AGREEMENT TO PROVIDE PROFESSIONAL DESIGN SERVICES TO HOMER SOIL AND WATER CONSERVATION DISTRICT

GIS-BASED SUITABILITY MAP AND DEVELOPER CERTIFICATION PROGRAM

APPENDIX A – WORK PLAN

Purpose:
Homer SWCD is securing this contract for the development of a Landscape Suitability Map and Developer Certification Program. The mission of Homer SWCD is to provide education and leadership in the conservation and sustainable use of soil- and water-related resources through cooperative programs that protect, restore, and improve our environment.

The project will require the Contractor to furnish all labor, materials, equipment, tools, and other facilities necessary to perform the desired services. The work includes, but is not limited to the following:

1. Creation of a GIS-based, landscape-level suitability map that will build upon the Homer wetlands plan to identify core conservation areas to be rated by land suitability concerns (including, but not limited to: slope failure, erosion, water quality degradation, septic system failure, water saturation potential, etc.) protection and recognize areas highly suitable for development; and
2. Create and launch a developer certification program built around the suitability map that trains and influences developers of any size project to incorporate landscape systems into their designs.
3. Manage the project website
4. Enhance the GIS-based, landscape-level suitability map to increase the level of knowledge of wildlife habitat patterns and associated values within the project area.

Tasks will be completed with the assistance by and in cooperation with a technical advisory committee composed of surveyors, developers, engineers, realtors, and ecologists.

Tasks/Timeline/Deliverables: At a minimum, the Contractor will accomplish the following tasks:

Task 1. Project Website

This task involves the development and management of the project website and communication protocols. The website should be created very early in the project to encourage public and collaborator interaction. We will work with the TAC and partners to establish a schedule and procedures for sharing information with the public and between project collaborators.

The Contractor will develop the site as a dynamic medium for both distributing and collecting information. Over the course of the project our team will generate content for the website.

The website should accommodate three levels of sharing:

- Public – Presentation and documentation of project information and products. Feedback mechanism for public comment
- Collaborator - Access by HTML or FTP to download and upload data and information
- Project Team – Working FTP storage and data exchange, password protected

Deliverables:

- Website graphics standards
- Project Statement of Purpose & Methods
- File structure for FTP sites
- Public information strategy and procedures
- Google Earth considerations
- Updating & posting procedures

Completion Date: *March 1, 2007 & ongoing*

Task 2. Data Collection

This task involves the collection and formatting of existing data into a coordinated master database designed for this project. As allowed by the budget, a limited number of new data sets may be created.

The Contractor will work with the TAC, public agencies and collaborators identified during start-up to locate and collect existing data sets applicable to the project. Data standards will be reviewed with HSWCD, the TAC and the City of Homer to coordinate with other platforms where the data may be used.

The Contractor will establish a project data format and documentation standards and begin adapting datasets. Missing or inadequate data sets will be identified, and we will work with collaborators to prioritize additional data collection within the project budget. Resolution and accuracy issues will also be addressed during this task to ensure applicability at the appropriate project scales. Limited ground-truth assessments may be needed, and we will develop methods for facilitating verification through collaborators and public outreach. Alternatively, a working project resolution will be established with procedures for later site-scale determinations during incentive certifications.

As data collection proceeds, the Contractor will refine the parameters needed to identify key landscape systems, and begin initial data analysis to help identify missing data or information.

Landscape definitions will be made available for ongoing review by the TAC and other collaborators through the project website and amended or revised as needed.

The Contractor will work with the project team to pursue additional partnerships and grants. The Contractor will place an emphasis on identifying and linking wildlife habitat data at an equivalent spatial scale to existing project data.

