

THE  
WATERFRONT

Tesoro Savage CBR  
Scoping Comment  
#30930

December 18, 2013

Via email to [efsec@utc.wa.gov](mailto:efsec@utc.wa.gov) and U.S. Mail

Stephen Posner  
Interim EFSEC Manager  
Energy Facility Site Evaluation Council  
P.O. Box 43172  
1300 S. Evergreen Park Dr. SW  
Olympia, WA 98504-3172

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ENERGY FACILITY SITE  
EVALUATION COUNCIL

RE: Tesoro-Savage Energy Distribution Terminal, Docket EF-131590  
SEPA Scoping Comments

Dear Mr. Posner,

The following comments are submitted on behalf of Columbia Waterfront LLC on the scope of the State Environmental Policy Act ("SEPA") review required for the proposed Tesoro-Savage Energy Distribution Terminal, a proposed crude-by-rail oil handling, storage, and shipping facility ("Tesoro-Savage Facility"). We thank you for extending the deadline for submitting comments.

Columbia Waterfront LLC is the developer of a new waterfront community, The Waterfront, scheduled to break ground in Vancouver, Washington in early 2014. The Waterfront is located a less than 2 miles east of the proposed distribution terminal and immediately adjacent to the Port of Vancouver's spur rail line, which Tesoro intends to use to deliver some 360,000 barrels of oil per day to the proposed oil handling facility. See Exhibit A (General Vicinity Map).

We are deeply concerned about the Tesoro proposal to construct a new facility to receive crude oil by rail, store it on site, and load it on marine vessels for shipment to West Coast refineries and possibly overseas. The proposed facility would allow for 2.16 million barrels of oil to be stored on the banks of the Columbia River, posing significant risks to the health, welfare and economic future of Vancouver and its residents. A project of this magnitude and importance deserves careful review and consideration of the wide range of potential impacts it may have on the natural and built environment. This comment letter focuses primarily on potential impacts from the proposal on the built environment. A list of additional impacts that should also be analyzed in the EIS, including impacts to the natural environment, is also included as Exhibit F. The EIS should assess available means to mitigate these impacts, and the Council should condition any recommendation for approval on the effective mitigation of all significant environmental impacts. WAC 197-11-660. To the extent that mitigation measures are ineffective

in addressing the impacts of the proposal, the Council should recommend denial of Tesoro's application. *Id.*

## **I. Background**

### **A. The Waterfront Project**

The Waterfront project, and along with it the public goals for a sustainable future for downtown Vancouver, are directly threatened by the Tesoro proposal. The Waterfront will transform a Brownfields area --- the former Boise Cascade mill site --- into a vibrant urban community.<sup>1</sup> Envisioned as a live-work-play community, The Waterfront will reclaim a significant piece of the city landscape and reconnect Vancouver to its roots along the banks of the Columbia River. The Waterfront will include a new 7 acre Waterfront Park on land to be dedicated to the City by Columbia Waterfront LLC, which has also committed to providing initial park improvements including a waterfront trail linking to and extending the existing Columbia River Renaissance Trail. See Exhibit B (The Waterfront site location map). The project consists of up to 3,300 residential units of several types to create a socially and economically diverse community; more than 800,000 square feet of office space; 250,000 square feet of retail space including restaurants, specialty shops and services to support residents and visitors; and a 200 unit hotel. Exhibit B. The community is designed to be friendly for pedestrians and bicycles and will provide convenient access to downtown Vancouver and mass transit.

Situated between downtown Vancouver and the Columbia River, the project site comprises more than 32 acres, including 28 acres owned by Columbia Waterfront LLC and 4 acres leased from the Port of Vancouver.

Columbia Waterfront LLC acquired the property in 2008 and worked closely with the City and Port to create the master plan for development.

The Waterfront will reshape Vancouver's identity and aid in the ongoing revitalization of downtown, while the property, long closed to the public, will be reopened for all to explore. See Exhibit C. In considering approval for The Waterfront master plan in 2009, City staff found the development to be in compliance with the City's Comprehensive Plan and "that the public interest, health, safety, and general welfare will be served" by development of The Waterfront project.<sup>2</sup> The City Council approved the master plan for The Waterfront in December 2009.<sup>3</sup>

#### *1. Economic impact from waterfront redevelopment*

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<sup>1</sup> More information regarding The Waterfront is available at: <http://thewaterfrontvancouverusa.com/>.

<sup>2</sup> City of Vancouver, Staff Report and Recommendation to the Planning Commission, Vancouver Waterfront Development, PRJ 2008-02040 (Oct. 27, 2009).

<sup>3</sup> Ordinance No. M-3936.

The Waterfront will be an economic engine for the City and Clark County. The construction of The Waterfront project is estimated to generate over 4,580 direct full time equivalent (FTE) jobs over the construction period, paying an estimated \$244 million in labor income (\$53,400 per employee), and contributing \$318 million in value-added output. Johnson Economics, Estimated Economic and Fiscal Impacts of the Tesoro-Savage Facility on The Waterfront Vancouver Development and Downtown Vancouver 6 (Dec. 2013) (Exhibit D). Indirect and induced impacts from construction activities will create an additional 2,600 FTE jobs, \$108 million in labor income, and \$187 million in value-added output, with the total impact on Clark County from construction activities totaling over \$927 million. Exhibit D.

Once completed, ongoing business activity at The Waterfront will generate an estimated 1,364 direct jobs, contributing \$64.8 million in annual labor income and \$59.6 million in value-added output to the Clark County economy. Indirect and induced impacts are expected to create an additional 679 permanent jobs paying \$25.9 million in labor income. The total annual output associated with the ongoing operations at The Waterfront is estimated to be in excess of \$185.5 million per year and be sustained into the foreseeable future. Exhibit D.

Economists have also estimated that The Waterfront will generate over \$31 million in tax revenues during the construction period, while recurring tax revenues are estimated at \$6.5 million per year including property taxes, lodging related taxes, sales taxes and employee-based business taxes. The net present value of these recurring tax revenues is estimated to be approximately \$96 million. Exhibit D.

## *2. Timing of waterfront redevelopment*

The development of The Waterfront is not speculative or remote. The EIS must therefore consider the likely impacts of the Tesoro proposal on The Waterfront development. The Waterfront master plan was approved in 2009, and the project is proceeding with permitting, having obtained preliminary subdivision approval as well as City approval of the shoreline management permits for the park. The City is currently finishing the Waterfront Access Project, a \$45 million public-private investment that will provide ready street and sidewalk access to The Waterfront from the City's existing downtown core along Esther and Jefferson Streets. With the Waterfront Access Project and associated infrastructure improvements scheduled for completion by the end of 2013, on-site road-building at The Waterfront is scheduled to begin in the summer of 2014, funded by a combination of state Transportation Improvement Board grant funds, City investments, and developer contributions. Building construction will begin in 2015.

### B. The Tesoro Proposal

Tesoro Savage Petroleum Terminal LLC ("Tesoro") has proposed to construct and operate a facility at the Port of Vancouver to receive crude oil by rail, store the oil on site, and load up to

an average of 360,000 barrels per day onto marine vessels for delivery primarily to West Coast refineries. Tesoro Application for a Site Certificate (“ASC”) at 2-86. At build-out, as many as six loaded unit trains per day, each approximately 7,800 feet in average length (1.47 miles) and containing approximately 100 to 120 tank cars of crude oil, would be delivered to the facility by rail. ASC at 2-91, 4-431. Thus, as many as 12 trains per day would travel through downtown Vancouver and along tracks immediately adjacent to the Columbia River and The Waterfront. See Exhibit B. Up to 2.16 million barrels of oil, or 90.72 million gallons of oil would be stored at the facility at any one time, and 131.4 million barrels or 5.5 *billion* gallons of oil would move through the facility on an average annual basis. ASC at 2-104. For context, the proposed Tesoro oil terminal apparently would have the capacity to handle nearly 5% of the entire United States oil production,<sup>4</sup> or over 43% of the proposed capacity of the controversial Keystone XL pipeline.<sup>5</sup> Tesoro proposes to handle all this oil in a facility located on the banks of the Columbia River in a metropolitan area of over 2 million people.<sup>6</sup>

### 1. Information gaps

Tesoro’s application lacks critical pieces of information necessary to complete a full assessment of the environmental impacts from the proposal. These information gaps must be filled as part of an adequate “detailed statement” of the proposal’s environmental impacts, RCW 43.21C.030(c), and “to ensure that SEPA’s policies are an integral part” of the Council’s decision-making process. WAC 197-11-400(1).

Tesoro’s application indicates oil will initially come by train from “Midwest oil fields,”<sup>7</sup> most likely from the Bakken formation of North Dakota. Tesoro, however, does not identify the source of the heavier crude oils proposed for transport and storage in Phase 2 of the project. Tesoro indicates that crude oil will be shipped “primarily,” but not exclusively, to West Coast refineries. ASC at 2-206. Since U.S.-sourced crude oil generally cannot be legally shipped overseas, the implication is that some of the oil shipped from the Tesoro facility would likely be of Canadian origin and destined for foreign markets. Tesoro may, in fact, be planning to use the terminal to receive, store and ship heavy crude from the Canadian tar sands. This suspicion is heightened by statements in the ASC indicating that some of the oil handled at the facility will

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<sup>4</sup> U.S. Energy Information Agency, Crude Oil Production Statistics, *available at*: <http://www.eia.gov/todayinenergy/detail.cfm?id=10171> (indicating 7.505 million barrels of total U.S. production per day in August 2013).

<sup>5</sup> U.S. Dep’t of State, Keystone XL Pipeline Evaluation Process Fact Sheet 2012, *available at*: <http://keystonepipeline-xl.state.gov/draftEIS/205549.htm>

<sup>6</sup> U.S. Census Bureau, Annual Estimates of the Population of Metropolitan and Metropolitan Statistical Areas: April 1, 2010 to July 1, 2012, *available at*: <http://www.census.gov/popest/data/metro/totals/2012/>.

<sup>7</sup> ASC at 2-206.

not be “pipeline-quality” and will need to be heated to allow for the oil to flow properly from the rail tank cars to the storage tanks and then to the tanker ships.<sup>8</sup>

The EIS must identify the source of the non-pipeline quality crude that will be delivered to the facility to ensure that the full range of the proposal’s impacts can be understood. If Tesoro intends to allow crude oil or diluted bitumen from the Canadian tar sands to be handled at the facility, the EIS must take this into account and analyze the full range of environmental impacts, including climate change impacts, associated with tar sands extraction, transport, processing, and combustion.

In addition, Tesoro has not identified which West Coast refineries or other destinations to which the crude oil will be shipped. This omission makes it impossible for the Council to assess both impacts from the proposed shipping activities impossible and potential alternatives. For the EIS to be sufficient, the applicant must provide the destinations for oil shipped from the proposed Tesoro terminal.

Publicly available copies of Tesoro’s lease agreement with the Port of Vancouver contain significant redacting that further inhibits a full assessment of the proposal’s impacts.<sup>9</sup> For example, Paragraph 8.E has a number of redactions regarding the timing for handling certain numbers of barrels per day and also gives Tesoro the option of developing a second facility if certain redacted benchmarks are met. ASC at 2-81.23. Paragraph 2.D.2 allows the Port to terminate the lease if it is not satisfied that Tesoro is prepared to begin construction by a certain time – which is also redacted. ASC at 2-81.14. In Exhibit E, key dates that Tesoro has to meet for construction commencement and completion have been redacted. ASC at 2-81.106. The definition of “Rail Facility for Unit Trains” is defined as a facility “capable of unloading more than [redacted] bpd of crude oil from trains.” ASC at 2-81.109. Additional exhibits are omitted entirely from the lease attached to the ASC, including the Tenant Environmental Questionnaire (Exhibit H), New Product Approval Process (Exhibit I), Rail Operations (Exhibit J), and Health and Safety (Exhibit L).

These redactions and omissions make it impossible to fully assess the Port’s potential economic stake in the deal and the maximum amounts of oil permitted to be moved through the site. While Tesoro states that the facility is currently designed for 360,000 barrels per day, the redactions indicate that Tesoro may have undisclosed plans to expand the facility beyond this stated limit. The EIS needs to fully consider the full scope of Tesoro plans, and the Council should require Tesoro to provide an unredacted version of its lease and all of its exhibits to prevent Tesoro from impermissibly piecemealing the environmental review for its proposal.

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<sup>8</sup> ASC at 2-87, 2-96, 2-161.

<sup>9</sup> ASC § 2.2.2, at 2-81.

## 2. *Impact of the terminal on the future of Vancouver*

The Waterfront project, which will be approximately the size of Portland's Pearl District, is the realization of a dream to reconnect the City of Vancouver with the Columbia River, and provides an opportunity to revitalize the City's economy through the development of a mixed use, sustainable, urban, waterfront community. See Exhibits B, C. It will provide lasting benefits to the community, including parklands, trail development, housing, sustainable job creation, and a permanent source of tax revenue.

In contrast, the Tesoro proposal would provide only short-term profits, temporary jobs, and an ephemeral boost in tax revenues to the City and the Port. With an initial ten year lease term followed by two five year options, the oil terminal is "designed for an anticipated lifetime of 20 years."<sup>10</sup> Yet there is no guarantee that the facility will even operate for the full 20 year period. Numerous factors could shorten the facility's operating lifespan by reducing its profitability, including volatility in international oil markets, the potential for pipeline construction to undercut oil-by-rail as an economically viable means of transporting crude oil, the potential for climate change regulations to further reduce the viability of such rail transport, and the inevitable decline in oil production from the Bakken formation. According to statements from the Port of Vancouver's Executive Director, "[t]he Port of Vancouver believes the market is solid for ten [10] years."<sup>11</sup> This type of short-lived project is not worth either the long-term impacts to the City's prospects for sustainable economic development or the risks of environmental catastrophe that the oil terminal would bring.

## II. General Scope of the Proposal to be Evaluated in the EIS

In adopting SEPA, the Washington legislature declared the protection of the environment to be a core state priority. RCW 43.21C.010. SEPA states that "[t]he legislature recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment." RCW 43.21C.020(3). This policy statement "indicates in the strongest possible terms the basic importance of environmental concerns to the people of the state." *Leschi v. Highway Comm'n*, 84 Wn.2d 271, 279-80 (1974).

The core of SEPA is a requirement to fully analyze projects with a significant impact on the environment. RCW 43.21C.031(1). An EIS is required for any action that has a significant effect on the quality of the environment. WAC 197-11-330. The Council has already made a determination that the proposal is likely to result in significant environmental impacts, and that an EIS is required. Washington State Energy Facility Siting Evaluation Council, Determination

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<sup>10</sup> ASC at 2-109.

<sup>11</sup> Minutes from Port of Vancouver Commission Meeting (Oct. 22, 2013).

of Significance Scoping Notice, Docket EF-131590 (Oct. 1, 2013). Areas identified for analysis in the EIS include “Geology and Soils; Vegetation, Fish, and Wildlife; Environmental Health, Noise, Risk of Fire or Explosion, Releases or Potential Release of Toxic or Hazardous Materials; Land and Shoreline Use, Population, Housing and Employment; Historic and Cultural Preservation; Aesthetics; Transportation: Vehicular, Waterborne, and Rail Traffic; Public Services and Utilities.” EFSEC, Determination of Significance Scoping Notice, Docket EF-131590. Columbia Waterfront LLC supports a thorough analysis and review of these significant potential impacts.

A. The “proposal” to be reviewed under SEPA includes the use of the Port of Vancouver’s internal rail infrastructure for oil delivery.

However, the EIS must also properly define the scope of the “proposal” to be evaluated through the environmental review process. WAC 197-11-060(3)(a). A “proposal” includes all actions that are “related to each other closely enough to be, in effect, a single course of action,” where they “(i) [c]annot or will not proceed unless the other proposals (or parts of proposals) are implemented simultaneously with them; or (ii) [a]re interdependent parts of a larger proposal and depend on the larger proposal as their justification or for their implementation.” WAC 197-11-060(3)(b).

