

AMENDMENT NO. 1

CONTRACT NO. 30000850

FOR

**West Hayden Island Environmental Foundation Study**

This Contract was made and entered by and between *ENTRIX, Inc.* hereinafter called Contractor, and the City of Portland, a municipal corporation of the State of Oregon, by and through its duly authorized representatives, hereinafter called City.

1. This contract is ~~hereby extended~~ <sup>runs ERE</sup> through June 30, 2010.
2. Additional work and changes are necessary as described in the Scope of Work attached as Exhibit A. A new timeline for tasks is provided in attached Exhibit B.
3. Additional compensation is necessary and shall not exceed \$9,318. **The Bureau of Environmental Services will compensate the Bureau of Planning & Sustainability for services provided under additional tasks in item G. Task 7, Exhibit A, not to exceed \$3,318. The remaining compensation of \$6,000 will be paid by the Bureau of Planning & Sustainability.**
4. All other terms and conditions shall remain unchanged and in full force and effect.

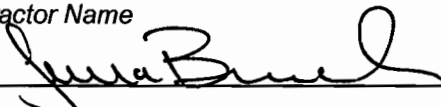
*[Signature block must remain on same page]*

CONTRACTOR SIGNATURE:

This contract amendment may be signed in two (2) or more counterparts, each of which shall be deemed an original, and which, when taken together, shall constitute one and the same contract amendment.

The parties agree the City and Contractor may conduct this transaction by electronic means, including the use of electronic signatures.

ENTRIX, INC.  
Contractor Name

By:  Date: 1-7-10

Name: TERESA BRANCH

Title: Business Operations Mgr.

Address: 200 First Avenue West, Suite 500, Seattle WA 98119

Telephone: (360) 487-6200



# CITY OF PORTLAND, OREGON

Contract No. 30000850 Amendment/Change Order No. 1

Contract Description: WHI - ENVIRONMENTAL FOUNDATION STUDY

## CITY OF PORTLAND SIGNATURES:

By: N/A Date: \_\_\_\_\_  
Bureau Director

By: Christine Hooley Date: 01/21/2010  
Purchasing Agent

By: N/A Date: \_\_\_\_\_  
Elected Official

Approved:

By: D. Bilby Date: 01/26/2010  
Office of the City Auditor

Approved as to Form:

By: Linda Meng Date: 01/15/2010  
Office of City Attorney

## Exhibit A

Revisions marked as follows:

Underlining = Added language

Strikeout = Deleted Language

### Scope of Work

#### I. Background and objectives

##### Background:

The City, through the Bureau of Planning and Sustainability, is considering annexation and development of a long-range land use plan for West Hayden Island (WHI), a process which requires assessment of natural resources and potential conflicting land uses, including marine industrial, open space, and recreational uses. ~~including marine industrial and recreational uses.~~ Over 20 years of studies and administrative records document the changing WHI landscape and natural resource conditions over the past century, and the ecological function and value of the Island.

The project will include consideration of annexation, Comprehensive Plan designation and map changes, zoning and plan district designations for WHI, consistent with statewide planning goals, statutes, and state, regional and local regulations. There will be stakeholder involvement and a public outreach program. It is envisioned that the eventual WHI Plan District will establish the zoning for the property and allowed uses. The WHI Plan District is intended to provide a decision-making framework for future review of specific land use proposals. The WHI Plan District will not provide immediate authorization for specific development at this time. The WHI Plan District would provide a framework for allowing specific development types and restoration/enhancement activities. Although federal and state agency representatives will provide feedback on the ability of the analyses to consider habitats of interest, no state or federal permit application requirements will be part of this process.

Future planning requires an Environmental Foundation Study to identify and describe the functional values of natural resources on WHI. WHI is designated as Marine Industrial Land on Metro's 2040 Growth Concept Map and as a Regionally Significant Industrial Area on the Title 4 map in the Urban Growth Functional Plan. WHI is also identified by Metro as a high value riparian area and a Habitat of Concern in the regional inventory, and as a Moderate Habitat Conservation Area in Title 13. This work will also inform the Economic, Social, Environmental, and Energy (ESEE) Analysis to be to be completed as part of the City's land use plan for WHI.