Additional data needs may include, but are not limited to:

- Storm sewer and urban drainage mapping
- Flooding and known trouble areas
- Actual property resale values and characterizations
- Lands currently under development restrictions and easements, including management, permanence, values
- Land-use and planning projections
- Transportation route traffic counts, LOS
- Residential & business population densities
- Wildlife corridors, habitat and counts
- Map of hard and soft regulatory controls

Products of Task 2

- Data standards document
- Collaborator outreach
- Verified and formatted data sets on CD
- Formatted datasets for ArcIMS Server
- Ongoing prioritized list of data desires

Completion Date: March 1, 2007 & ongoing

Task 3. Data Analysis Part 1—Initiating the GIS-Based Suitability Map

This task involves the creation of the primary analytical layers of the Suitability Map. The Contractor will generate the landscape systems mapping, identify value and 'developability' standards, and work out criteria for prioritizing developable lands and conservation lands. Initial maps will be created. Areas of intersecting land use priorities will be further analyzed in Task 4.

Mapping criteria will be carefully evaluated with the help of the TAC and collaborators; the basis for evaluations will be thoroughly documented. Coordinating with the City of Homer's work on sensitive areas and wetlands will help the results conform better to regulatory guidelines. Public input will also be considered.

Three primary maps will be created with from the base data by applying prioritized criteria developed for their determination:

- High priority open space systems
- High value developable lands
- Resulting areas of intersecting components.

An intermediate level of analysis will be needed to generate the base layers that will be used to determine open space and development suitability.

In addition to existing data layers, habitat definitions will be analyzed with other detailed landscape characterizations, providing an understanding of potential effects to habitat viability due to changes in underlying conditions caused by land development. The ecological relationships and the economic impacts to the public and region will be clearly established through documented methods.

Research and mapping will focus on well-recognized local species, such as migratory shorebirds, sandhill cranes, moose, and black and brown bear, to identify their recognized as well as less apparent habitats.

The open space mapping will depend on further definition and ranking of importance of hydrologic systems (watershed), connectivity and viability of habitats, pervious and impervious surfaces, trails and parklands, etc.

The developability mapping will be based on criteria developed by our team with the assistance of the TAC, Homer SWCD, and other community members as necessary. Value and 'developability' ratings will consider the typical costs of construction for specific property characteristics (soil, slope, location) and the value, substantiated by current appraised property values or various development paradigms that tend to occur in the property's location and/or zoning district.

The product of the initial analysis will be a complete, but dynamic, document.

Deliverables:

- Documentation of criteria
- List of references
- Landscape System Maps
- Value and 'Developability' Maps
- Prioritized Open Space Maps
- Prioritized Development Maps

Completion Date: September 15, 2007

Task 4: Data Analysis, Part 2

This task will involve the analysis of the areas of intersecting priorities. The purpose will be to resolve intersections through compromise, prioritization of one land use, or by defining development techniques that can accommodate multiple land uses. The goal will be the development of a number of idealized land-use scenarios that maximize both the economic and ecological values of these areas, and that reveal the development issues to be covered in the certification modules.

The goal of the project is to beneficially influence the development of these critical areas of human-landscape intersection through incentives and training in how to negotiate these intersections. Low-impact development (LID) and other land use practices will be examined for techniques that can be used to negotiate multiple land uses and functions. *A focus on successful LID techniques from Northern Climates will be emphasized.*

Research will look into the effects of interaction and adjacency on each land use, focusing on local and global economic factors that may become part of the incentives program. The Contractor will work with the TAC to develop standards for calculating costs and benefits of LID

techniques, and work with the City to determine community cost/benefit criteria for such things as stormwater management and 'lifestyle' factors. Collaborators such as the Kachemak Heritage Land Trust (KHLT), trails groups, and others will be invited to contribute information on their techniques for negotiating mutually beneficial land use agreements. Regulations administered by the City, the Army Corps of Engineers (COE), the Environmental Protection Agency (EPA) and others will be used to document hard and soft restrictions in the mapped areas.