The use of the Port’s rail infrastructure for oil by rail deliveries is an integral, interdependent part of the Tesoro proposal to be evaluated in the EIS. The Port’s rail infrastructure begins on Parcel 48843000<sup>12</sup> at the juncture of the Port’s spur line and the BNSF main line. The entire length of the Port internal rail infrastructure is used to connect the oil terminal to the BNSF railway energy distribution system, and the use of this infrastructure for oil-by-rail delivery must be treated as an integral part of the Tesoro-Savage “proposal” and analyzed in the EIS. See Exhibit A.

B. The “proposal” to be reviewed should also include integral oil-by-rail transportation actions.

The potential impacts from transportation of crude by rail and by vessels must be analyzed in the EIS, because they are both “related activities” and “indirect effects” under SEPA.

The proposed terminal will not and cannot go forward without the delivery by rail of crude to the facility. Tesoro should not be permitted to avoid environmental review for the transportation of more than 130 million barrels of crude oil annually by narrowly defining the scope of its proposal so as to exclude these transportation activities. WAC 197-11-060(3)(a) (requiring agencies to “make certain that the proposal that is the subject of environmental review is properly defined”). Since the operations of the oil terminal are dependent upon oil-by-rail

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<sup>12</sup> West Vancouver #2 Public Levee, Amos Short DLC, 4.01A.

deliveries, the terminal operations and rail transportation actions are “related to each other closely enough to be, in effect, a single course of action,” where neither action will proceed in the absence of the other. WAC 197-11-060(3)(b). Appropriate environmental review requires an analysis of the impacts of all the activities related to a proposal<sup>13</sup> The EIS must evaluate the environmental impacts from the full scope of the Tesoro “proposal,” including the impacts from railroad transportation of crude oil to the Port of Vancouver site.

Similarly, the impacts of oil trains and marine vessels must be evaluated in the EIS as indirect impacts of the oil terminal itself. Under SEPA regulations, “[a] proposal’s effects include direct and indirect impacts caused by a proposal.” WAC 197-11-060(4)(d). The regulations explicitly direct that environmental impacts outside the jurisdiction of the deciding agency must be considered. WAC 197-11-060(4)(b). Thus, while the transportation of oil trains on the BNSF main line may be outside the scope of the Council’s *regulatory* jurisdiction, the impacts of such transportation activities are fully within the scope of the *environmental review* required by SEPA.

“[I]mplicit in the statute is the requirement that the decision makers consider more than what might be the narrow, limited environmental impact of the immediate, pending action. The agency cannot close its eyes to the ultimate probable environmental consequences of its current action.” *Short v. Clallam Cnty.*, 22 Wn. App. 825, 834 (1979). For example, when considering a government action, a SEPA document must also consider the effects of private growth that may be encouraged by this governmental action. *Id.* The agency’s obligation to consider the indirect impacts of the Tesoro oil terminal compels consideration of both upstream and downstream impacts, including indirect impacts from the transportation of oil by rail to the terminal, as well as from the terminal to undisclosed destinations via marine vessels.

The EIS must consider all direct and indirect impacts of the proposal, including but not limited to the environmental impacts from (1) the estimated 3,426 annual oil train trips (including returns) necessary for the transportation of the oil from North American oil fields to the Tesoro facility, and (2) the estimated 730 marine vessel transits (including returns) used for the transportation of the oil from the facility down the Columbia River, through the Pacific Ocean, and to West Coast refineries. ASC at 4-431.

Furthermore, such an analysis would be consistent with the state’s treatment of similar transport by rail facilities. In light of the obligation to consider both direct and indirect impacts under SEPA, the Department of Ecology has required evaluation of upstream and downstream environmental impacts from the proposed Gateway Pacific Terminal. For this coal export facility, the agency is requiring, among other things:

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<sup>13</sup> Wash. Dep’t of Ecology, State Environmental Policy Act Handbook, Pub. # 98-114 (“SEPA

- A detailed assessment of rail transportation impacts in Whatcom County near the project site, specifically including Bellingham and Ferndale.
- An assessment of how the project would affect human health, including impacts from related rail and vessel transportation in Whatcom County.
- An evaluation of greenhouse gas emissions from terminal operations, and rail and vessel traffic.
- An assessment of how the project would affect human health in Washington.<sup>14</sup>

To ensure consistent application of SEPA, the Council should follow Ecology's treatment of the Gateway Pacific Terminal project with respect to the Tesoro project's potential impacts on The Waterfront, the City of Vancouver and Clark County. Thus, the Council should require (1) a detailed assessment of rail transportation impacts on Vancouver; (2) a vessel traffic study for examination of impacts in U.S. territorial waters, including a detailed risk analysis to determine the risk of an oil spill, as well as other marine traffic-related issues; (3) a detailed human health assessment covering terminal operations, as well as impacts from related rail and vessel transportation in the City and Clark County; and (4) an evaluation of greenhouse gas emissions from terminal operations, and rail and vessel traffic.

### **III. Specific Factors Related to the Built and Human Environment**

The EIS must "describe the existing environment that will be affected by the proposal, analyze significant impacts of alternatives including the proposed action, and discuss reasonable mitigation measures that would significantly mitigate these impacts." WAC 197-11-440(6)(a). The SEPA regulations provide a broad scope of the "elements of the environment" to be considered in the EIS. WAC 197-11-444. The following discusses some of the specific elements of the environment that must be evaluated in the EIS for the Tesoro proposal. While these comments focus on impacts to the City of Vancouver and The Waterfront project, the attached Exhibit F identifies additional factors that must also be evaluated in the EIS.

#### **A. Land Use**

The master plan for The Waterfront's mixed use urban community was developed through a public process and in close collaboration between the project developer, the City, and the Port of Vancouver. Recognizing the critical importance of The Waterfront to Vancouver's future, the

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Handbook"), 11-12 (2004).

<sup>14</sup> Press Release, Whatcom County, Washington State Department of Ecology, U.S. Army Corps of Engineers (Oct. 2, 2013), available at:

<http://www.eisgatewaypacificwa.gov/sites/default/files/content/files/EIS-PressRelease-73113.pdf#overlay-context=resources/press-room>.

City, the developer, BNSF, and state and federal agencies have collectively invested \$45 million in transportation improvements to facilitate the development of The Waterfront.

Increased oil train traffic immediately adjacent to The Waterfront site will cause various impacts that conflict with the development of The Waterfront in accordance with the approved master plan, including noise, vibration, aesthetics, and risk of spills. Further, the oil train traffic will conflict with the City of Vancouver's plans for development of a Waterfront Park, as user experience at the Waterfront Park will be detrimentally affected by the impacts described above. The EIS must fully assess the compatibility of the Tesoro proposal and its associated oil train traffic with the land use plans for The Waterfront and the Waterfront Park, not just the land use plans for the immediate area of the proposed terminal.

#### B. Recreation

The master plan for a new 7 acre Waterfront Park along the Columbia River shoreline was recently approved by the Vancouver City Council.<sup>15</sup> The Waterfront Park will include a half-mile long extension of the existing Waterfront Renaissance Trail, multiple gathering areas, seating, open lawn, a pedestrian pier, a floating fishing pier, and areas for both informal and formal performances. The Grant Street Plaza and Pier would extend 100 feet beyond the shoreline, and the overwater portion would provide views of Mount Hood, the Portland West Hills, and potentially the proposed Tesoro oil terminal. A variety of funding sources have made the Waterfront Park possible. In addition to its commitment to dedicating the 7 acres of shorefront property for the Waterfront Park, Columbia Waterfront LLC has committed \$3 million for park improvements. Over \$2 million federal and state grant funds have also been secured.

The EIS must include consideration of the full range of impacts that the Tesoro proposal will have on recreational activities at the future Waterfront Park and along the full length of the existing Waterfront Renaissance Trail. The Tesoro facility, including the oil trains along the BNSF main line and the Port of Vancouver spur line, will likely have noise and odor impacts on the Waterfront Park that will negatively impact recreation activities at the Waterfront Park, and must be considered in the EIS. Train noise and odors<sup>16</sup> may also limit the appeal of festivals, farmers markets, and concerts planned for the Waterfront Park, negatively impacting user experience. Due to a slight bend in the Columbia River between the Waterfront Park and the Tesoro oil terminal, the oil terminal may also be visible from the Waterfront Park and its piers, and noise from the oil tanker loading facility will travel unmuffled across the water to the

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<sup>15</sup> Minutes of Vancouver City Council Meeting (Nov. 4, 2013).

<sup>16</sup> High concentrations of hydrogen sulfide, with its "characteristic rotten egg odor with an odor threshold as low as 10 parts per billion or even less," in the crude oil proposed for delivery to the facility are a particular concern. ASC at G-28.

Waterfront Park. Noise, odor, and visual impacts analysis included within the EIS should specifically evaluate impacts from passing trains and the oil terminal activities on the Waterfront Park.

C. Transportation

The EIS must include an evaluation of the impacts of the Tesoro facility on railroad transportation. At a minimum, the proposal will result in a significant increase in train traffic through Vancouver and past The Waterfront. In 2012, the Port averaged about one unit train every two days.<sup>17</sup> At full build-out, “[c]ounting the return trips of empty trains, facility operations will result in up to 12 trains per day and 3,426 trains per year on the section of the BNSF rail lines that serve the Port.” ASC at 4-431. This means that up to 17.7 miles of new oil train cars will travel through downtown Vancouver daily, with significant impacts on local transportation systems that must be considered in the EIS.

D. Aesthetics

The Tesoro proposal will have significant aesthetic impacts on the City of Vancouver and The Waterfront. The oil terminal loading and unloading operations may be visible from the Waterfront Park, including the Waterfront Renaissance Trail and the Grant Street pier. Oil trains passing through downtown Vancouver will be visible from numerous downtown locations, including the existing Vancouver City Hall. These mile and a half long oil trains will also be visible from The Waterfront property, including numerous residential structures planned for the site and the Waterfront Park. Hydrogen sulfide odors from the oil cars are also likely to cause aesthetic harms to The Waterfront.

The EIS must include visual and odor impact analyses that clearly document the aesthetic impact of the oil terminal facilities on the Waterfront Park and the Grant Street Pier planned for the Columbia Waterfront property. Visual and odor impacts on The Waterfront community and Vancouver City Hall from passing oil trains must also be assessed in the EIS.

E. Public Services

With up to 12 unit trains per day needed to meet the demand of the Tesoro-Savage facility, significant impacts on public services in Vancouver and communities throughout the state are likely to occur. In particular, there are 18 private and 8 public at-grade crossings within the City of Vancouver. Thus, emergency services, including ambulances, fire trucks and police vehicles, will face significant delays in access to parts of Vancouver and other communities bisected by

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<sup>17</sup> A. Corvin, Port of Vancouver Jockeys for Oil Transfer Terminal, The Columbian (June 23, 2013), available at: <http://www.columbian.com/news/2013/jun/23/oil-transfer-terminal-port-of-vancouver-jock/>.

rail lines used for the oil trains. Emergency services to some residential areas along the Columbia River could be completely cut off for long periods of time by lengthy, slow-moving or stopped oil unit trains.

The SEIS must include a complete evaluation of the effects of the oil trains on emergency response time. Specifically, the SEIS must include estimates of total response time delays for ambulances, fire trucks, and police vehicles during the 10 to 20 year estimated life of the Tesoro-Savage Facility. Inevitably, delayed emergency response time will lead to medical complications, loss of life, and property damage. Quantitative analysis should be employed to estimate the economic cost of delays in emergency service response time, as well as the number of lives likely to be lost as a result of such emergency response delays.

#### F. Noise and Vibration

The oil trains travelling to the Tesoro-Savage facility will pass through numerous Washington communities, including the City of Vancouver. Noise analysis should be conducted as part of the SEPA environmental review to quantify the noise impacts of these trains on the affected communities. At The Waterfront, 10 of the 22 city blocks and numerous residential structures will be within 100 feet of both the BNSF main line and the Port of Vancouver spur line on which the oil trains are proposed to pass. See Exhibit B. An assessment of train noise including engine noise, vibrations, horn noise, and brake noise should be included as part of the EIS. This should include quantitative modeling of the noise generated by the trains at a location 100 feet south of the juncture between the BNSF main line and the Port of Vancouver spur line.

The noise assessment should not only document the maximum noise anticipated to be generated by the oil trains, but should assess the timing, duration and frequency of the noise. Particular attention should be paid to the frequency of trains that will be traveling through the City of Vancouver during night hours.

#### G. Health and Safety

##### 1. *Risk of explosion*

The Tesoro proposal presents numerous health and safety risks to the people of Washington. Among the most concerning is the significant risk of an explosion occurring along the oil train route or at the facility itself. Again, 10 of the 22 city blocks comprising The Waterfront will be within 100 feet of both the BNSF main line and the Port of Vancouver spur line. See Exhibit B. The risks to The Waterfront and downtown Vancouver must be fully assessed in the EIS.

As the number of oil trains travelling on North American railroads has increased over the past few years, the number of catastrophic accidents has also increased. Several recent examples of

train accidents show that the safety of oil-by-rail is not assured and must be assessed in the EIS.<sup>18</sup> On July 6, 2013, the risk of oil-by-rail caught the world's attention when a train carrying crude oil derailed, causing multiple explosions and a large fire that killed 47 people and left the town of Lac-Mégantic, Quebec in ruins. While the investigation into that disaster is ongoing, initial reports from the Canadian Transportation Safety Board indicate that at least some of the Bakken crude being transported was significantly more volatile than labeled, and that "[t]he lower flash point of the crude oil explains in part why it ignited so quickly once the Class 111 tank cars were breached."<sup>19</sup> In response, U.S. regulators launched Operation Classification, known as "The Bakken Blitz," "an inspection operation to verify that crude oil is being properly classified in accordance with federal regulations."<sup>20</sup>

Prior to this explosion, the American Association of Railroads (AAR) had petitioned the Pipeline Hazardous Materials Safety Administration (PHMSA) to adopt more stringent requirements for Class 111 (DOT-111) rail cars used to transport more volatile crude oils.<sup>21</sup> When the railroad industry itself specifically requests stricter regulations regarding the design of tank cars used to transport volatile crude oil, it is clear that the current regulations are inadequate to ensure the safe transport of crude oil along American railways and through cities and towns, such as Vancouver. Industry subsequently voluntarily adopted stricter standards than required by federal rules for new tank cars carrying more volatile classes of crude oil, the CPC-1232 standard.<sup>22</sup> AAR has estimated that while there are approximately 19,000 DOT-111 cars in service that meet the CPC-1232 standard, approximately 78,000 DOT-111 cars in service do not meet that standard.<sup>23</sup>

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<sup>18</sup> In one recent example, eleven tank cars carrying crude oil burst into flames after derailling in rural Alabama on November 8, 2013. E. McCallister, Train Carrying Crude Oil Derails, Cars Ablaze in Alabama, REUTERS (Nov. 8, 2013), available at: <http://www.reuters.com/article/2013/11/08/us-crude-train-explosion-idUSBRE9A70Q920131108>.

<sup>19</sup> Transportation Safety Board of Canada, Rail Safety Advisory Letter 13-13 (Sept. 11, 2013), available at: <http://www.tsb.gc.ca/eng/medias-media/sur-safe/letter/rail/2013/r13d0054/r13d0054-617-13-13.asp>.

<sup>20</sup> C. Quarterman, PHMSA Administrator, U.S. Dep't of Trans., Rail Safety is a National Priority (Sept. 4, 2013), available at: <http://www.dot.gov/fastlane/rail-hazmat-safety-national-priority>.