##### Definitions:

"Planning Area" means West Hayden Island.

"Study Area" (for purposes of the Environmental Foundation Study) is the larger area within which the types, conditions and functions of WHI natural resources will be considered in a regional context. The Study Area may vary by natural resource function (e.g. water quality) or species type or range.

"Natural Resources" refers to the environmental features, including natural, impacted and created environmental features, of a site (and the associated flora and fauna) that provide ecological functions, and may add economic, recreational, quality of life or other societal values.

"ESEE Analysis" refers to the Oregon mandated requirement for local governments to "develop a program to achieve Goal 5 for all significant resource sites based on an analysis of the economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit or prohibit a conflicting use." [OAR 660-023-0040].

"Functional Values" refers to the benefits provided by natural resources. Such benefits may be physical and related to ecological function, or socio-economic, and related to a societal benefit. Functional values include, but are not limited to, water quality, flood storage, microclimate, nutrient cycling, channel dynamics and wildlife habitat.

Objective:

The Environmental Foundation Study will analyze and ~~serve to~~ build upon existing data and studies to document the historical and current natural resource conditions on WHI; evaluate the quantity and quality, ~~and value of~~ WHI natural resources and the role of WHI within the larger ecosystem context; and assess the opportunities as well as limiting factors or constraints from a natural resource and ecological function perspective on mixed land use of WHI. The final report will provide the necessary information and data for fulfilling the requirements of the local and statewide planning goals and the Economic, Social, Environmental, and Energy (ESEE) Analysis. The Study will serve as a foundation study for the zoning and annexation of WHI and is intended to address some of the requirements of Oregon Administrative Rules, Chapter 660 and Division 5.

The studies will be used to inform the WHI Community Working Group (CWG), the Technical Advisory Pool (TAP), project staff and City Council in the WHI land use decision-making process.

## II. Tasks

### A. Task 1: Preparation

Purpose: A successful and cost-effective project outcome will depend on clear communication between the City, the Port, and the Community Working Group. The purpose of this task is to reduce cost and delay, anticipate obstacles, prevent surprises, and keep planning activities aligned with State and local policy.

Deliverables: After an initial kickoff meeting to discuss these topics, ENTRIX will prepare a project workplan, including methodology, deliverables, and project schedule. It is expected that the City's Project Team will review and comment on the workplan. The workplan will include recommendations for the key project elements listed below (Tasks 1.1, 1.2, 1.3). The City and Contractor acknowledge that Task 1 may result in changes to this scope of work, and a subsequent amendment to this contract pursuant to Paragraph 18 of the standard contract provisions stated above.

~~Target Dates: September 15 2009 CWG meeting, with final work plan to City by October 9~~  
A timeline is attached to the scope of work, which identifies target due dates for ENTRIX work products.

1.1. Natural Resource Identification Methodology: ENTRIX will recommend and describe the proposed inventory and evaluation methodology for WHI natural resources that corresponds to the key concepts and fulfills the requirements of Oregon's land use program and Portland's annexation process, including Statewide Planning Goals 5, 6, and 8 and Metro Urban Growth Management Functional Plan Titles 3 and 13. This methodology will be compatible with and will expand upon the City's Natural Resource Inventory methodology.

1.2 Ecological Functions to be Analyzed: ENTRIX will assess the quality, quantity and relative value of WHI natural resources based on the ecological functions and services provided. ENTRIX will recommend specific ecological functions to be analyzed based on the relevant planning framework, the existing natural resource data, accepted natural resources inventory model criteria, and a preliminary understanding and review of natural resources on WHI.