To the extent allowed by data quality and the budget, the Contractor will explore methods of 'smart modeling,' by encoding relationships between intersecting and topologically connected map units in Model Builder. This will aid in identifying and quantifying beneficial local and global negotiations of land use intersections.

These relationships will be designed to enable the map to provide enhanced analytical feedback in three broad categories of human-landscape intersections and adjacencies:

- Local economic effects
- Global economic effects
- Effects on viability of landscape function

By encoding these relationships into the database it will be possible to more quickly generate a number of development/conservation scenarios, to respond to changing real-world conditions, and to quantify their local and global economic effects and remaining landscape function.

This information will be used to identify a selection of idealized land use scenarios and to identify the strategies and goals of the Certification/Incentives Program.

Products of Task 4

- List of contested landscapes
- Documentation of criteria
- Bibliography of reference material
- Open Space economic factors – local/global
- Intersections Map
- Idealized Suitability Mappings – goal set

Completion Date: September 15, 2007

Task 5: Incentives

This task will involve research on the application of incentives to influence development in the areas of intersection.

This will include application of our research on the economic benefits of collaboration between development and landscape systems (*passive incentives*), and research on ways to influence property development patterns by providing direct financial or procedural benefits (*active incentives*).

Passive incentives are economic benefits that can be realized by a property owner through design and construction techniques that respond to beneficial landscape systems. For the techniques to be accepted by land owners, it will be critical to be able to quantify the value and costs of these design considerations. Some of the benefits we will explore include:

- Reduction in construction cost
- Increased resale value
- Faster permitting process
- Lower insurance costs
- Tax benefits (easements)
- Grant availability

Qualitative information on potential benefits will be derived from the map and used to inform educational modules to teach property owners how to respond to their location. Quantitative information will also be documented and used with the map to estimate the potential global benefits of the idealized land use scenarios, or to refine the mapping for a balance between costs and benefits.

Active incentives are economic or procedural 'payments' to reimburse property owners for setting aside open space or easements, or for developing their property in ways that do not directly offset increased development costs or decreased developable area. These might include:

- Cash benefits or buyouts – grants, investment
- Tax benefits - special exceptions
- Fast-track or expedited permitting
- Zoning regulatory trade-offs
- Consultant support during LID project design
- Official certification that may offer increased resale value or loan benefits

Many incentive programs are actively used throughout the country. These will be researched and documented as they may apply to the Homer market. Researchers will coordinate with City commissions, developers and other agencies to generate new ideas or identify existing incentives and encouragements. The Contractor will also work with the City to allow for future ordinance language that may enhance the ability of the City to offer incentives.

An 'accounting' of available passive and active incentives will provide the 'budget' available to influence land use in contested areas. This 'budget' will be used to reassess the idealized land-use maps to reflect a realistic scenario within the limits of available resources, benefits and regulatory controls.

As public acceptance will be required for the success of an incentives program, the Contractor will strive to continue an active dialogue through the project website throughout this task.

Products of Task 5

- List of applicable LID techniques
- Map of potential passive economic benefits
- List of incentives and regulatory controls
- Net accounting of budget/economic effects
- Prioritized map of incentive 'spending'
- General criteria for qualification for incentives

Completion Date:
Preliminary List: October 30, 2007
Training Modules: March 30, 2008

Task 6: Certification Program

During this task we will review existing Low Impact Development programs and certification systems to determine relevance or adaptability to mapping results and incentive programs. We will develop a number of training modules and an initial project certification program to be used by agencies administering active incentives.

Development of a new comprehensive points-based certification is outside the scope of this project, and is unnecessary as many systems already exist that can be implemented. Due to many points-based systems having limited landscape-based credits, we will also explore performance-based systems to ensure the best fit.

Careful coordination and guidance from the Suitability Map will direct the creation of development-technique modules, which will require projects be locally appropriate and targeted to specifically mapped conditions (such as watershed and wetland preservation or habitat protection) to gain certification.