<sup>21</sup> Petition P-1577 (discussed in Comments of the American Association of Railroads and the American Short Line and Regional Railroad Association, Docket No. PHMSA—2012—0082: Hazardous Materials: Rail Petitions And Recommendations to Improve the Safety of Railroad Tank Car Transportation (RRR) ("AAR Comments"), available at: <http://www.scribd.com/doc/186006741/PHMSA-ANPRM>.

<sup>22</sup> AAR Comments at 3.

<sup>23</sup> *Id.* at 10–11.

In light of the Lac-Megantic disaster, the AAR has requested that federal standards be tightened beyond the existing voluntary CPC-1232 standards.<sup>24</sup> In written testimony provided to the PHMSA, AAR stated that the proposed revisions to the tank car standards “would significantly decrease the probability of a release in an accident.”<sup>25</sup> Specifically, the improvements would reduce the probability of releases by increasing puncture resistance, reduce releases from top fittings and bottom outlets, and require thermal protection to reduce the probability of a tank car rupture resulting from fire. The industry has further expressed support for “retrofitting existing cars and an aggressive phase-out schedule for cars that cannot meet retrofit requirements.”<sup>26</sup>

In September 2013, the PHMSA issued an Advance Notice of Proposed Rulemaking, a first step towards tightening the DOT-111 regulations for tank cars carrying hazardous liquids, such as crude oil.<sup>27</sup> However, the outcome of such regulatory efforts, including the critical issue of whether existing cars will be rapidly retrofitted or phased out of service, remains uncertain.

While Tesoro has not identified the exact source of the oil proposed for delivery to the Port of Vancouver facility, much of the oil will likely be sourced from the Bakken formation, the source of the oil which exploded in devastating fashion in Lac-Megantic.<sup>28</sup> Given industry and regulatory recognition that current safety standards are insufficient, the EIS must take a hard look at the risk of an explosion from a 120-car oil train carrying highly volatile (Packaging Group I) crude oil in pre-2011 Class 111 cars in the event of a train derailment or collision. This analysis should take into account the densely populated areas traversed by the proposed oil trains, including The Waterfront. See Exhibit B. Potential impacts from such a derailment and explosion that must be assessed include air quality impacts, water quality impacts, human health impacts, and transportation impacts.

There is also a risk of explosion during transfer and storage activities on the Port site. The EIS must assess the impact of an uncontrolled fire in one or more of the large ASTs. In particular, human health impacts on Port of Vancouver workers, residents of the Fruit Valley neighborhood, and residents in The Waterfront and downtown Vancouver areas must be assessed under different environmental conditions, including various wind directions and speeds.

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<sup>24</sup> After the Lac-Megantic explosion, Canadian regulators have also called into question “the adequacy of Class 111 tanks cars for use in transporting large quantities of low flash flammable liquids.” Transportation Safety Board of Canada, Rail Safety Advisory Letter 13-13 (Sept. 11, 2013).

<sup>25</sup> *Id.* at 8.

<sup>26</sup> *Id.* at 11.

<sup>27</sup> U.S. Dep’t of Transp., Pipeline Hazardous Materials Safety Administration, Hazardous Materials: Rail Petitions and Recommendations To Improve the Safety of Railroad Tank Car Transportation (RRR), 78 Fed. Reg. 54849 (Sept. 6, 2013).

<sup>28</sup> Transportation Safety Board of Canada, Rail Safety Advisory Letter 13-13 (Sept. 11, 2013).

In addition to the inherent risks of explosion associated with handling large volumes of flammable, volatile liquid crude oil, the Port of Vancouver site is located in a seismically active region “capable of producing earthquakes of magnitude (M) 9 or greater.” ASC at 2-192, 3-228. Further, the proposed site is “located in a high liquefaction-susceptible soil area.” ASC at 3-233. The EIS must fully assess the risks of a large-magnitude earthquake on the Tesoro project site, and the potential for fire, explosion, or oil spill as a result of an earthquake. Particular attention must be paid to the risk of soil liquefaction, and the potential for resulting structural damage to both on-site oil trains and oil storage tanks.

## 2. *Toxic air emissions*

The Tesoro proposal involves the daily handling of 360,000 barrels of oil, requiring the transfer of oil from approximately 400 to 480 train cars to the onsite oil storage tanks. Tesoro accepts that handling such large quantities of oil will inevitably lead to emissions of toxic air pollutants. In the aggregate, two and a half *tons* of Hazardous Air Pollutants will be discharged annually by the facility’s normal operations, including Acetaldehyde, Benzene, Carbon Monoxide, Cyclohexane, Naphthalene, and many others. ASC at 5-476 to 5-477 & Fig. 5.1-14.

Mitigation measures should be considered in the EIS to reduce the potential for such emissions, including confining oil transfer activities to indoor facilities with emissions capture and control technologies. While mitigation measures could potentially reduce the emissions from the proposed facility, the Council must recognize that toxic air emissions cannot be completely mitigated, and that some emissions will be inevitable.

The EIS must also take a hard look at the potential impacts of increased emissions of air pollutants from the Tesoro facility on Port workers, as well as Vancouver residents. Particular attention must be paid to impacts on the nearby Fruit Valley neighborhood, as well as on the thousands of workers and residents planned for The Waterfront community.

The oil trains used to deliver oil to the Port of Vancouver will also generate emissions due to the combustion of diesel fuel. A full assessment of the emissions from these trains must be included within the scope of the EIS. This assessment should include a detailed assessment of the potential impact of emissions from the trains on the health and welfare of the residents of the City of Vancouver and The Waterfront community.

## H. Human environment

The EIS must include a detailed examination of the impacts of the Tesoro proposal on the local economy. While Tesoro’s proposal suggests that up to 110 jobs may be created for a period of 10

to 20 years,<sup>29</sup> the negative economic impacts of the project will persist in perpetuity. Specifically, the EIS must assess the potential negative impacts of the Tesoro oil terminal and associated oil train activities on The Waterfront project and downtown Vancouver.

The economic impact of The Waterfront project on the local economy dwarfs that of the Tesoro proposal. Construction activities at The Waterfront will generate over 4,580 direct jobs, paying an estimated \$244 million in labor income, and contributing \$318 million in value-added output. With an additional 2,600 indirect jobs generated by the construction activities, the total economic impact on Clark County from construction activities would be over \$927 million. Even more importantly, ongoing business activity at the completed Waterfront is estimated to generate 1,364 direct jobs, contributing \$64.8 million in annual labor income, and \$59.6 million in value-added output to the Clark County economy. Including indirect and induced impacts, a total of 2,043 permanent jobs will result from The Waterfront, with total annual output estimated to be in excess of \$185.5 million per year. Exhibit D.

In contrast to the 20-year maximum lifespan of the “permanent” jobs generated by the Tesoro project, the economic development at The Waterfront will be permanent. The Waterfront Park and the site’s immediate connection to downtown Vancouver will help ensure the long-term desirability and economic vitality of The Waterfront. The EIS must consider the significant economic development and employment benefits from The Waterfront, as a direct comparison to the minimal economic benefits generated within Clark County by the Tesoro proposal.

The EIS must also consider the potential negative impacts that the Tesoro proposal will have on The Waterfront development, particularly the 17.7 miles of oil tanker cars expected to travel past The Waterfront each day, within 100 feet of 11 of the development’s 22 city blocks. See Exhibit B. The noise, vibration, emissions, risk of explosions, and aesthetic impacts from the oil trains will negatively impact the development potential of The Waterfront. Any impact the oil trains have on actual or projected property values at The Waterfront site will consequently negatively impact the ability of the project developers to secure additional investors needed to fully develop to its maximum potential as a world-class waterfront community. Faced with the prospect of up to 17.7 miles of oil trains per day passing along the edge of the property,<sup>30</sup> investors may reduce initial investments, leading to a lower quality of developed physical environment. Reduced initial investments in the physical development will permanently impair the ultimate economic value generated by The Waterfront project. This impact will extend well beyond the boundaries of The Waterfront, and have significant impacts on the ongoing redevelopment efforts in downtown Vancouver.

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<sup>29</sup> ASC at 6-373

<sup>30</sup> (12 trains per day) \* (7,800 feet per train) / (5,280 feet per mile) = 17.7 miles per day

The EIS must include an assessment of the economic impacts of the Tesoro proposal, including on The Waterfront development and downtown Vancouver. This analysis should utilize the IMPLAN model or equivalent Multiplier Model able to accurately project impacts across various industries and economic sectors. See Exhibit D.

A report by Johnson Economics assessed the likely impacts of the Tesoro-Savage Facility on The Waterfront development, finding that the operation of the oil terminal “would be expected to negatively impact achievable pricing, the pace of absorption and acceptable developer returns,” and that “[a]s a direct result, the resulting pattern and pace of development at The Waterfront . . . would be expected to be substantially impacted. Based on previous analyses of a similar range of expected impacts, a reduction in the overall development program of approximately 30% would be a reasonable expectation of impact.” Exhibit D.

Modeling the effects of the Tesoro operations on The Waterfront development, Johnson Economics found that the Tesoro project would result in over 2,100 less jobs associated with The Waterfront construction, and 613 less permanent jobs. The net negative impact on overall output would be expected to be close to \$280 million for construction, with an additional negative impact of \$55.7 million per year associated with ongoing operations.

Additional negative impacts on downtown Vancouver may also be expected. Based on its “expert opinion that the proposed facility will substantively impact development activity in downtown Vancouver, reducing achievable pricing as well as increasing perceived development risk,” Johnson Economics utilized a predictive development/redevelopment model to quantify these predicted impacts on downtown Vancouver. Exhibit E. The model results show that the Tesoro facility will result in a \$98.3 million reduction in new construction investment, a 341,000 square feet reduction in commercial space, and a net change of \$138.1 million reduction in Real Market Value. Exhibit E. Thus, the negative economic impacts of the Tesoro proposal greatly exceed any projected economic gains from the project. See Exhibits D, E. The EIS should use the same or equivalent methodology when examining the impacts of the Tesoro project on downtown Vancouver.

The Tesoro ASC touts the proposal’s predicted tax benefits, but fails to discuss the negative impacts that the proposal will also have. The Applicant projects less than \$10 million in initial tax revenue, with the vast majority going to the State of Washington, not local governments in the areas most impacted by the proposal. ASC at 4-462 to 463. Ongoing tax revenues of less than \$1.6 million are expected to be generated by the proposal. *Id.* The EIS must also consider the negative impacts of the proposal on tax revenues. As discussed above, the noise, vibrations, emissions, risk of explosion and aesthetic impacts of the approximately 12 miles of oil trains running through downtown Vancouver and adjacent to The Waterfront project will negatively impact property values on both sides of the railroad tracks. These property tax impacts will

negatively impact tax revenues generated. In the absence of the Tesoro proposal, The Waterfront development is expected to generate more than \$31 million in initial tax revenues associated with construction activities, and ongoing tax revenues of \$6.5 million annually. If the Tesoro project is constructed, these construction-related revenues are projected to be reduced by over \$9 million, while ongoing revenues would be reduced by nearly \$2 million annually, quickly negating any tax gains from the Tesoro proposal. Exhibit D.

The Council should carefully scrutinize the job estimates provided by Tesoro. In particular, the Council should assess the likelihood of the facility operating for the projected full twenty year life span, or whether the oil terminal is likely to cease operating sooner. For example, given the economic efficiency of transporting oil by pipeline, as opposed to train, a pipeline to the West Coast could potentially out-compete the Tesoro rail-by-oil project based on price, and the Tesoro project could be shuttered as unprofitable. In addition, heightened regulations regarding the design and structural integrity of oil train cars could raise the cost of transporting oil by rail and further reduce the Tesoro proposal's competitiveness on the market. Further, the Bakken formation contains the first oil shale deposit heavily developed through hydraulic fracturing technologies, and the long-term productivity of the formation is unknown. Declining yields and increased drilling costs could lead to a rapid decline in economically-viable production from the Bakken formation,<sup>31</sup> reducing the supply of domestically-produced oil available for transport to the Tesoro oil terminal. The EIS must consider this significant risk that the full economic benefits estimated by the project applicant will never be realized.

In addition to negatively impacting other developments planned for Vancouver, the construction of the 360,000 barrel per day oil terminal at the Port of Vancouver will preclude the Port from using this site for any other economically productive uses. There are likely no viable alternative uses for the Tesoro facilities to be constructed on the site, limiting the ability of the Port to redevelop the property for alternative uses in the future after the Tesoro facility is shuttered. The site was previously used for the outdoor storage of wind turbines, and could continue to be used for other similar activities. The EIS should fully assess the opportunity costs to both the Port and City of Vancouver of tying up the Port property for the Tesoro proposal.

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<sup>31</sup> In discussing data regarding the impact of declines in productivity from existing wells on overall Bakken production, the Director of Energy Markets for the U.S. Energy Information Institute, Lynn Westfall, stated that "One of the things that surprised us as we got into it was how many new wells you have to have just to stay even with the decline. If you looked at our data from Bakken for instance and do the math, it shows that for every 100 barrels you produce from new Bakken wells, 70 barrels of that go just to replace the decline from old wells." L. Geiver, EIA Director Explains New Drilling Production Model, Bakken Shale, THE BAKKEN MAGAZINE (Oct. 23, 2013), available at: <http://www.thebakken.com/articles/386/eia-director-explains-new-drilling-production-model-bakken-shale>.

#### **IV. Cumulative Impacts**

The EIS must include an assessment of the cumulative impacts of the proposed BHP Billiton potash export facility also planned for the Port of Vancouver's Terminal Five area. The Port has entered into several agreements with BHP Billiton regarding the development of the potash export facility, including an Agreement for Lease, Entry Agreement, and Site Improvement Agreement.<sup>32</sup> BHP Billiton plans to use Washington rail lines to deliver up to an estimated 32 million tons of potash each year to the Port of Vancouver.<sup>33</sup> The rail infrastructure improvements used for the Tesoro facility would also be used to facilitate the proposed potash export activities. The plans for potash export are sufficiently well-developed that the cumulative impacts of the potash export facility are not speculative. At least with respect to the cumulative impacts of additional rail traffic, these impacts can be reasonably projected and should be included within the EIS.

The world's largest potash exporter, Canpotex, indicates that its unit trains are up to 170 cars long and can transport an estimated 17,500 tons of potash each.<sup>34</sup> Assuming BHP Billiton would utilize a similar scale of unit train to deliver potash to the Port of Vancouver, this would mean approximately 1,828 additional unit trains and over 310,000 train cars each year would move along Washington's rail system, through the Columbia Gorge and the City of Vancouver.

The EIS must consider the cumulative impacts from the additional train traffic planned for the BHP Billiton facility located at Terminal 5, including air emissions, transportation impacts, including delays on emergency services, noise, vibration, aesthetics, and associated negative impacts on property values. These cumulative impacts should be assessed along the full length of the affected rail lines within the state of Washington, including the City of Vancouver as well as affected communities in the Columbia Gorge and eastern Washington.

#### **V. Alternatives to be Evaluated in the EIS**

SEPA requires the consideration of reasonable alternatives that meet the proposal's objectives at a lower environmental cost. WAC 197-11-440(5)(b). Tesoro states that "[t]he Facility's principal

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<sup>32</sup> See Minutes of Feb. 12, 2013 Port of Vancouver Commission Meeting. Under these agreements, BHP Billiton is contributing funds for the construction of the Terminal 5 rail improvements that will also be used for the Tesoro-Savage oil terminal. *Id. See also* Port of Vancouver USA, Terminal Five Loop Expansion Reaches Substantial Completion! (April 23, 2013), available at: <http://www.portvanusa.com/industrial/terminal-5-loop-track-expansion-reaches-substantial-completion/>; A. Corvin, BHP Signals Commitment to Port of Vancouver Project, THE COLUMBIAN (Aug. 22, 2013), available at: <http://www.columbian.com/news/2013/aug/22/bhp-port-vancouver-project-potash-export-facility/>.