1.3. Study Area Boundaries: ENTRIX will recommend study area boundaries based on initial research and description by ENTRIX ecologists on the species use and ecological characteristics of the area and by ENTRIX economists on the human use of the area within the context of the surrounding area. Study area boundaries are expected to differ by ecosystem function; for example, the relevant geographic area for flood storage may differ from the geographic area for nesting habitat for migratory birds.

## **B. Task 2: Natural Resource Conditions**

**Purpose:** Compile and document baseline information on existing natural resource features and conditions at the site-specific, Study Area, and regional ecosystem scales. The report will serve as one foundation study for the City's Hayden Island Natural Resources Inventory, significance determination, ESEE Analysis, and program evaluation.

**Deliverables:** ENTRIX will develop a technical memorandum that inventories and describes the current conditions of natural resources on WHI, including natural resource quantity and quality. The report will describe the role of WHI in the regional ecosystem. The primary Goal 5 natural resources expected to be of concern on WHI are riparian corridors, wetlands, flood plain and fish/wildlife habitat. ENTRIX will focus on these resources. It is expected that the data collection process will include several days of fieldwork on WHI. The memorandum will address Tasks 2.1, 2.2 and 2.3 below.

~~Target Date: October 20 2009 CWG meeting~~

**2.1 Review Existing Information:** There are numerous existing studies and data sources providing detailed information on the quality and quantity of natural resource on WHI and its surrounding areas. ENTRIX will work with the City Project Team to finalize a list of priority data and information sources to be used to complete the inventory. Based on these resources ENTRIX will identify areas in need of verification or update in collaboration with relevant agencies in order to ensure adequacy of information. ENTRIX will also examine the historical context of natural resource conditions on WHI and in the regional ecosystem study area through a review and summary of the priority sources.

**2.2 Historical Context:** ENTRIX will examine the historical context of natural resource conditions on WHI and in the regional ecosystem study area through a review of relevant past studies and documentation. This includes a brief summary of the history and trends related to natural resource quantity and quality in the planning area, identifying and analyzing attributes that have or will change over time. Based on available data, the trend information may include qualitative information on changes in the hydrological regime related to the built environment, changes in water quality, changes in the vegetated environment, observances related to temporal and habitat conditions, or trends in fish and wildlife species utilization.

**2.3 Describe Resources:** Once data on existing and historic conditions has been collected and verified for adequacy, ENTRIX anticipates describing WHI natural resources using a four-step process to assess the Study Area as a whole more generally and WHI more specifically. It is important to note that a specific project is not being evaluated; however, the potential effects to ecosystem functions, based on potential disturbance, enhancement or restoration activities or development, will be evaluated. The purpose of this work is not to determine the specific impacts of potential development, but to describe how different types of resources respond to different types of impacts

- a. **Finalize Analytical Framework:** Incorporate Additional Natural Resources and Functions to City NRI Framework. ENTRIX will expand and adapt the City's NRI framework to ensure compliance with Oregon's Goal 5 and fulfillment of the City's objectives and consider more

island-specific functions. The City's NRI provides the analytical framework for assessing the quality and quantity of riparian resources and wildlife habitat resources based on ecological function; ENTRIX anticipates including additional evaluation of the following resources and functions: multiple habitat types, wetlands, (as required by Goal 5), and ecological functions providing human benefit such as recreation/education, and carbon sequestration.