Procedures and methodologies for calculating active incentives and for certification will be coordinated with the potential implementing agencies to ensure ease of use and understanding. Attention will also be given to assuring applicability to various types of development (such as residential, commercial, industrial). We will work closely with the TAC and local construction professionals to adapt appropriate techniques for the Homer area.

Our team will also coordinate through our alliances with regional and national rating-certification systems, such as the Anchorage Sustainable Buildings Initiative, the Sustainable Sites Initiative and LEED-NC to exchange information on local and bioregional based credits and applicability.

Products of Task 6

- Training modules addressing selected development and planning techniques.
- Certification procedures manual
- Certification checklist for certifying agency
- Incentive integration and award guidelines
- Develop training program procedures
- Feedback to master suitability map

Completion Date: March 30, 2008

Task 7: Pilot Implementation Program

This task involves the testing through application of previous tasks in the development of a pilot training program. The pilot program will be limited to presentation of the suitability map and incentive concept, and the testing of training modules. Prior to the seminar, training modules and project presentation will be reviewed and revised during a workshop with the TAC.

Since certification would be site-specific, it will be most useful to conduct the pilot training with a group of contractors or developers who may influence a range of contested landscapes.

This process will include presentation of the suitability map and incentives concept to interested developers and contractors, as well as public outreach through the website and local media. The training modules developed for this project will be presented in a seminar format, and participants will be asked to provide feedback during the seminar as well as through an online questionnaire. Training materials and feedback forms will also be made available to the public through the website.

Though training modules are also associated with the certification program, the administration and oversight of a pilot certification is a long-term investment and is outside the scope of this project. At the time active incentives are implemented, a pilot project certification should be conducted.

Feedback from the participants of the pilot training and public comment will be reviewed and the curriculum and methodologies revised as needed.

Products of Task 7

- Suitability Map and certification and incentives program presentation material
- Training modules and curriculum
- Pilot project guidelines and evaluation criteria.
- Presentation & Training workshop
- Assistance with selection of possible pilot projects

Completion Date: August 15, 2008

Task 8: Project Administration and Outreach

Objective A. Coordinate all project work, designs, and efforts with the project's Technical Advisory Committee
Due: Throughout the project and during the eight, quarterly project meetings

The Homer District is organizing a technical advisory committee (TAC) to oversee the project and ensures its usefulness to the project. The successful contractor will be required to attend all quarterly meetings with the TAC, provide project updates, and receive and incorporate TAC feedback into the project.

Objective B. Present annually to the Kenai Wetlands Working Group
Due: Annually

A local group of managers and scientists (the Wetland Working Group) has been meeting since 1998 to develop a strategy to best understand and manage local wetland resources. Approximately 30 minutes per presentation to the group per year is expected.

Objective C. Present the project in coordination with the Homer District at the Alaska Forum on the Environment in the spring of 2008
Due: February 2008

This project is intended to provide a template to other Alaskan communities on how development can be done responsibly, with the proper information and incentives in the hands of the developers. A presentation at the Alaska Forum on the Environment to share the results of the project and future steps will be conducted during the 2008 Forum.

Objective D. Provide written, bi-monthly reports on project progress to the Homer District
Due: February 28, April 30, June 30, August 30, October 30, and December 30, 2007
February 28, April 30, and June 30, 2008

Description: Project reports will include progress on workplan tasks, key objectives or tasks completed during the time period, and any special requests to the Homer District or the Technical Advisory Committee.

Objective E. Provide a final wildlife habitat research report and project report to the Homer District
Due: August 15, 2008

Description: Two reports will be completed for the project. One, the final project report will include a summary of project objectives and tasks, methodology used to complete the project, future directions for work in the area, and additional components as designated by the TAC during the course of the project.

In addition, a final wildlife habitat research report, tailored for the Alaska Coastal Program funding, will be completed by August 15, 2008.

Task 8 products will include:
Three Power Point presentations on the project
Bimonthly reports
Final report