<sup>33</sup> Minutes of Feb. 12, 2013 Port of Vancouver Commission Meeting.

<sup>34</sup> <http://www.canpotex.com/what-we-do/logistics>

purpose is to provide North American crude oil to U.S. refineries to offset or replace declining Alaska North Slope crude reserves, California crude production, and more expensive foreign crude-oil imports.” Cover Letter to ASC at 1. The alternatives described below are reasonable and should be considered in the EIS.<sup>35</sup>

A. The “No-Action” Alternative

An EIS is required to be considered a “no-action” alternative.” WAC 197-11-440(5)(b)(ii). The “no-action” alternative should assess the future of downtown Vancouver *with* The Waterfront redevelopment and *without* the Tesoro project. As detailed above in Section III(G), the total economic development benefits of The Waterfront may be significantly reduced by the construction and operation of the Tesoro-Savage Facility. The EIS should thoroughly examine the potential impacts to Vancouver if real or perceived impacts from the Tesoro proposal result in delays in construction, or reduced development of The Waterfront. Such delayed, reduced level or lower quality development would have long-term impacts on the economy of Vancouver and the region.

B. The Pipeline Alternative

The use of trains to carry crude oil in large quantities is a very recent phenomenon in the United States. According to the American Association of Railroads (AAR), U.S. Class I railroads originated just 9,500 carloads of crude oil in 2008.<sup>36</sup> By 2012, nearly 234,000 carloads were originated, and the number has continued to increase.<sup>37</sup> Nonetheless, the Tesoro proposal represents an enormous further increase in the use of railroads for oil transportation. The AAR estimates that 762,000 barrels per day of crude oil were transported on all Class I railroads in the country in the first quarter of 2013.<sup>38</sup> With an estimated delivery capacity of 360,000 barrels per day, the Tesoro-Savage oil terminal would require nearly a 50% increase in the total number of oil trains moving in the entire country.

While the use of oil trains has dramatically increased in recent years, oil pipelines remain the dominant means of transporting crude oil. According to the American Petroleum Institute, “pipelines are widely acknowledged to be the safest and most efficient way to move energy products overland for long distances; crude oil and natural gas from production areas to

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<sup>35</sup> An alternative may be taken into account in an EIS for comparative purposes, even if the alternative’s legal status is contested or uncertain. An alternative need only be reasonable. *See King County v. Central Puget Sound Growth Management Hearings Bd.*, 138 Wn.2d 161 (1999).

<sup>36</sup> American Association of Railroads, *Moving Crude Oil by Rail* (May 2013), available at: <https://www.aar.org/keyissues/Documents/Background-Papers/Crude-oil-by-rail.pdf>

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

processing plants and refineries, and consumer-ready products to markets.”<sup>39</sup>

A new pipeline from the Midwest to the Port of Vancouver or directly to U.S. refineries would potentially allow Tesoro to meet the primary project objective at a lower environmental cost. The EIS must consider the construction and operation of an oil pipeline to the Port of Vancouver or the destination West Coast refineries as an alternative to the crude-by-rail proposal.

While proposals for private actions on specific sites are not required to analyze off-site alternatives, WAC 197-11-440(5)(d), environmental review for public projects must include a consideration of off-site alternatives. *See Weyerhaeuser v. Pierce Cnty.*, 124 Wn. 2d 26, 42 (1994). This is not a “private project” because it was not “primarily initiated or sponsored by an individual or entity other than an agency.” WAC 197-11-780. Instead, off-site alternatives must be considered because the Port of Vancouver has been so closely involved in the initiation and development of the proposal that the oil terminal is, in effect, a joint venture between the Port of Vancouver and Tesoro:

The Port issued a “statement of interest” seeking proposals to develop a petroleum by rail facility at the Port. Tesoro, a long term Port tenant, teamed with Savage Services Corporation to jointly submit a proposal to the Port for the formation of the Application and development of the Facility. The Port received four proposals and after consideration of a variety of criteria, including safety, environmental, community, financial, market and operations, selected the Applicant to enter into negotiations for the site.

ASC at 2-206. *See Weyerhaeuser v. Pierce Cnty.*, 124 Wn. 2d 26, 42 (1994) (holding landfill proposal to be a “public project” based on a contract between Pierce County and the private landfill developer, County involvement in the “initiation of the landfill project, regardless that it has done so through contracting out aspects of waste collection and disposal,” and the characterization of waste disposal as a “governmental function”). Since the Tesoro proposal is a public project, the EIS must include a consideration of off-site pipeline alternatives.

### C. Exclusive Rail Transport Alternative

Tesoro has indicated that the purpose of the proposal is to deliver crude oil primarily to West Coast refineries. The EIS must also consider delivering oil directly to these facilities exclusively by rail. Such an alternative would completely negate the stated need for the Tesoro proposal, potentially meeting the stated project’s needs at a lower environmental cost. Oil by rail handling

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<sup>39</sup> American Petroleum Institute, Facts About Pipeline Safety and Canadian Crude (April 1, 2013), available at: [http://www.api.org/~media/Files/Oil-and-Natural-Gas/Oil\\_Sands/Pipeline-Fact-Sheet-Canadian-Crude-4-1-2013.pdf](http://www.api.org/~media/Files/Oil-and-Natural-Gas/Oil_Sands/Pipeline-Fact-Sheet-Canadian-Crude-4-1-2013.pdf).

facilities are in existence or in the permitting process at multiple West Coast refineries,<sup>40</sup> and Tesoro already delivers oil by rail directly to its Anacortes refinery.<sup>41</sup> Thus, it is logistically feasible to deliver oil by rail directly to West Coast refineries.<sup>42</sup> A full discussion of this alternative is currently precluded by Tesoro's lack of transparency regarding which West Coast refineries to which it intends to deliver oil; however, the EIS should consider the direct delivery of oil by rail to West Coast refineries as an alternative to the current proposal.

#### D. Existing Rail Spur Alternative

Tesoro proposes to use the new Port of Vancouver rail spur developed as part of the West Vancouver Freight Access Project for oil train access to the terminal. This route follows the northern edge of The Waterfront property to its western terminus. A reasonable alternative for the proposal would be to require the oil trains to utilize the existing Port of Vancouver rail access located at Industrial Way, several blocks north of the proposed access. See Exhibit A. This alternative would reduce the impacts of the oil trains on the western half of The Waterfront property, and promote higher quality residential development in this area. Given the critical importance of The Waterfront project to the economic future of the City of Vancouver, even a marginal reduction in the oil train impacts could have substantial benefits for the wider region. As an alternative to the Tesoro- proposal, the EIS must consider utilizing the existing Industrial Way rail access to the Port of Vancouver for the oil trains instead of the new rail spur.

#### VI. Mitigation and Substantive Authority

SEPA provides state agencies with substantive authority to condition or deny proposals under SEPA to mitigate environmental impacts of proposed actions. WAC 197-11-660. By rule, EFSEC has formally adopted the authority to recommend rejection of an application "if reasonable mitigation measures are insufficient to mitigate significant adverse environmental impacts" and the proposal is inconsistent with "the overriding policy of the council . . . to avoid or mitigate adverse environmental impacts which may result from the council's decisions." WAC 463-47-110.

The EIS must consider all reasonable means of mitigating the significant environmental effects of the Tesoro proposal; however, there may be no reasonable mitigation measures available to effectively address all impacts. If the proposal's impacts cannot be adequately mitigated, then the Council should recommend that the Governor deny Tesoro's application. WAC 197-11-660.

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<sup>40</sup> See E. De Place, The Northwest's Pipeline on Rails, The Sightline Institute (Oct. 2013), available at: [http://www.sightline.org/wp-content/uploads/downloads/2013/07/crude-oil-by-rail\\_August-Update.pdf](http://www.sightline.org/wp-content/uploads/downloads/2013/07/crude-oil-by-rail_August-Update.pdf).

<sup>41</sup> K. Hays, Tesoro Says Rail-to-Barge Oil Port for Entire West Coast, REUTERS (Aug. 2, 2013), available at: <http://www.reuters.com/article/2013/08/02/tesoro-rail-crude-idUSL1N0G313N20130802>

<sup>42</sup> A. Sider, Moving Crude by Railcar Stalls on Tracks, WALL STREET JOURNAL (Dec. 5, 2013), available at: <http://online.wsj.com/news/articles/SB10001424052702303332904579224000594400852>.

This substantive authority underscores that a thorough analysis of all potential significant impacts from the Tesoro-Savage Facility is a crucial step in the Council's review of the application. Without a comprehensive environmental review, neither the Council or the public will be able to ascertain whether the significant adverse environmental impacts of this proposal are capable of mitigation.

#### **VII. Compliance with NEPA**

The ASC indicates that the applicant has prepared and will submit a federal Joint Aquatic Resource Permit Application to the U.S. Army Corps of Engineers. The applicant must therefore also comply with the requirements of the federal National Environmental Policy Act. 42 U.S.C. 4321 et. seq. The Council should clarify for the public how the NEPA and SEPA processes will be managed, as well as how public participation in the NEPA process will be handled.

#### **VIII. Conclusion**

Thank you for the opportunity to comment on the scope of the SEPA review required for the proposed Tesoro oil terminal. The myriad environmental risks posed by this proposal are difficult to overstate and must be considered thoroughly in the EIS. It is not hyperbole to state that the future of Vancouver is at stake. A thorough environmental review is needed to ensure that the long-term benefits of an urban, sustainable waterfront community connecting downtown Vancouver to the Columbia River are not sacrificed for short-term profits, temporary jobs, and a short-term and potentially illusory boost in tax revenues.

Sincerely,



Barry Cain  
Columbia Waterfront LLC

#### Exhibits enclosed:

Exhibit A: Vicinity Map

Exhibit B: Site Location

Exhibit C: Visual Representation of The Waterfront

Exhibit D: Johnson Economics, Estimated Economic and Fiscal Impacts of the Tesoro Savage Facility on the Waterfront Vancouver Development and Downtown Vancouver

Exhibit E: Johnson Economics, Predicted Impacts of the Tesoro Savage Facility on Development and Redevelopment in Downtown Vancouver, Washington

Exhibit F: Additional Environmental Factors



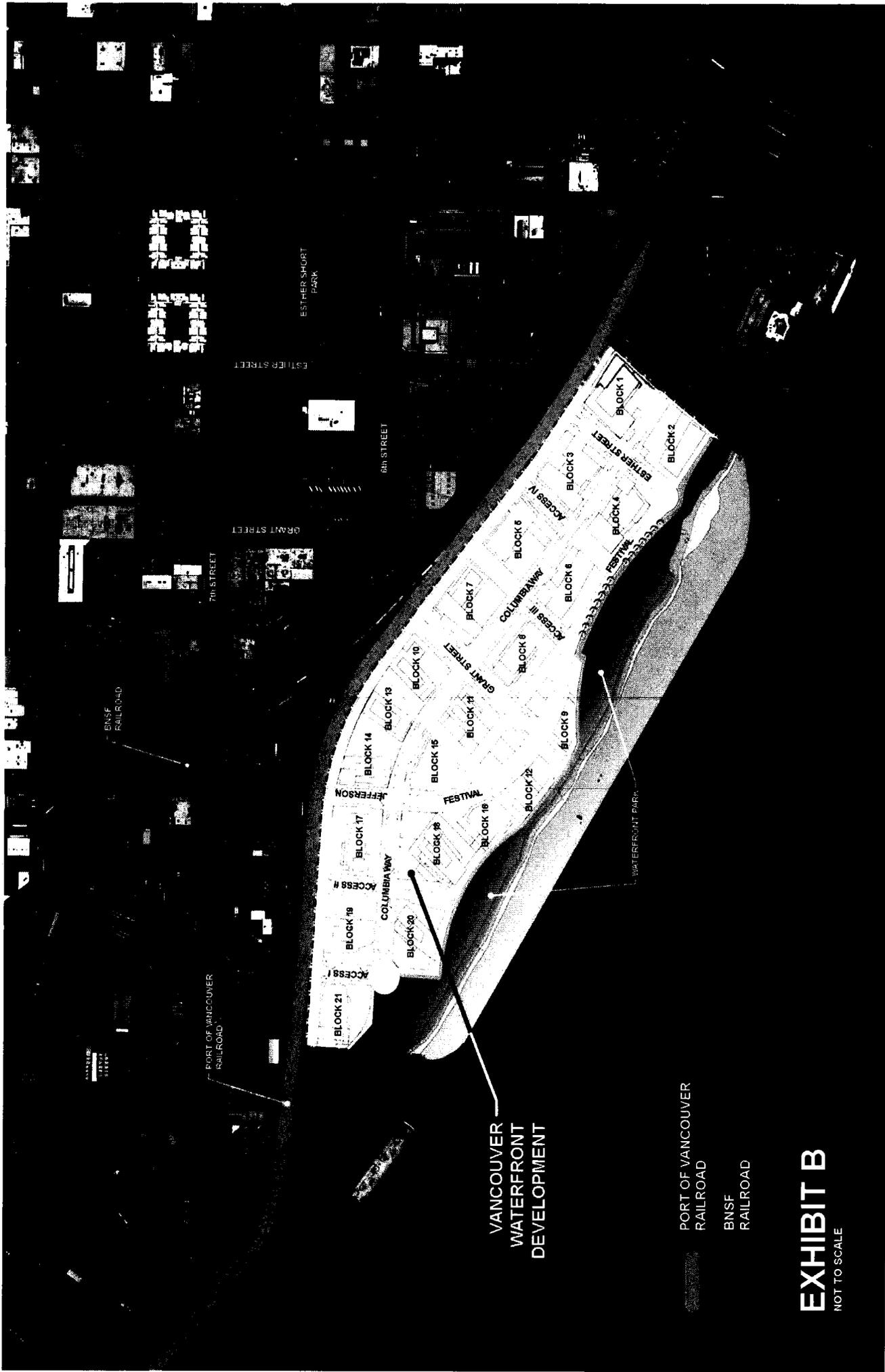
 Port of Vancouver Railroad  
 Vancouver Waterfront Development

# EXHIBIT A

Image from Tesoro Savage Energy Distribution Terminal Application No. 2013-01

Figure 2.1-1. General Vicinity Map





VANCOUVER  
WATERFRONT  
DEVELOPMENT

PORT OF VANCOUVER  
RAILROAD  
BNSF  
RAILROAD

**EXHIBIT B**  
NOT TO SCALE



# EXHIBIT C

Visual Representation of The Waterfront



JOHNSON  
ECONOMICS

Exhibit D

**ESTIMATED ECONOMIC AND FISCAL IMPACTS  
OF THE TESORO SAVAGE FACILITY ON THE  
WATERFRONT VANCOUVER DEVELOPMENT AND  
DOWNTOWN VANCOUVER**

DECEMBER 9, 2013

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# I. EXECUTIVE SUMMARY

- The proposed Tesoro Savage Vancouver Energy Distribution Terminal be expected to have a substantial impact on the magnitude, character and pace of development in downtown Vancouver. The primary impact would be related to rail access to the facility that would be routed along the northern edge of The Waterfront Vancouver, a major mixed use redevelopment site immediately southeast of the Port properties. When fully operational, the facility will generate a significant level of train traffic along the rail line spur immediately north of The Waterfront, which will generate noise, visual impacts as well as an increased level of risk associated with the explosive nature of the cargo being transported.
- The current development program for the Waterfront Vancouver development is projected to yield just under 3,000 residential units, 800,000 square feet of office space, 166,400 square feet of retail space, a 318 room hotel and associated parking for the development. The estimated construction costs for the anticipated program are over \$800 million in current dollars. In addition, the master plan includes a number of public spaces, including plazas and parks, which would entail significant construction costs.
- The expected economic impact of the development on Clark County would be realized initially through construction, but on an ongoing basis beyond that from the operation of businesses and expenditures of residents in the development. To evaluate the construction impacts of each scenario, we modeled the estimated impacts of the current master plan, and reconciled those impacts with a second scenario that assumed a 30% reduction in development yield on the site. The economic impacts of on-going activity was also evaluated. These impacts reflect the permanent annual impacts resulting from the completed construction of the development and resulting "business activities".
- The resulting net indicated impact would be over 2,100 FTE jobs associated with construction, with an additional 613 jobs on an ongoing annual basis. The net impact on overall output would be expected to be close to \$280 million for construction, with an additional impact of \$55.7 million per year associate with ongoing operations (expressed in current dollars).