- b. WHI Resource Quantification and Location Verification. ENTRIX will verify, update, and expand upon the existing NRI geospatial database for WHI, and will spatially delineate (using existing databases) all natural resources identified for quantification in step a) outlined above. As necessary, ENTRIX will also update and verify the geospatial database for natural resource areas in the Study Area and regional ecosystem context in order to ensure spatial accuracy and to incorporate updated biological or land use evaluations. This will be accomplished with facilitation by the City to help reduce project costs.
- c. WHI Quality/Quantity Assessment: The quality and quantity assessment will parallel the existing NRI quality and quantity assessment that rates riparian and wildlife habitat resources quality as high, medium, or low. The features and metrics used in the NRI to assess resource quality and quantity will be reviewed and additional metrics and features may be included as needed, if appropriate to evaluate the resource functions on WHI. It is expected that the NRI framework will be enhanced by rating not just the overall quality of the WHI resource, but also the quality of each ecological function provided by the resource based on a set of criteria defined by ENTRIX, reviewed by the City's Project Team. Additionally, description of current conditions, management practices, and facilities will be part of the baseline description. Emphasis will be placed on describing how the existing management practices and infrastructure are likely to affect current ecological functions and habitats
- d. Regional Natural Resource Conditions: While the focus is on WHI natural resources, ENTRIX will also identify and describe the other primary natural resources in the regional ecosystem that provide similar ecosystem functions. Understanding the quantity and quality of other resources in the area region is necessary to describe the role and function of WHI resources in the ecosystem context.
- e. Natural Resource Agency Perspectives on the Natural Resources of WHI: ENTRIX will review information received from TAP members and will engage with TAP members through interviews and an interactive workshop. In addition, interviews of up to 10 agency personnel will be conducted. ENTRIX will prepare a set of questions that address particular resources and will interview agency specialists to fill information gaps. The information relevant to the project scope will be incorporated into the Environmental Foundation Study.

### **C. Task 3: Evaluation Framework**

Purpose: Evaluate and document the aspects of and benefits provided by natural resources identified in Task 2. This will serve as information for the City's ESEE Analysis and as a basis for evaluating the environmental consequences of the concept plans developed by the CWG and will inform the City's Hayden Island Natural Resources Inventory and ESEE Analysis.

Deliverables: A technical memorandum and presentation describing the evaluation method(s) used. The memorandum will address Tasks 3.1, 3.2 and 3.3 below.

~~Target Date: November 3 2009 CWG meeting~~

3.1 ~~Value~~ Assessment Framework: The ENTRIX evaluation framework will combine the assessment of WHI natural resource quantity and quality from Task 2 with a natural resource value assessment. ~~The quality assessment~~ The assessment conducted in Task 2 measures the integrity of the ecological functions provided by resources, while the value the Task 3 assessment

measures the relative importance of the WHI resources and associated ecosystem functions in the broader regional ecosystem context. By synthesizing information regarding WHI natural resource quantity, quality, and context, and value, the proposed ENTRIX evaluation framework will identify geographic areas on WHI that are particularly valuable for conservation, potential enhancement, or may be developed with certain mitigations at relatively low ecological cost.

3.2 ~~Value Assessment~~: ENTRIX will assign relative value rank (high, medium, and low) to each natural resource element identified in step 2.3.a above ecosystem function provided by WHI resources, based on the relative abundance and importance of ecosystem functions provided by WHI resources in the context of the larger ecosystem area (regional evaluation factor). This assessment does not constitute a Goal 5 determination of significance, which will be conducted by the City as part of the Hayden Island ESEE Analysis.

The ~~value analysis~~ Task 3 assessment will also incorporate a temporal evaluation factor through assessment of the likely changes in the abundance and quality of natural areas within the ecosystem based on the potential for ecosystem functions at other sites to deteriorate due to future development or other factors.

Similar to the quantity/quality assessment, ENTRIX will develop, with input from the City's Project Team and Technical Advisory Pool, a set of reviewable criteria to rank ~~determine the relative value of each ecological function provided by WHI natural resources~~ natural resource element identified in step 2.3.

3.3 Opportunities and Benefits: The ~~high, medium, and low value and quality combinations analyses conducted in Tasks 2 and 3~~ will provide insight into the opportunities and benefits provided by resources throughout WHI. The analysis will indicate areas of high resource benefit (~~high quality and value~~), low resource benefit (~~low value and quality~~), and areas with opportunities for high natural resource enhancement or restoration benefits (~~resources that provide ecosystem functions with high value, but that are currently degraded and low quality~~). This structure provides the relative benefit of natural resources in different areas of WHI that can then be compared with the relative benefit of economic development in those areas. While not a numerical cost benefit comparison, this evaluation framework provides the foundation information for assessing the relative costs in natural resource terms of developing different areas of WHI.

