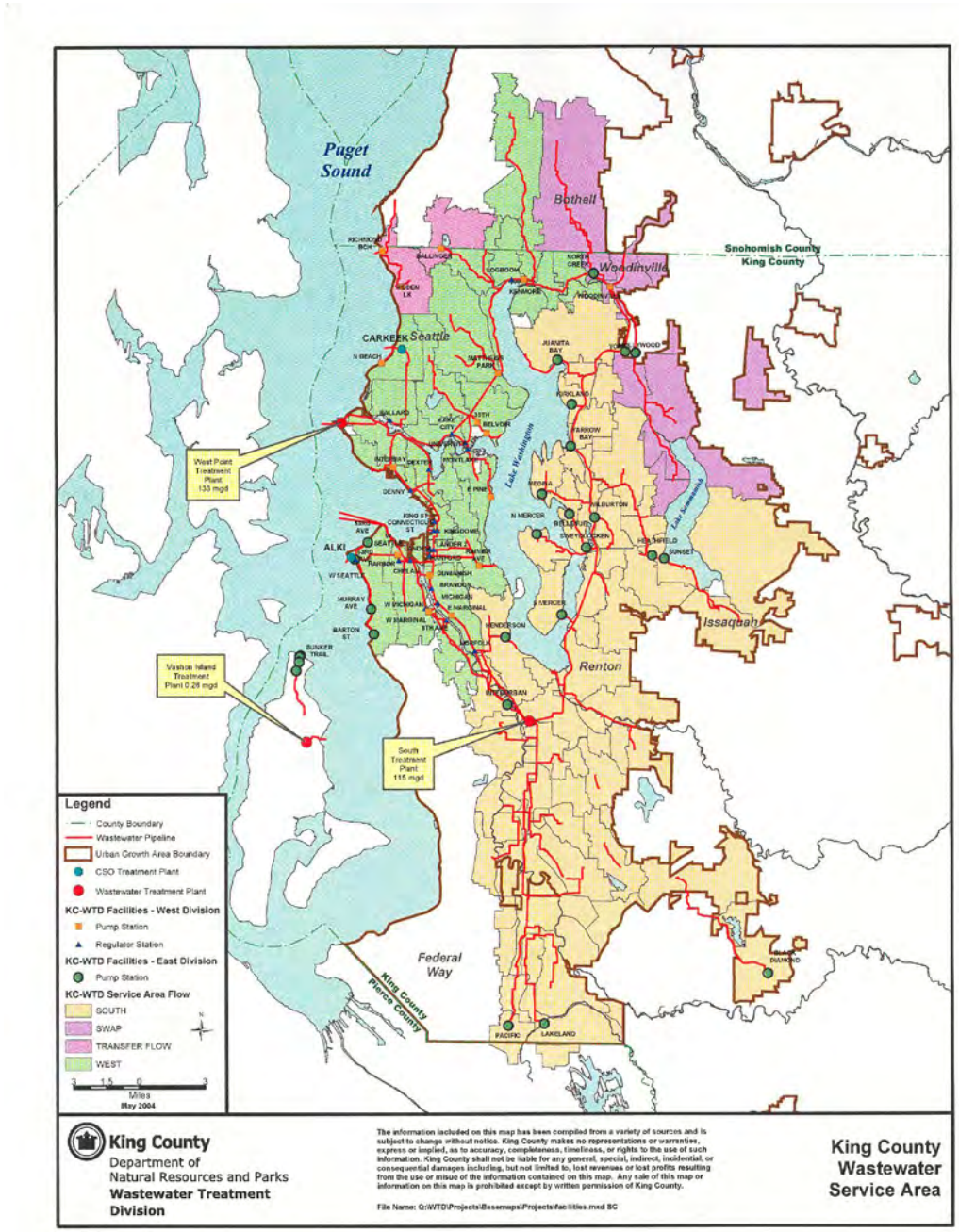


**L-005-040**

Sections 6.3 and 6.4 of the Final EIS have been revised to include the risks associated with disturbance of contaminated sediment during construction.

**L-005-041**

WSDOT's Environmental Procedures Manual was used for the pollutant loading analysis. This method evaluates loads for TSS, total copper, dissolved copper, total zinc, and dissolved zinc, because it is representative of pollutants found in stormwater runoff.


Puget Sound
Bothell
Woodinville
Snohomish County
King County
Seattle
CARKEEK
ALKI
West Point Treatment Plant 133 mgd
Vashon Island Treatment Plant 0.26 mgd
South Treatment Plant 115 mgd
Lake Washington
Lake Sammamish
Issaquah
Renton
Federal Way
King County
Pierce County
Legend
County Boundary
Wastewater Pipeline
Urban Growth Area Boundary
CSO Treatment Plant
Wastewater Treatment Plant
KC-WTD Facilities - West Division
Pump Station
Regulator Station
KC-WTD Facilities - East Division
Pump Station
KC-WTD Service Area Flow
SOUTH
SWAP
TRANSFER FLOW
WEST
Miles
May 2004
King County
Department of
Natural Resources and Parks
Wastewater Treatment
Division
The information included on this map has been compiled from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of King County.
File Name: Q:\WTD\Projects\Basemaps\Projects\facilities.mxd SC
King County
Wastewater
Service Area


Lake Union
Mercer St CSO Tunnel (14' - 8")
EBI-7 (102")
DENNY WAY
Central Int. (60")
EBI-6 (102")
Pine St Addl (2 x 24")
Elliott Bay
EBI-6 (102")
Outfall (48")
KING ST
(96")
Outfall (72")
CONNECTICUT ST
KINGDOME
EBI-5 (96")
KC WTD Facilities
Treatment Plants
Pump Stations
Regulator Stations
DEIS Proposed Alaska Viaduct Tunnel
KC Sewerlines
Kcsnl.shp
1000 0 1000 2000 Feet
King County
Department of Natural Resources and Parks
Wastewater Treatment Division
DEIS Proposed Alaska Viaduct Tunnel with King County WTD Facilities