**Impact Summary** Waterfront Vancouver Net Construction Impact

<b>ImpactType</b>	<b>Employment</b>	<b>LaborIncome</b>	<b>TotalValueAdded</b>	<b>Output</b>
Direct Effect	(1,374)	(\$73,470,501)	(\$95,469,450)	(\$182,559,901)
Indirect Effect	(373)	(\$15,537,859)	(\$24,672,986)	(\$44,191,043)
Induced Effect	(407)	(\$16,923,287)	(\$31,434,987)	(\$51,493,613)
<b>Total Effect</b>	<b>(2,154)</b>	<b>(\$105,931,647)</b>	<b>(\$151,577,423)</b>	<b>(\$278,244,556)</b>

**Impact Summary** Waterfront Vancouver Net Annual Operations Impact

<b>ImpactType</b>	<b>Employment</b>	<b>LaborIncome</b>	<b>TotalValueAdded</b>	<b>Output</b>
Direct Effect	(409)	(\$19,428,528)	(\$17,884,670)	(\$32,685,806)
Indirect Effect	(100)	(\$3,436,292)	(\$5,709,186)	(\$9,783,565)
Induced Effect	(104)	(\$4,337,622)	(\$8,045,412)	(\$13,186,021)
<b>Total Effect</b>	<b>(613)</b>	<b>(\$27,202,442)</b>	<b>(\$31,639,268)</b>	<b>(\$55,655,392)</b>

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- In addition to economic impacts, the impact would be expected to also have fiscal implications for the City of Vancouver, Clark County and the State of Washington. Gramor Development commissioned a study in

2008 that estimated the expected tax generation from the development to the City of Vancouver.<sup>1</sup> The analysis estimated as much as \$38.3 million in one-time revenues through the real estate excise tax (REET), with an additional \$7.7 million in sales tax on construction. Annual recurring tax revenues were estimated at \$4.5 million (2008 dollars), which included property taxes, lodging related taxes, sales taxes and employee-based business taxes. The net present value of these estimated tax revenues was estimated at approximately \$80 million, discounted at 5.5%.

- We prepared a separate estimate of tax contributions by the project's construction and. Assuming a 2.5% annual rate of inflation, as well as a 5.5% discount factor, the net present value of the tax contributions from the development over a twenty year period would be over \$96 million dollars for the State of Washington as well as local jurisdictions. Sales and property tax revenues would be expected to provide the largest contributions.
- The impacted program would reduce projected revenues by over \$9.3 million from construction, most notably through a reduction in sales and property taxes.

**State and Local Tax Impact by Total: Construction Period Impact**

<b>Description</b>	<b>Total</b>
Dividends	(\$12,198)
Social Ins Tax- Employee Contribution	(\$26,594)
Social Ins Tax- Employer Contribution	(\$47,144)
Tax on Production and Imports: Sales Tax	(\$5,268,238)
Tax on Production and Imports: Property Tax	(\$2,388,010)
Tax on Production and Imports: Motor Vehicle Lic	(\$68,006)
Tax on Production and Imports: Severance Tax	(\$14,436)
Tax on Production and Imports: Other Taxes	(\$617,335)
Tax on Production and Imports: S/L NonTaxes	(\$295,689)
Personal Tax: NonTaxes (Fines- Fees	(\$380,142)
Personal Tax: Motor Vehicle License	(\$119,034)
Personal Tax: Property Taxes	(\$40,162)
Personal Tax: Other Tax (Fish/Hunt)	(\$45,141)
<b>Total State and Local Tax</b>	<b>(\$9,322,129)</b>

- On a sustained basis, this impact would be expected to be close to \$2.0 million per year in reduced tax generation.

<sup>1</sup> Updated Columbia Waterfront Tax Generation Analysis, E.D. Hovee & Company, August 1, 2008

**State and Local Tax Impact by Total: Ongoing Net Impact**

<b>Description</b>	<b>Total</b>
Dividends	(\$850)
Social Ins Tax- Employee Contribution	(\$7,960)
Social Ins Tax- Employer Contribution	(\$14,111)
Tax on Production and Imports: Sales Tax	(\$1,081,375)
Tax on Production and Imports: Property Tax	(\$490,171)
Tax on Production and Imports: Motor Vehicle Lic	(\$13,959)
Tax on Production and Imports: Severance Tax	(\$2,963)
Tax on Production and Imports: Other Taxes	(\$126,716)
Tax on Production and Imports: S/L NonTaxes	(\$60,694)
Personal Tax: NonTaxes (Fines- Fees)	(\$96,380)
Personal Tax: Motor Vehicle License	(\$30,180)
Personal Tax: Property Taxes	(\$10,183)
Personal Tax: Other Tax (Fish/Hunt)	(\$11,445)
<b>Total State and Local Tax</b>	<b>(\$1,946,987)</b>

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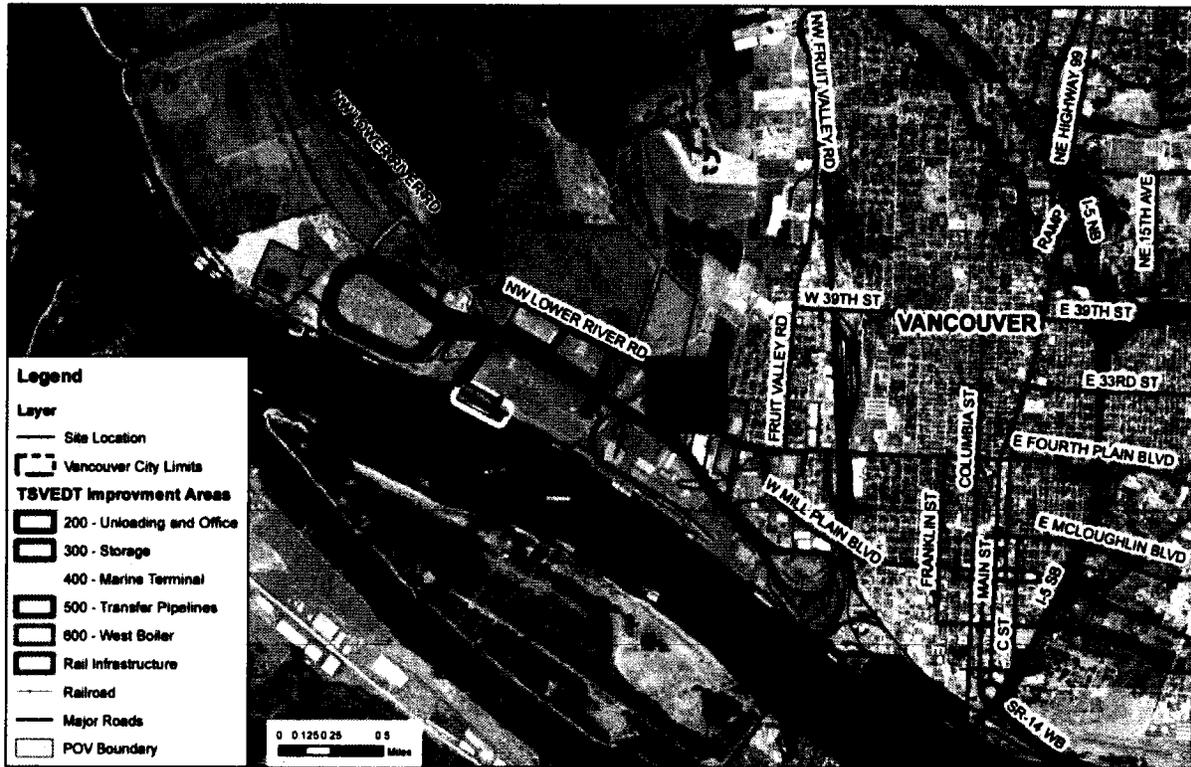
- The overall net present value of the revenue loss over the next twenty years would be \$28.9 million, assuming a 30% impact on investment, a 2.5% annual inflation rate and discount rate of 5.5%.
- While this analysis is largely limited to the Waterfront Vancouver project, it recognizes that impacts would be realized within the broader downtown area as well. The Waterfront Vancouver project is intended as a catalytic development, and is designed to enhance the development prospects for the remainder of downtown Vancouver. We would expect that the rate of development activity, investment in real property and property valuations would be negatively impacted. This impact would be in addition to that estimated by our analysis, and should be evaluated to truly gauge the economic impacts of the proposed Tesoro Savage facility.
- The Tesoro Savage EFSEC application estimates an economic impact of construction of 677 jobs, with labor income of \$43.6 million, well below the estimated construction impact of 2,154 jobs and \$105.9 million in labor income associated with just the Waterfront Vancouver development.<sup>2</sup> Operational employment estimates of 890 jobs and \$64.1 million in labor income from the Tesoro Savage facility compare more favorably to the Waterfront Vancouver impacts of 613 jobs and \$27.2 million in labor income, but it is important to remember that the Vancouver Waterfront development represents only a portion of the impact area that should be evaluated.
- Another consideration is the duration of activity. While the application addresses the operation of the oil depot as an ongoing entity, shipping crude oil by rail is intended to only be a temporary solution. The economics advantages of utilizing pipelines will likely limit the effective operational lifespan of this facility. As a result, the analysis should address the short term nature of the operation.

<sup>2</sup> EFSEC Application No. 2013-01, Socio-Economic Analysis, BST Associates

## II. PROJECT DESCRIPTION

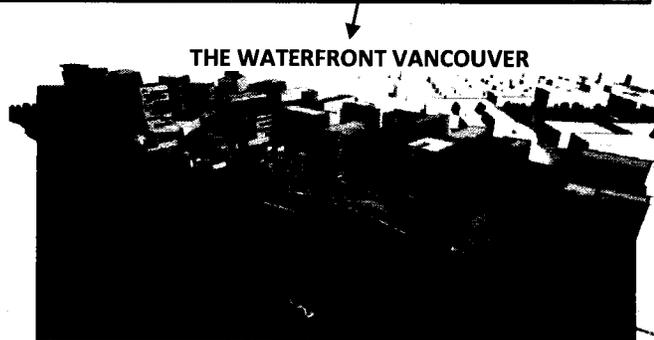
The proposed Tesoro Savage Vancouver Energy Distribution Terminal would be located on Port of Vancouver property within the City of Vancouver. While the application describes expected operational functions within the Port property, rail access to the facility would be routed along the northern edge of The Waterfront Vancouver, a major mixed use redevelopment site immediately southeast of the Port properties.

FIGURE 1.1: GENERAL VICINITY MAP



Source: Applicant Materials

The construction and ongoing operation of the proposed Tesoro facility would be expected to have a substantial impact on the achievable pricing and subsequent character of development in The Waterfront development, as well as in the broader City of Vancouver Central Business District (CBD). When fully operational, the facility will generate a significant level of train traffic along the rail line spur immediately north of The Waterfront, which will generate noise, visual impacts as well as an increased level of risk associated with the explosive nature of the cargo being transported.



### III. AREAS OF IMPACT

#### A. ECONOMIC IMPACTS

While the application presents a cursory analysis of the economic impacts of construction and operation of the Tesoro Savage facility, the analysis is substantially incomplete as it does not reflect the impact of associated rail traffic heavily impacted properties located along the Port’s rail spur, most notably The Waterfront development. The traffic volume on the spur associated with operation of the facility is expected to have a significant detrimental impact on Waterfront Vancouver site, generating significant noise, visual impact and real and perceived risk associated with the explosive nature of the cargo. These negative impacts would be expected to have a significantly negative impact on both achievable pricing for residential and commercial tenants, reduce the pace of absorption and reduce the attractiveness of the location from an investment perspective, increasing the yields necessary to induce investment (reflected in higher capitalization rates). This is expected to substantially impact the magnitude and character of development in the area.

**TABLE 3.1: ECONOMIC IMPACTS ASSOCIATED WITH THE TESORO-SAVAGE OIL TERMINAL RAIL TRAFFIC**

<ul style="list-style-type: none"> <li>▪ Reduced Pricing</li> <li>▪ Higher Cap Rates</li> <li>▪ Reduced Absorption</li> <li>▪ Loss of Catalytic Effect</li> <li>▪ “Green” Development</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reduced level and pace of construction in The Waterfront</li> <li>▪ Reduced level and pace of construction in Vancouver CBD</li> <li>▪ Less efficient utilization of infrastructure investments</li> <li>▪ Reduced overall level and pace of construction and redevelopment in the Vancouver CBD</li> <li>▪ Impacts associated with “smart development” and achieving a more compact urban form.</li> </ul>
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The economic impacts outlined above were estimated by comparing predicted development outcomes in the area under a “no action” scenario with predicted outcomes assuming operation of the Tesoro Savage facility. While impacts were estimated for the Waterfront Vancouver development, this development is designed and expected to have a catalytic effect on the broader Vancouver CBD, and to the extent that the development is reduced in scope, negative economic impacts would also be expected within the broader context.

To model the economic impacts of various activities, Johnson Economics utilized IMPLAN (IMPact for PLANning)<sup>3</sup> input/output multiplier model methodology. Developed by the Forest Service to assist in land and resource management planning, IMPLAN is an economic impact model designed for analyzing the effects of industry activity (employment, income or business revenues) upon all other industries in an economic area.

#### IMPLAN MODELING SYSTEM DYNAMICS<sup>4</sup>

##### Social Accounting Matrices

Regional Social Accounting Matrices, or SAMs, represent an IMPLAN extension for regional economic modeling. SAMs provide information on non-market financial flows. IMPLAN type inter-industry models provide information on market transactions between firms and consumers, and they capture payments of taxes by individuals and

<sup>3</sup> Minnesota IMPLAN Group (MIG), Stillwater, Minnesota

<sup>4</sup> Derived from materials provided by MIG Inc.

businesses, transfers of government funds to people and businesses, and transfer of funds from people to people.

### **IMPLAN Multipliers**

Social Accounting Matrices can be constructed to show the effects of a given change on the economy of interest. These are called Multiplier Models. Multiplier Models study the impacts of a user—specified change in the chosen economy for 440 different industries. Because the Multiplier Models are built directly from the region specific Social Accounting Matrices, they will reflect the region’s unique structure and trade situation.

Multiplier Models are the framework for building impact analysis questions. Derived mathematically, these models estimate the magnitude and distribution of economic impacts, and measure three types of effects that are displayed in the final report. These are the direct, indirect, and induced changes within the economy.

### **Impacts Defined**

***Direct Impacts:*** The actual change in activity affecting a local economy. For example, if a new institutional building is constructed, direct economic impacts comprise the value added output for that firm/user, as well as the jobs required by that business and the labor income paid.

***Indirect Impacts:*** The response of all other local businesses within the geographic area to the direct impact. Continuing the previous example, indirect impacts of a new institutional user would comprise revenues for related vendors, i.e. real estate services, vendors, etc., and the jobs and labor income thereby generated.

***Induced Impacts:*** The response of households within the geographic area affected by direct and indirect impacts. In the given example, induced impacts would be the increase in all categories of spending by households in the geography directly or indirectly employed by the businesses' activities.