#### **D. Task 4: Limiting Factors**

**Purpose:** Utilizing information from Tasks 2 and 3, describe limiting factors associated with the existing natural resources that would affect the viability of a mix of marine industrial, recreational, and environmental restoration uses on the site. A limiting factor is a constraint or parameter associated with a functional value. For example, a patch of forest may have the functional value of providing wildlife habitat, but the acreage needs of certain wildlife species may be a limiting factor that should be considered. This work is not expected to provide a site-design, but it should identify the key facts necessary to frame site design evaluations (a list of "to-be considered"). The narrative will inform CWG discussion of site design trade-offs. The aim of the limiting factors analysis will be to describe the "shape of the response curve" in terms of how elastic or responsive each ecological function is to different impacts or types of activity.

**Deliverable:** A narrative, maps and a presentation that describe limiting factors impacting the viability of a mix of land uses on West Hayden Island. The narrative and associated presentation will address Tasks 4.1, 4.2 and 4.3 below.

**Target Date:** ~~January 19 2010 CWG meeting~~

4.1 Methodology: At task initiation, ENTRIX will prepare for the City's Project Team review and comment an executive summary of the methods and their basis for the limiting factors analysis.

4.2 Ecological Resiliency: While the natural resource evaluation in Task 3 identifies the benefits and opportunities provided by WHI natural resources, the limiting factors analysis will identify the limits to ecological resiliency and the natural resource constraints on resource enhancement, recreation, and marine-related development of WHI. To identify constraints, the analysis will describe how the quality of ecosystem functions provided by a resource would change based on different types of disturbance or land use. The limiting factors analysis will build on the criteria (based on NRI features and metrics as described in Task 2) developed to rate the quality and quantity of ecosystem functions provided by WHI natural resources. In addition to using these quantitative criteria developed to rate quality and quantity, any additional qualitative information regarding potential additional factors affecting the level of ecological function or information on the level of certainty of effects will be provided.

4.3 Response Curves: The shape of the overall impact response curve in terms of total ecosystem function and natural resource benefits will depend on the proportion of areas on WHI that are high quality, high value versus low quality, low value and the type of development. The more areas on WHI that have high quality and high value natural resources, the more likely that the overall response curve will be very steep (i.e., large negative environmental response to a change in land use), and vice versa. It is expected that the limiting factors analysis will take into account findings from the economic analysis, in that limiting factors will be discussed in the context of the "unmet land needs" identified in the economic analysis. ENTRIX will also assess potential mitigation options for the "unmet land needs" that would change the shape of the response curve to disturbance from different land uses.

#### **E. Task 5: Final Foundation Studies**

ENTRIX will incorporate comments on each of the work elements delivered in the above tasks, and will compile all research findings into final foundation study reports. The report will include an executive summary highlighting the methodology and analytical findings. To achieve cost-savings, ENTRIX and City partners will communicate regularly on progress and potential adjustments to the analysis and reporting. Present the draft reports to the Port, City, Community Working Group and Technical Advisory Committee; receive and incorporate comments into a final product.

~~Target Date: January 19 2010 CWG meeting (draft), final report by March 1 2010~~

#### **F. Task 6: Public Involvement**

Effectively communicating with the public will be a key component to the success of this project. ENTRIX understands the importance of communication and buy-in with key stakeholders. To maximize the benefits of public involvement while minimizing costs, ENTRIX will combine physical attendance at project meetings by at least one ENTRIX team member with webinar and teleconference participation of experts. ENTRIX anticipates that at least one team member will attend all anticipated meetings. The anticipated meetings include:

##### CWG Meetings

September 15, 2009

October 1, 2009 (Tour)

October 5, 2009 (Tour)

October 20, 2009

November 3, 2009

November 17, 2009

~~December 8, 2009~~

January 19, 2010

February 2010 (two meetings)



March 16, 2010

April 20, 2010

Other Meetings

TAP workshop – December 2009

CWG Workshop – April 2010 (two meetings)

City Council - May 2010

**G.Task 7: Integrated Summary of Economic and Environmental Foundation Studies**

Because the economic and environmental foundation studies will be developed using compatible approaches, a combined summary of the integrated effort will be provided to the City Project Team. The integration effort is designed to demonstrate how the two studies can be used together to evaluate potential tradeoffs between development, ecological function, and possibly recreation and mitigation potentials. Without this piece, the two studies may stand alone as separate foundation studies. Until the research is completed, it will not be clear exactly what form this will take, but the form will follow key elements of both studies that have the potential to alter overall assessment and ultimate outcomes. This summary will explain how the two studies may be used in coordination to inform decision-making about potential benefits and costs associated with different levels of development on West Hayden Island. The summary will not be a repetition of the salient portions of each report, but will instead explain how the two were developed in tandem, and how they may be used together.

The development of marine industrial, environmental or recreational features on WHI may not be feasible if incompatible. A matrix will be developed to identify the potential complementary and conflicting relationships between activities. The same collection of activities will be listed on both the horizontal and vertical axes, allowing for each activity to be reviewed in relationship to all of the others. The ENTRIX team will develop this matrix and circulate it among stakeholders and project team members to identify and describe these relationships.

The evaluation will consist of simple plus, minus, or neutral evaluations for each pair of activities. For example, some public recreational activities could conflict with ecological functions in specific times of the year, or in critical locations. Conversely, other activities, such as expansion of facilities for nonmotorized boating, might be compatible with certain industrial and/or conservation efforts.

As part of developing the integrated summary, ENTRIX will involve Technical Director, Dr. Dan Tormey, who has significant experience with marine terminal development coupled with environmental preservation. He will complete a technical review of both studies and the integrated summary. Further, he will be involved at the outset of the project and provide insight as to the project definition and the evaluation framework.

Exhibit B

**Schedule of Deliverables for West Hayden Island Foundation Studies**

<b>Environmental Foundation Study</b>				<b>Economic Foundation Study</b>		
<b>Deliverable</b>	<b>Draft to TAP</b>	<b>Comments Due</b>	<b>CWG Briefing</b>	<b>Draft to TAP</b>	<b>Comments Due</b>	<b>CWG Briefing</b>
Scope of Work Memo	Done	Done	Done	Done	Done	Done
Priority Sources	Done	Done	Done	Done	Done	Done
Evaluation Framework	Oct. 23	Nov. 12	Jan. 19 CWG			
History/Economics Harbor				Oct. 26	Nov. 12	Jan. 19 CWG
Evaluation Criteria	Dec. 10 '09	Dec. 29, '09	Jan. 19 CWG			
30-Year Job Forecast				Dec. 10 '09	Dec. 29, '09	Jan. 19 CWG
Site Suitability Analysis				Jan. 13 '10	Jan. 25, '10	Feb. 16 CWG
Inventory of Suitable Sites				Jan. 13 '10	Jan. 25, '10	Feb. 16 CWG
Land Absorption Forecast				Jan. 13 '10	Jan. 25, '10	Feb. 16 CWG
Natural Conditions/ Evaluation Results	Jan. 13 '10	Jan. 25, '10	Feb. 23 CWG			
Limiting Factors	Feb. 1	Feb. 12	Feb. 23 CWG			
Recreation Analysis	March 1	March 12	March 16 CWG	March 1	March 12	March 16 CWG
Mitigation Opportunities	March 1	March 12	March 16 CWG			
Ecosystem Services	March 1	March 12	March 16 CWG			
Livability Analysis (City)	March 1	March 12	March 16 CWG			
Integrated Summary	March 22		March 22			March 22 CWG
Draft Integrated Study Report	March 22		Draft to CWG March 22, '10			Draft to CWG March 22, '10
CWG Workshop		April 5-6			April 5-6	
Present to City Council		May'10			May'10	

Updated 1/05/10