Each of these steps recognizes an important leakage from the economic study region spent on purchases outside of the defined area. Eventually these leakages will stop the cycle. Our analysis will evaluate the Jobs, Labor Income, and Value-Added Output of our estimated direct industry change and commodity change activities.

### **Glossary of Terms<sup>5</sup>**

***Value Added Output:*** The difference between an industry’s or an establishment’s total output and the cost of its intermediate inputs. It equals gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported). Value added consists of compensation of employees, taxes on production and imports less subsidies (formerly indirect business taxes and nontax payments), and gross operating surplus (formerly “other value added”).

***Labor Income:*** All forms of employment income, including Employee Compensation (wages and benefits) and Proprietor Income.

***Industry:*** A group of establishments engaged in the same or similar types of economic activity.

***Commodity:*** A commodity is a product or service. It may be produced by one or by many industries. Commodity output represents the total output of the product or service, regardless of the industry that produced it. If an industry and the commodity produced by the industry have the same name, the commodity is considered to be the primary product of that industry. Any other commodity produced by that industry is a secondary product

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<sup>5</sup> From the United States Bureau of Economic Analysis (BEA)

of that industry.

**Geographic Level**

Impact analysis has varying degrees of geographic breadth. Specifically, vendors who provide goods and services in response to varying impacts are located in varying locales. For this analysis, we focused only on impacts retained in Clark County, Washington. That is, indirect and induced impacts which leak outside of the county are not included. We anticipate the rate of leakage to be low, as on an on-going basis industries impacted by the expected development are more service oriented with a higher likelihood of local retention.

**ECONOMIC IMPACTS OF CONSTRUCTION ACTIVITY**

As noted previously, our approach to this analysis is to model the economic impacts of the development program as currently planned, model an alternative development program reflecting what is viable under an impacted scenario assuming the Tesoro Savage facility, and reconcile these two outcomes to arrive at the estimated marginal impact of the facility. It is important to note that the impact on development within the Waterfront Vancouver project represents only a portion of the impact, as this project is expected to significantly alter the development trajectory of the broader downtown Vancouver area.

The current development program for the Waterfront Vancouver is summarized as follows:

			<b>Cost/ Unit</b>	<b>Construction Costs</b>
<b>Residential Units</b>				
<i>Rental Apartments</i>	1,500	Units	\$135,000	\$202,500,000
<i>Condominiums</i>	1,421	Units	\$160,000	\$227,360,000
<b>Office Space</b>	800,000	SF	\$175	\$140,000,000
<b>Retail Space</b>	166,400	SF	\$175	\$29,120,000
<b>Hotel</b>	318	Keys	\$125,000	\$39,750,000
<b>Parking</b>	5,172	Spaces	\$30,000	\$155,154,000
<b>Infrastructure</b>				\$25,000,000
<b>Total</b>				<b>\$818,884,000</b>

In addition, the master plan includes a number of public spaces, including plazas and parks, which would entail significant construction costs.



To evaluate the temporary construction impacts of each scenario, we calculated the **total** construction spending of the project measured as a direct industry change in construction of new residential and nonresidential commercial structures. The baseline scenario reflected the program in the current master plan, while the second scenario assumed a 30% reduction in development yield on the site.

The baseline scenario reflects assumptions consistent with the current program for the site. Estimated construction expenditures and associated real estate commissions and fees were converted into estimated contributions to employment income and output at the Clark County level.

- Construction spending would translate into over 4,580 direct full time equivalent (FTE) jobs over the construction period, these jobs would pay an estimated \$244 million in labor income (\$53,400 per employee), and contribute \$318 million in value-added output.
- The associated indirect and induced impacts would create an additional 2,600 FTE jobs, \$108 million in labor income, and \$187 million in value-added output.
- The total impact on output for the Clark County economy would be over \$927 million.
- The top industries affected by construction activity include construction, architectural and engineering firms, food service and drinking places, and real estate establishments.

**Impact Summary Waterfront Vancouver Construction**

ImpactType	Employment	LaborIncome	TotalValueAdded	Output
Direct Effect	4,580.5	\$244,901,670	\$318,231,501	\$608,533,003
Indirect Effect	1,244.5	\$51,792,862	\$82,243,288	\$147,303,477
Induced Effect	1,356.6	\$56,410,957	\$104,783,289	\$171,645,375
Total Effect	7,181.6	\$353,105,489	\$505,258,078	\$927,481,855

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**ECONOMIC IMPACTS OF ON-GOING ACTIVITY**

The economic impacts of on-going activity are the permanent annual impacts resulting from the completed construction of the development and resulting "business activities". Upon completion, employment at businesses located at Waterfront Vancouver would be expected to total over 1,360 employees, while almost 700 employees would be supported by the direct employment at the development.

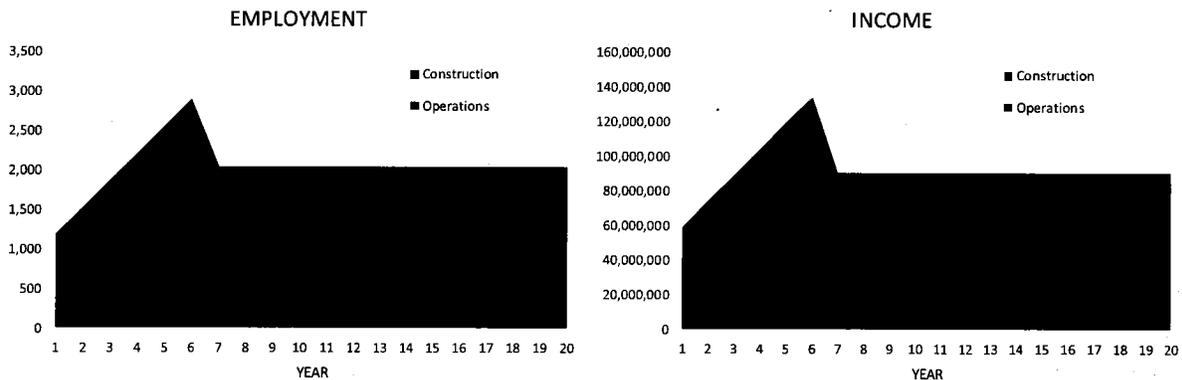
- Direct employment of 1,364 jobs is expected to contribute \$64.8 million in labor income and \$59.6 million in value-added output to the Clark County economy.
- Associated indirect and induced impacts are expected to create an additional 679 permanent jobs paying \$25.9 million in labor income.
- The total annual output associated with the ongoing operations at Waterfront Vancouver would be expected to be in excess of \$185.5 million per year.
- While the construction impacts represent temporary impacts, these impacts would be expected to accrue annually and be sustained into the foreseeable future.

**Impact Summary Waterfront Vancouver Annual Operations**

ImpactType	Employment	LaborIncome	TotalValueAdded	Output
Direct Effect	1,364.4	\$64,761,761	\$59,615,566	\$108,952,688
Indirect Effect	332.2	\$11,454,305	\$19,030,619	\$32,611,882
Induced Effect	347.2	\$14,458,740	\$26,818,041	\$43,953,404
Total Effect	2,043.8	\$90,674,806	\$105,464,226	\$185,517,973

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The expected economic impact of the development on Clark County would be expected to be realized initially through construction, but on an ongoing basis beyond that from the operation of businesses and expenditures of residents in the development.



## IMPACTS ASSUMING REDUCED DEVELOPMENT PROGRAM

The operation of the proposed Tesoro Savage facility would be expected to negatively impact achievable pricing, the pace of absorption and acceptable developer returns. As a direct result, the resulting pattern and pace of development at the Waterfront Vancouver would be expected to be substantially impacted. Based on previous analyses of a similar range of expected impacts, a reduction in the overall development program of approximately 30% would be a reasonable expectation of impact.

We evaluated a reduction in the overall program based on this assumption, to assess the net impact associated with the Tesoro Savage development. As before, this evaluates only the impact of the Waterfront Vancouver development, and subsequently does not account for the broader expected impact on the greater downtown Vancouver area.

The reduced program assumptions were run through the IMPlan model, yielding the following impacts for construction and ongoing operations.

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	3,206.3	\$171,431,169	\$222,762,050	\$425,973,102
Indirect Effect	871.2	\$36,255,003	\$57,570,302	\$103,112,434
Induced Effect	949.6	\$39,487,670	\$73,348,303	\$120,151,763
Total Effect	5,027.1	\$247,173,842	\$353,680,655	\$649,237,298

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Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	955.1	\$45,333,232	\$41,730,896	\$76,266,881
Indirect Effect	232.5	\$8,018,014	\$13,321,434	\$22,828,317
Induced Effect	243.0	\$10,121,118	\$18,772,629	\$30,767,383
Total Effect	1,430.6	\$63,472,364	\$73,824,958	\$129,862,581

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The net differential would be over 2,100 FTE jobs associated with construction, with an additional 613 jobs on an ongoing annual basis. The net impact on overall output would be expected to be close to \$280 million for construction, with an additional impact of \$55.7 million per year associate with ongoing operations.

## B. FISCAL IMPACTS

In addition to economic impacts, the impact would be expected to also have fiscal implications for the City of Vancouver, Clark County and the State of Washington. Gramor Development commissioned a study in 2008 that estimated the expected tax generation from the development to the City of Vancouver.<sup>6</sup> The analysis estimated as much as \$38.3 million in one-time revenues through the real estate excise tax (REET), with an additional \$7.7 million in sales tax on construction. Annual recurring tax revenues were estimated at \$4.5 million (2008 dollars), which

<sup>6</sup> Updated Columbia Waterfront Tax Generation Analysis, E.D. Hovee & Company, August 1, 2008

included property taxes, lodging related taxes, sales taxes and employee-based business taxes. The net present value of these estimated tax revenues was estimated at approximately \$80 million, discounted at 5.5%.

As part of our analysis, we prepared a separate estimate of tax contributions by the project's construction and operation based on the modeling assumptions in the IMPlan scenarios. The following tables summarize the estimated tax contributions during the construction period, as well as ongoing operations.

**State and Local Tax Impact by Total: Construction Period**

<b>Description</b>	<b>Total</b>
Dividends	\$40,661.00
Social Ins Tax- Employee Contribution	\$88,647.00
Social Ins Tax- Employer Contribution	\$157,147.00
Tax on Production and Imports: Sales Tax	\$17,560,792.00
Tax on Production and Imports: Property Tax	\$7,960,034.00
Tax on Production and Imports: Motor Vehicle Lic	\$226,687.00
Tax on Production and Imports: Severance Tax	\$48,119.00
Tax on Production and Imports: Other Taxes	\$2,057,784.00
Tax on Production and Imports: S/L NonTaxes	\$985,631.00
Personal Tax: NonTaxes (Fines- Fees	\$1,267,140.00
Personal Tax: Motor Vehicle License	\$396,780.00
Personal Tax: Property Taxes	\$133,873.00
Personal Tax: Other Tax (Fish/Hunt)	\$150,471.00
<b>Total State and Local Tax</b>	<b>\$31,073,764.00</b>

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**State and Local Tax Impact by Total: Ongoing**

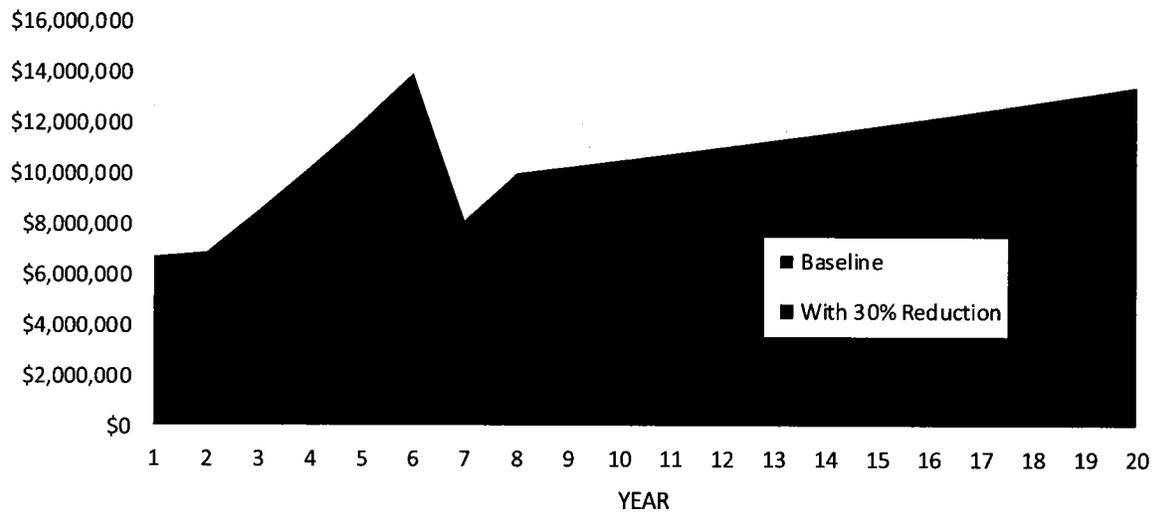
<b>Description</b>	<b>Total</b>
Dividends	\$2,833.00
Social Ins Tax- Employee Contribution	\$26,533.00
Social Ins Tax- Employer Contribution	\$47,036.00
Tax on Production and Imports: Sales Tax	\$3,604,583.00
Tax on Production and Imports: Property Tax	\$1,633,902.00
Tax on Production and Imports: Motor Vehicle Lic	\$46,530.00
Tax on Production and Imports: Severance Tax	\$9,877.00
Tax on Production and Imports: Other Taxes	\$422,387.00
Tax on Production and Imports: S/L NonTaxes	\$202,314.00
Personal Tax: NonTaxes (Fines- Fees	\$321,268.00
Personal Tax: Motor Vehicle License	\$100,599.00
Personal Tax: Property Taxes	\$33,942.00
Personal Tax: Other Tax (Fish/Hunt)	\$38,150.00
<b>Total State and Local Tax</b>	<b>\$6,489,955.00</b>

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Assuming a 2.5% annual rate of inflation, as well as a 5.5% discount factor, the net present value of the tax contributions from the development over a twenty year period would be over \$96 million dollars for the State of Washington as well as local jurisdictions. Sales and property tax revenues would be expected to provide the largest contributions.

Assuming a reduced product program outcome at the site, the direct tax impacts would be expected to be impacted proportionately. As a result, the net present value of the revenue loss would be \$28.9 million assuming a 30% impact on investment.

### ESTIMATED TAX GENERATION



In addition, the impact on the broader downtown area would magnify this negative impact, as development activity, investment in real property and property valuations would be negatively impacted.



JOHNSON  
ECONOMICS

Exhibit E

**PREDICTED IMPACTS  
OF THE TESORO SAVAGE FACILITY ON  
DEVELOPMENT AND REDEVELOPMENT  
IN DOWNTOWN VANCOUVER, WASHINGTON**

DECEMBER 18, 2013

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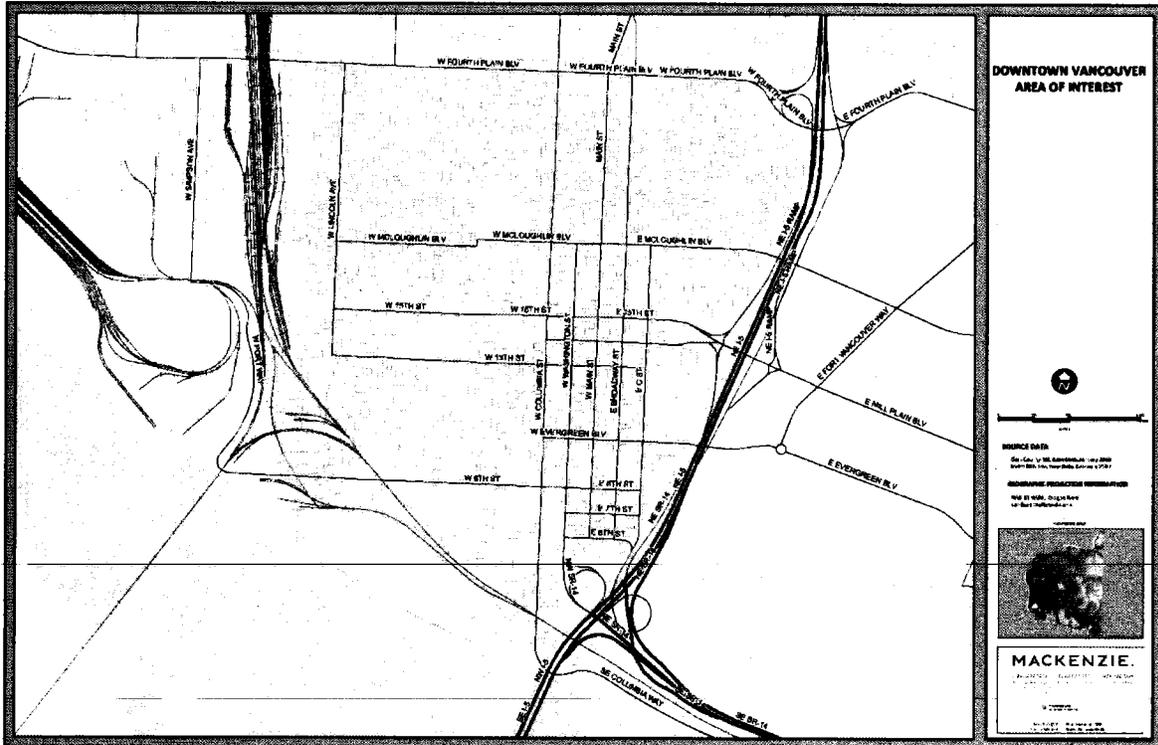
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# I. EXECUTIVE SUMMARY

- The proposed Tesoro Savage Vancouver Energy Distribution Terminal is predicted to have a substantive impact on development pattern in downtown Vancouver. This is attributable to an expected negative impact on development patterns in the Waterfront Vancouver project, which would be expected to impact achievable pricing and capitalization rates in the broader downtown market.
- In order to estimate the predicted impact of the new facility on the broader area, Johnson Economics utilized a predictive development/redevelopment model. This model translates assumption with respect to current and anticipated market conditions into predicted development outcomes. The impact of the Tesoro facility was calculated based on a reconciliation of predicted outcomes with and without the facility.
- The predicted impact of the facility on the downtown Vancouver study area would be as follows:
  - \$98.3 million reduction in new construction investment
  - 341,000 square feet reduction in commercial space
  - A net change of \$138.1 million reduction in Real Market Value
- The implications of this loss would include significant losses in employment, tax revenues and less efficient utilization of infrastructure investments

## II. PROJECT DESCRIPTION

This report evaluates the anticipated impacts on development and redevelopment activity within downtown Vancouver, in a study bounded by Fourth Plain to the north, I-5 to the east. The main objective of this project is the development of a predictive computer-based model (Model) which projects the potential development and redevelopment activity within the study area.



This memorandum describes the process undertaken to inform and build the Model, provides an overview of the Model's methodology, and discusses the results of test runs of the Model on the study area.

## III. MODEL RUN

### A. MODEL DESCRIPTION

The Model designed during this process is an Excel-based model which aims to translate user inputs on existing conditions in the study area into an estimate of the magnitude of new development to be expected over the planning period. The Model uses pro forma analysis to project the "highest and best" *economic* uses which are feasible and permissible by zone, and determine if the value of that type of development would justify the redevelopment of individual parcels based on their current value. There are additional considerations in determining the *overall* highest and best use of land from a community and planning perspective, but this Model focuses on the economic component which is most relevant to private developers.

The Model provides a “baseline” projection of development assuming current conditions and trends, and a projection assuming the Tesoro facility is built and operated as described in their submittal materials. The results of the two scenarios are then compared to get an estimate of how much the facility may impact economic development activity over normal baseline predictions.

Precisely quantifying future activity in a broad real estate marketplace with thousands of different property owners, businesses, and other interests, and differing levels of public involvement, is of course impossible. Therefore, while this Model does provide specific quantified estimates, *it is best to think of the results as a broader estimate of the relative magnitude of economic development* under the two scenarios.

More detail on the methodology used in the Model is included in Section VI of this report.

## **B. GENERAL IMPLICATIONS AND ASSUMPTIONS**

- The Model reflects our expert opinion that the proposed facility will substantively impact development activity in downtown Vancouver, reducing achievable pricing as well as increasing perceived development risk.
- The Model produces quantified outputs of multiple measures of development activity: construction investment, new housing units, new commercial space, and new real market value. It is inherent to the design of the Model to produce precise numerical results of these measure. However, it is impossible to accurately predict development activity with such precision over any period of time.
- **Therefore, it is important to remember that the results of this Model are best considered as an indicator of the estimated magnitude of impact from proposed facility.** In other words, the more useful conclusion would be “the new facility may reduce housing production by around 15%”, rather than “the facility will lead to an additional 437 units.” The first provides useful reference for discussion, while the second is almost certain to prove untrue because it is overly precise.
- In a related point, the results from this Model can be presented in the form of a range. Because the Model allows calibration, it can be used to adjust assumptions and test results under different scenarios.
- The Model uses specific parcel-level data to generate quantified measures of predicted development activity, but it is important to remember that this Model is actually generating a broad study-area-wide estimate of development activity. In no cases should this Model be used to reach definitive conclusions about what will happen on any given parcel. Any data provided that identifies parcels, be it in map or data base form, must specify that *it is making no firm predictions or guarantees on the eventual development or lack of development on specific properties.*
- Because the Model is an indicator of broader “bulk” trends in the study area, it may actually provide a better approximation over a longer period of time. While a five or even ten year period will be highly dependent on the current and near-term trends in the real estate development environment, a longer period of fifteen to twenty years will include more swings in the market cycle, and thus average out these ups and downs.

### C. GENERAL APPROACH

The Model is structured to measure predicted changes in investment pattern associated with impacts to key variables in the development equation. Key inputs in the “production” model are those that impact revenues, costs, return parameters and site entitlements.

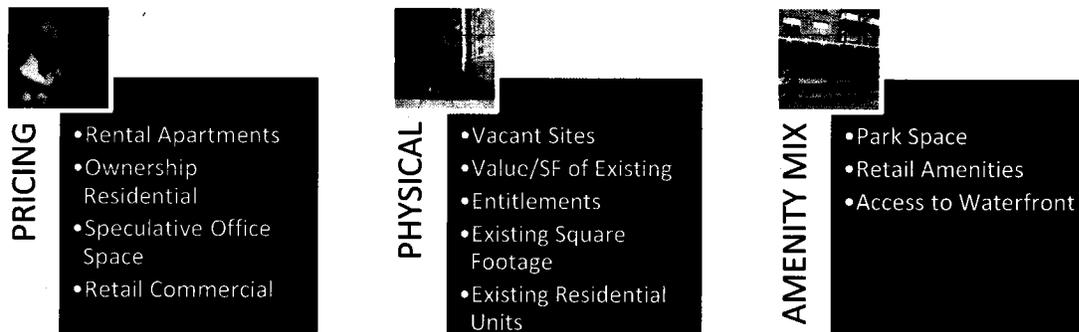
The Model is predicated on an assumption that the operation of the proposed Tesoro facility will substantively impact a number of variables that influence the perceived development environment, triggering a predictable response in the market. The production model will convert marginal shifts in assumptions with respect to these variables into changes in supportable residual land values and in some instances development forms.

The production component of the model can be broken up into three primary categories that help determine final development form: achievable pricing, cost to develop, and threshold returns. Shifts in these inputs can alter associated patterns of investment. In this model, the proposed facility is assumed to impact some of these inputs, and therefore alter investment and development patterns.

A key objective of the Model is to develop a theoretical construct within which to evaluate the impact of the shift in assumptions on the anticipated development and investment patterns within impacted areas. The Model generates a profile of predicted development activity representing a “baseline” scenario, and a scenario assuming the proposed new facility, in order to measure the net impact.

### D. LOCAL VARIABLES

This component of the model incorporates the characteristics of specific study areas. The variables include information on pricing, amenities and physical property characteristics at the parcel level.



#### Pricing

Assumptions with respect to current pricing in the area, reflecting the estimated anticipated pricing for new product by category, would need to be generated as an input. This would include per square foot rental rates for rental apartments, sales prices per square foot for ownership residential units, and net lease rates per square foot for office and retail space. In addition, assumptions with respect to achievable pricing for parking spaces would be developed. These variables should be set to reflect the achievable pricing that a developer would assume for a new construction project in the area being studied.

The current achievable pricing structure is an important variable to consider in predicting the marginal impact of any changes in the development environment, as it is a significant factor in determining the form of development as well as developing supportable residual property values in the district. While the pricing experience of new comparable projects can be a strong predictor of achievable pricing, in many markets there may be limited or no new product to establish a reliable price. Nonetheless, an assumption of current achievable pricing in a study area will be necessary to run the model.

### Physical Characteristics

As with pricing, the physical characteristics of prospective corridors will be a major factor in the predicted magnitude and character of redevelopment. The model incorporates an assessment of existing properties at the parcel level, for both improved as well as vacant sites. Inputs to the model include the following:

- The estimated Real Market Value (RMV) of Improved sites at the parcel level (This variable is used as a proxy for the market value of the site in and found in assessor records);
- Parcel size/square feet; and
- Current entitlements (zoning) by parcel.

Within the model, the attributes of individual parcels are used to predict the likelihood of redevelopment, with properties that have a high current value of improvements being more challenging to redevelop. The zoning entitlements by parcel is used as a screen, which limits potential redevelopment scenarios to those allowed under the zoning.

### Amenity Mix

The existing amenity mix reflects the current and anticipated level of amenity in the district, and should help to define the marginal impact of the proposed facility on the local amenity base. It is assumed by the Model that the new facility would decrease the local amenity base and reduce marketability, primarily through a more direct negative impact on the development patterns in Waterfront Vancouver.

## **E. DEVELOPMENT/REDEVELOPMENT MODULE**

The development/redevelopment module is intended to simulate the development decision tree, factoring the impact of the key inputs on decisions to undertake development activity. The model is based on a series of simplified pro formas for 27 theoretical development programs that characterize the relationship between key variables, predicted development form and associated residual property values. The module generates a generalized determination of the highest and best economic use based on the theoretical development programs, as well as an associated residual property value associated with each program. This information is reconciled with information on the existing inventory information and zoning, resulting in a predicted pattern of investment.

### Highest and Best Use

The module initially solves for a development solution that represents the highest and best use of the property under the assumptions used, as well as outputting an associated residual property value. The highest and best *economic* use of the site is defined as the *allowable* land use program that yields the greatest return to the existing property, and the residual property value reflects the maximum acquisition value supported by that program under the assumptions used. (There may be additional considerations in determining the *overall* highest and best use of land from a community and planning perspective, but this Model focuses on the economic component which is most relevant to private developers.)

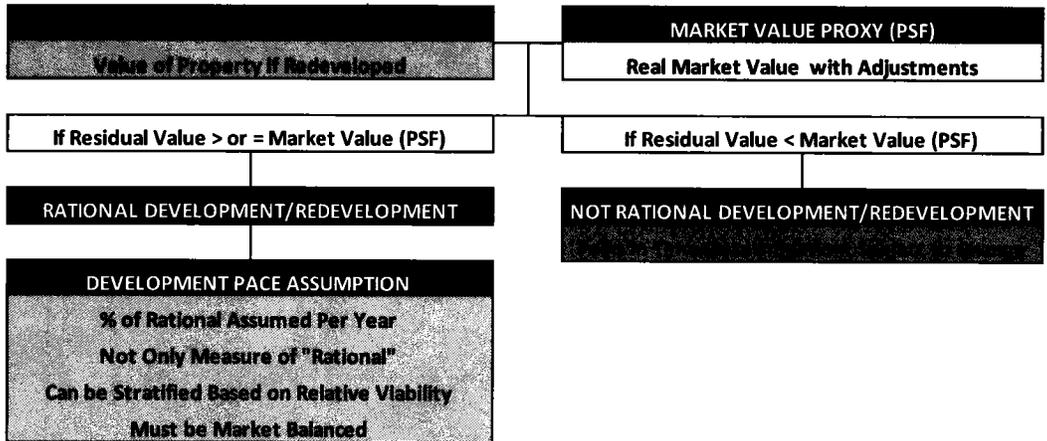
The highest and best use determination is based on the allowable use that has the highest indicated residual property value. The model currently incorporates a total of 27 theoretical development programs, but the number and nature of program options can be varied. An entitlement screen is necessary, as use types identified as having the greatest residual values may not be allowed under existing zoning. In the model, this is done using a matrix that evaluates whether or not the theoretical programs are allowable under the range of zoning codes in the study area. If the use is not allowed, the highest and best *allowed* use is determined.

### Threshold for Development

Development/redevelopment activity is predicted by the model when the residual property value exceeds the property value under the existing use. If the residual value is greater than or equal to the market value of the property, it is assumed to represent a rational development or redevelopment opportunity. I.e. a developer can

purchase the property at current market value, for its new intended purpose which places a greater value on the site.

### REDEVELOPMENT MODEL SCHEMATIC



While development and/or redevelopment is considered viable in these instances, it does not necessarily mean that it will be developed within the study time frame. There are a number of additional factors that impact redevelopment, and we assume that only a portion of opportunities identified as viable will be realized within the study horizon. The assumed rate of redevelopment should be based on historic trends in the study area, and is an input on the Initial Input Screen.

### F. MEASURES OF DEVELOPMENT IMPACTS (OUTPUTS)

The development/redevelopment module is run under baseline assumptions as well as assumptions reflecting the proposed Tesoro facility, and the comparison of the two scenarios provides the basis for estimating the net impact of the facility.

The net impacts associated with the facility are broken down in multiple categories. This includes predicted levels of new development, redevelopment as well as investment in existing structures. To determine the net impacts, the model solves for the differential between the two scenarios. The unit of measure include:

- The dollar value of construction and investment activity in physical improvements.
- Projected net change in real market value in the study area associated with new construction
- Net change in square footage of commercial space, as well as residential units in the study area.

The model does not address the direct, indirect and induced impact of the construction activity funded.

## G. BASELINE SCENARIO

The following page shows the estimate of development activity resulting from the assumed baseline scenario. This is the Model's output, resulting from the baseline assumptions of market conditions. The tables summarize the predicted development output for the "Baseline Scenario" of the study area.

- The table in the upper left shows the square footage of land area in each RMV/Residual ratio category.
- This total area is multiplied by the Development Probability.
- This produces the table just below, which is the bulk estimate of developable lands in the study area. In this example, the "< 0.75" category is multiplied by 20%. The categories where RMV/Residual is greater than 2.0 are determined to have low likelihood of redevelopment, so 0% of the land area in those categories pass through this screen.
- The determination of predicted development land area by zone is then compared to the highest and best economic use in those zones to estimate the amount of **construction investment**, **housing units** and **commercial space** resulting from that development.
- Finally, the change in **Real Market Value** is calculated both from new development, and renovation/reinvestment in existing properties.

As modeled, the Baseline Scenario forecast produced an estimate of:

- \$194.1 million in new construction investment
- 915 new housing units
- 387,000 square feet of commercial space
- \$224.7 million in new Real Market Value
- A net change of \$381.5 million in Real Market Value

This is an example of the Baseline Scenario outputs. The next steps in the model are to produce similar outputs for the Tesoro facility Scenario, then compare the two sets of results to judge what additional impact the Tesoro facility is predicted to have.

**PREDICTED DEVELOPMENT ACTIVITY – BASELINE SCENARIO  
PREDICTIVE ECONOMIC DEVELOPMENT MODEL**

ZONING	SQUARE FEET OF LAND (Scale Adjusted)					Total
	<75	75-125	125-200	200-400	>400	
R-9	0	0	0	0	4,841,969	4,841,969
R-18	56,716	3,593	0	0	60,310	60,310
R-22	143,728	3,593	0	10,000	0	157,321
R-30	13,503	0	0	0	0	0
R-35	0	0	0	0	0	0
CN	7,500	0	0	0	7,500	7,500
IH	0	0	0	2,059,828	2,059,828	2,059,828
IL	179,026	39,203	44,866	0	0	263,094
OCI	337,861	119,788	53,615	0	0	511,063
CK	6,299,551	899,242	900,282	789,893	329,688	9,218,755
CC	575,510	427,353	298,614	69,302	1,301	1,372,080
Park	0	0	0	0	367,527	367,527
<b>TOTAL</b>	<b>7,613,195</b>	<b>1,492,772</b>	<b>1,297,376</b>	<b>869,295</b>	<b>7,600,312</b>	<b>18,859,446</b>

Dev Probability	20%	15%	10%	0%	0%	10%
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ZONING	LAND DEVELOPED/REDEVELOPED (\$F)					Total
	<75	75-125	125-200	200-400	>400	
R-9	0	0	0	0	0	0
R-18	11,343	539	0	0	0	11,882
R-22	28,746	539	0	0	0	29,284
R-30	2,701	0	0	0	0	2,701
R-35	0	0	0	0	0	0
CN	1,500	0	0	0	0	1,500
IH	0	0	0	0	0	0
IL	35,805	5,880	4,487	0	0	46,172
OCI	67,532	17,968	5,361	0	0	90,862
CK	1,239,910	134,886	90,028	0	0	1,464,825
CC	115,102	64,103	29,861	0	0	209,066
Park	0	0	0	0	0	0
<b>TOTAL</b>	<b>1,522,639</b>	<b>223,916</b>	<b>129,738</b>	<b>0</b>	<b>0</b>	<b>1,876,292</b>

ZONING	RMV/Residual Category	Predicted Predominant Development Form	Predicted Development Yield		RMV/Dev. or Redev.	Current RMV	Net Change in RMV	
			Construction Investment	Residential Units				
R-9	N/A	N/A	\$0	0	\$0	\$0	\$0	
R-18	3-story wood townhome	11,882	\$926,815	7	\$1,453,563	\$522,979	\$930,585	
R-22	3-story wood townhome	29,284	\$2,284,190	17	\$3,582,394	\$1,065,354	\$2,517,040	
R-30	3-story wood townhome	2,701	\$210,647	1	\$330,366	\$16,680	\$313,686	
R-35	3-story wood townhome	0	\$0	0	\$0	\$0	\$0	
CN	3-story wood townhome	1,500	\$117,000	0	\$183,496	\$65,180	\$118,316	
IH	N/A	0	\$0	0	\$0	\$0	\$0	
IL	office low rise	46,172	\$2,400,951	0	\$4,037,144	\$480,865	\$3,556,279	
OCI	office low rise	90,862	\$4,724,812	0	\$7,944,663	\$1,093,720	\$6,850,943	
CK	3-story wood townhome	1,464,825	\$115,816,326	890	\$181,639,746	\$51,740,135	\$129,899,611	
CC	office mid/podium	209,066	\$67,653,871	0	\$87,767,526	\$7,300,345	\$80,467,180	
Park	N/A	0	\$0	0	\$0	\$0	\$0	
<b>TOTAL</b>	<b>TOTAL/REHAB/RENOVATION</b>	<b>1,876,292</b>	<b>\$194,134,611</b>	<b>915</b>	<b>\$286,938,898</b>	<b>\$62,285,258</b>	<b>\$224,653,641</b>	
<b>OVERALL TOTAL</b>							<b>\$156,865,095</b>	<b>\$381,518,735</b>

Source: Johnson Reid LLC

## H. RECONCILIATION BASELINE AND TESORO FACILITY SCENARIOS

The Scenario with the Tesoro facility utilized the same model, but with an assumption of a 15% reduction in achievable rent levels and a 10% increase in capitalization rates. The Model produces a Development Activity Output screen for the Tesoro Facility Scenario that matches that of the Baseline Scenario. The two scenarios are then compared to determine the net impact of the proposed facility.

The following table presents the comparison of results from the reconciliation. In this case, the new facilities construction and operation are expected to have a negative impact on all indicators, decreasing investment, production of housing and commercial space, and resulting change in Real Market Value.

### RECONCILIATION OF BASELINE AND TESORO FACILITY SCENARIOS

BASELINE						
Predicted Predominant Development Form	Predicted Development Yield			RMV/ Dev. or Redev.	Current RMV	Net Change in RMV
	Construction Investment	Residential Units	Commercial Space			
N/A	\$0	0	0	\$0	\$0	\$0
3-story wood townhome	\$926,815	7	0	\$1,453,563	\$522,979	\$930,585
3-story wood townhome	\$2,284,190	17	0	\$3,582,394	\$1,065,354	\$2,517,040
3-story wood townhome	\$210,647	1	0	\$330,366	\$16,680	\$313,686
3-story wood townhome	\$0	0	0	\$0	\$0	\$0
type v/podium	\$0	0	0	\$0	\$0	\$0
3-story wood townhome	\$0	0	0	\$0	\$0	\$0
3-story wood townhome	\$117,000	0	0	\$183,496	\$65,180	\$118,316
3-story wood townhome	\$0	0	0	\$0	\$0	\$0
N/A	\$0	0	0	\$0	\$0	\$0
office low rise	\$2,400,951	0	16,622	\$4,037,144	\$480,865	\$3,556,279
office low rise	\$4,724,812	0	32,710	\$7,944,663	\$1,093,720	\$6,850,943
3-story wood townhome	\$115,816,326	890	0	\$181,639,746	\$51,740,135	\$129,899,611
MU res/ret 3-story wood w/surf LG	\$67,653,871	0	337,642	\$87,767,526	\$7,300,345	\$80,467,180
N/A	\$0	0	0	\$0	\$0	\$0
3-story wood townhome	\$0	0	0	\$0	\$0	\$0
3-story wood townhome	\$0	0	0	\$0	\$0	\$0
<b>TOTAL/NEW CONSTRUCTION</b>	<b>\$194,134,611</b>	<b>915</b>	<b>386,974</b>	<b>\$286,938,898</b>	<b>\$62,285,258</b>	<b>\$224,653,641</b>
<b>TOTAL/REHAB/RENOVATION</b>	<b>\$156,865,095</b>					<b>\$156,865,095</b>
<b>OVERALL TOTAL</b>	<b>\$350,999,706</b>					<b>\$381,518,735</b>

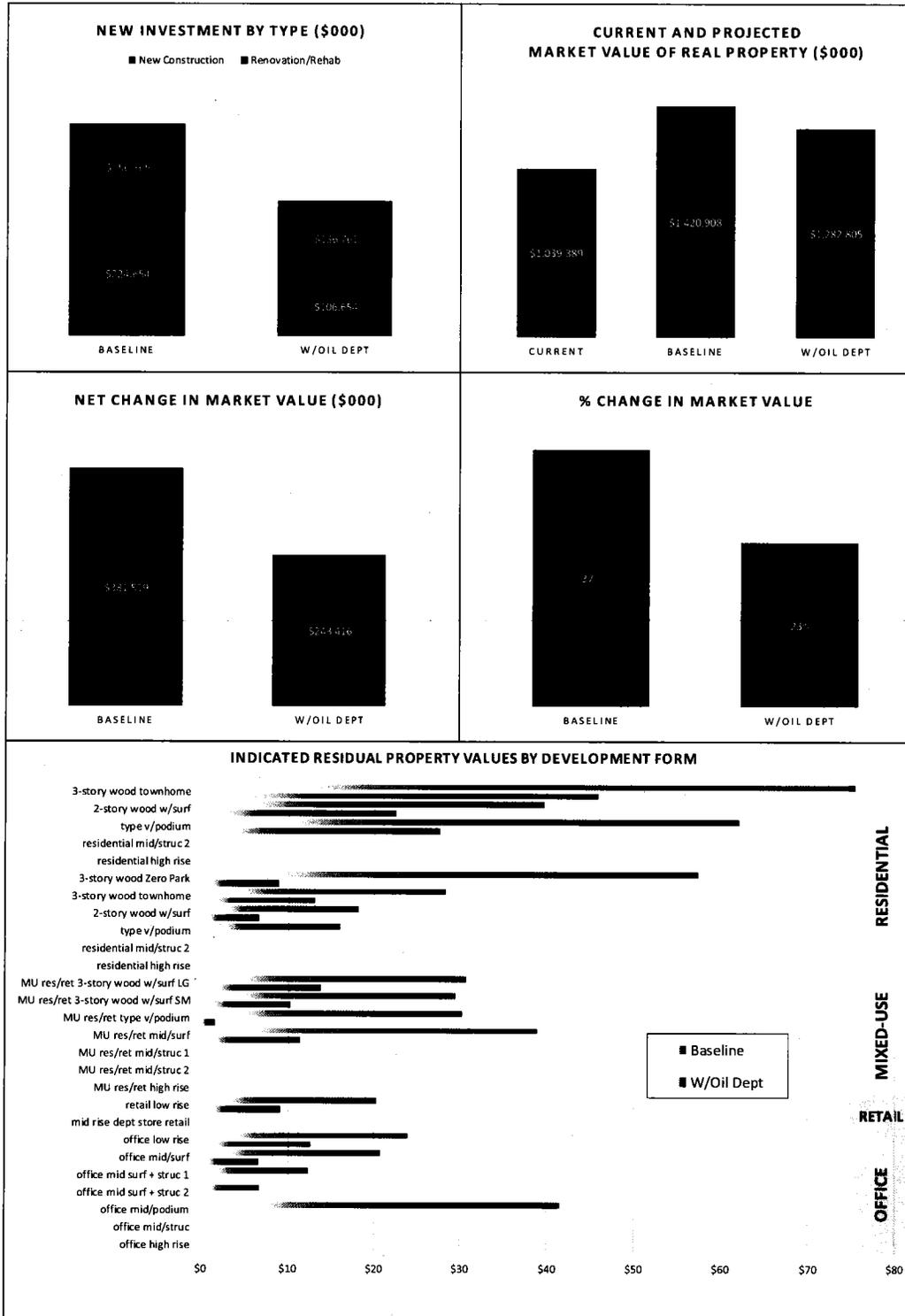
WITH OIL DEPOT OPERATIONS						
Predicted Predominant Development Form	Predicted Development Yield			RMV/ Dev. or Redev.	Current RMV	Net Change in RMV
	Construction Investment	Residential Units	Commercial Space			
N/A	\$0	0	0	\$0	\$0	\$0
3-story wood townhome	\$809,637	6	0	\$988,127	\$441,617	\$546,510
3-story wood townhome	\$2,146,605	16	0	\$2,619,837	\$967,427	\$1,652,410
3-story wood townhome	\$210,647	1	0	\$257,085	\$16,680	\$240,405
3-story wood townhome	\$0	0	0	\$0	\$0	\$0
type v/podium	\$0	0	0	\$0	\$0	\$0
3-story wood townhome	\$0	0	0	\$0	\$0	\$0
3-story wood townhome	\$102,375	0	0	\$124,944	\$51,885	\$73,059
3-story wood townhome	\$0	0	0	\$0	\$0	\$0
N/A	\$0	0	0	\$0	\$0	\$0
office low rise	\$2,065,722	0	14,301	\$2,952,444	\$281,250	\$2,671,194
office low rise	\$3,802,737	0	26,327	\$5,435,082	\$654,105	\$4,780,977
3-story wood townhome	\$100,831,471	775	0	\$123,060,389	\$33,745,585	\$89,314,804
MU res/ret 3-story wood w/surf LG	\$5,999,861	58	5,454	\$8,396,560	\$1,021,551	\$7,375,009
N/A	\$0	0	0	\$0	\$0	\$0
3-story wood townhome	\$0	0	0	\$0	\$0	\$0
3-story wood townhome	\$0	0	0	\$0	\$0	\$0
<b>TOTAL/NEW CONSTRUCTION</b>	<b>\$115,969,054</b>	<b>856</b>	<b>46,082</b>	<b>\$143,834,468</b>	<b>\$37,180,100</b>	<b>\$106,654,368</b>
<b>TOTAL/REHAB/RENOVATION</b>	<b>\$136,761,173</b>					<b>\$136,761,173</b>
<b>OVERALL TOTAL</b>	<b>\$252,730,227</b>					<b>\$243,415,541</b>

<b>NET DIFFERENTIAL</b>	<b>(\$98,269,479)</b>	<b>-59</b>	<b>-340,892</b>	<b>(\$143,104,430)</b>	<b>(\$25,105,158)</b>	<b>(\$138,103,194)</b>
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Source: Johnson Reid LLC

The following is a summary of predicted impacts in graphical form:

**SUMMARY OF MODEL OUTPUT  
MAGNITUDE OF INVESTMENT AND RESIDUAL PROPERTY VALUES**



## Exhibit F: Additional Environmental Factors

The following factors must also be fully assessed in the EIS for the Tesoro-Savage oil terminal:

- **Climate Change**

- *Scope 1:* Emissions from on-site natural gas-fired boilers, fugitive emissions from the oil storage tanks, emissions from the Marine Vapor Combustion Unit, emissions from the emergency diesel fire water pump engines, and fugitive leaks throughout the facility.
- *Scope 2:* emissions generated by the production of electricity purchased by the facility.
- *Scope 3:* At a minimum, all emissions generated within Washington State by the oil trains travelling to and from the Tesoro-Savage Facility, as well as emissions from the oil tanker ships travelling within the state's three mile nautical boundary.

- **Earth**

- *Erosion:* From storage tank construction and operations into the adjacent Parcel 1A wetlands mitigation site, a 7.9 acre "depressional, palustrine forested wetland (PFO)." ASC at 3-313.

- **Habitat**

- *Shoreline and fish habitat:* Impacts to the shoreline from improvements to shipping terminal, and associated impacts on fish habitat and other near-shore riparian habitat.
- *Parcel 1A Wetlands Mitigation Area:* Erosion, stormwater runoff, emissions and noise impacts on the Parcel 1A wetlands mitigation site, located immediately east of Parcel 1A where the oil storage tank farm will be located, including surveys for waterfowl (including mallard ducks, pintail, wigeon, merganser, gadwalls, green-winged teal, Canada goose, and snow goose), bald eagles, sandhill cranes, great blue herons, as well as reptiles and amphibians that may be present in the wetlands area.

- **Water**

- *On-Site Stormwater Runoff:* From the Port of Vancouver site into the Parcel 1A wetlands area, as well as into the Columbia River.

- *Railroad Stormwater Runoff*: From the railroad line to the Columbia River, and the directly into waterways crossed by the rail line through drips and leaks from oil trains.
- *Oil Spill Impacts*: Risk of catastrophic oil spill along the entire length of the train route, from the oil terminal facility, or during shipping in the Columbia River of the Pacific Ocean, including impacts on aquatic ecology, bird populations, and the economy, including commercial and recreational fishing, the shipping industry, tourism, agriculture, and municipal water supplies.
- **Recreation**
  - *Waterborne Recreation*: Impact of additional large vessel traffic in the Columbia River on waterborne recreation, including recreational fishing.
- **Transportation**
  - *Rail Congestion*: Impacts on other users of Pacific Northwest railroads, including grain and fruit shippers, intermodal users, ports, industries, aircraft manufacturers and passenger rail, given reports indicating that the railroad prioritizes unit trains, such as oil trains, over other shippers.
  - *Vessel Traffic*: Impacts on navigation from additional oil tanker traffic, particularly at the Columbia Bar Crossing and other restrictions to vessel movement.