

October 15, 2009

Mr. Tom Ford, AICP
Chair, Grants Committee
Urban Design and Preservation Division
American Planning Association

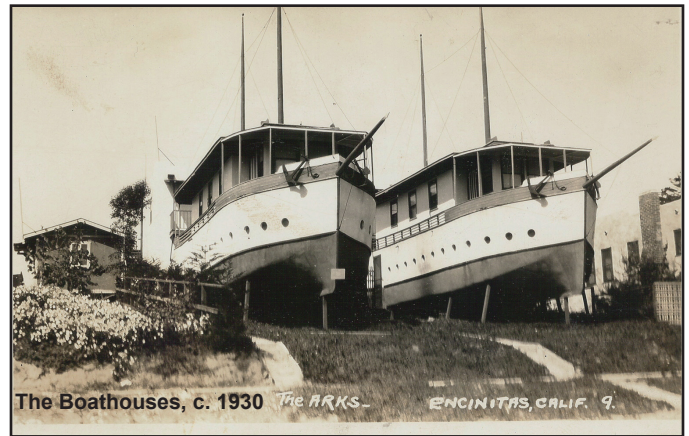
The Office of Tom Ford
729 Heinz Avenue, Suite 7
Berkeley, California 94710

Subject: APA Urban Design and Preservation Division's Grant Program

Dear Mr. Ford:

I am pleased to submit this proposal for the APA Urban Design and Preservation Division's grant program. This project proposes using high-definition laser scanning (LiDAR) to produce as-built drawings of the Boathouses in Encinitas, California. I am confident that this project can serve as a demonstration of an innovative technology of interest to Division Members, and that it will also promote the importance of preservation as an act of urban design.

Furthermore, this project will support an on-going effort to preserve the historic Boathouses. Rather than boats that function as houses ("house boats"), or buildings that store boats ("boat houses"), the Boathouses are authentic architectural representations of boats. However, no architectural drawings of the Boathouses were required when the Boathouses were built; and, given their irregular shape, measurements that have been taken after their completion are approximate at best. LiDAR technology is ideal for measurement of the Boathouses since it uses high-speed pulsed laser light to collect massive numbers of data points from signals reflected off of surfaces and, therefore, can easily and accurately measure the Boathouses.



The data collected from the LiDAR scan would be used to produce as-built drawings that will support the nomination of the Boathouses to the National Register of Historic Places. I have recently completed my Professional Report (i.e. thesis), which documented the history of the Boathouses and identified their historic characteristics. The Professional Report was completed as part of the requirements to receive my Master's of Urban and Regional Planning degree from the University of California, Irvine, and I am currently working to complete a draft Registration Form that will be used to formally nominate the Boathouses to the National Register of Historic Places.

While I will be serving as project coordinator, the project will be carried-out under the supervision of Larry Truman, PLS, Vice President of Surveying Geomatics at RBF Consulting. I acknowledge the obligations of the grant award and would enthusiastically present a summary of the process and outcome to other planning professionals and the general public. If you have any questions regarding the grant proposal or the Boathouses please contact me by email at mgelbman@rbf.com or at (949) 330-4158.

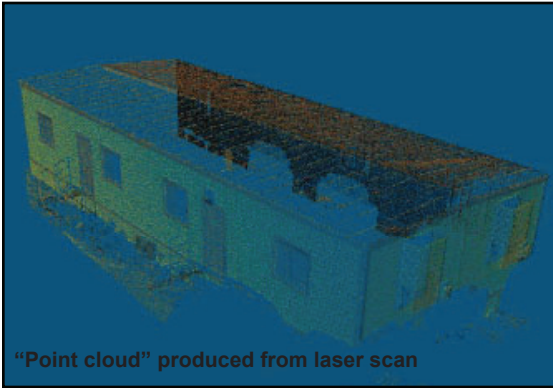
Sincerely,

Matthew Gelbman
Community Planner
RBF Consulting's Urban Design Studio

PROJECT DESCRIPTION

This project proposes using high-definition laser scanning using terrestrial Light Detection and Ranging (LiDAR) technology to collect spatial data (x, y, z coordinates) that depict accurate existing conditions of the Boathouses. The data will be cleaned and compiled to produce a model representing the buildings, and to produce two-dimensional (2D) as-built drawings of the exterior of both of the Boathouses. With further refinement of the data collected from the scan, a three-dimensional (3D) digital model could potentially be produced in the future. Project work will include the following tasks:

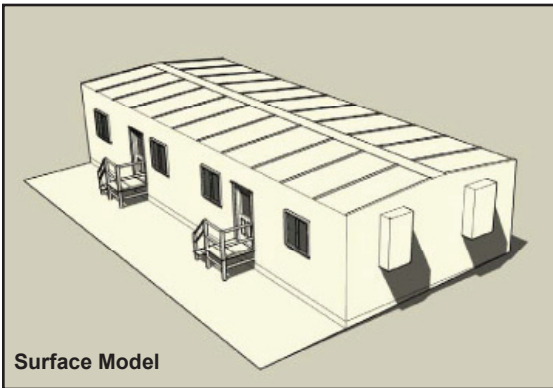
TASK 1 - HIGH-DEFINITION LASER SCANNING



"Point cloud" produced from laser scan

Terrestrial LiDAR scanning uses high-speed pulsed laser light to collect massive numbers of data points from signals reflected off of surface features. When processed, each of the millions of data points includes north, east and elevation coordinates (x,y,z values), and reflection intensity. The resulting "point cloud" data appears similar to a black and white photograph, with the added value that each of the image points is represented in its true horizontal and vertical position and will accurately reflect the Boathouses. The 3D point cloud data is typically accurate to within +/- 3mm.

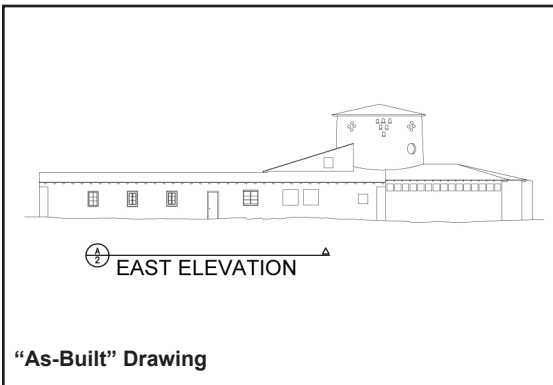
TASK 2 - CAD MODELING



Surface Model

Collected point cloud data will be edited and modeled using computer aided design (CAD) software to develop surfaces representing the exterior building shell, fenestration, and architectural features. Outlying data points recorded during the scan (i.e., noise) and miscellaneous objects near the buildings that are recorded (i.e., artifacts) will be removed. After the data is cleaned and only those points that represent the buildings remain, a digital model will be developed.

TASK 3 - PRODUCE AS-BUILT DRAWINGS



"As-Built" Drawing

The finished model of existing conditions will be provided in raw and modeled formats. To-scale elevations of the buildings' exterior ("as-built drawings") will be produced as two-dimensional (2D) line drawings extracted from the digital model and formatted in National Park Service CAD standards. The as-built drawings will be used as part of the application to formally nominate the Boathouses to the National Register of Historic Places. The as-built drawings will also be provided to the Encinitas Preservation Association for use on their website, and for inclusion in presentations about the Boathouses to the Encinitas City Council and the California State Historic Resource Commission (which will make a formal recommendation concerning the eligibility of the Boathouses for the National Register).

BUDGET AND TIMELINE

RBF Consulting will provide donate time and resources required to complete Task 1 and is seeking funding for Tasks 2 and 3 through this grant. This process is not to exceed a six-month time frame, beginning upon notification grant award and execution of contract with the Division.

TASK 1 - High-Definition Laser Scanning (Pro-bono).....	\$	0
TASK 2 - Three-Dimensional CADD Modeling.....	\$	3,000
TASK 3 - Produce As-built Drawings.....	\$	1,000
TOTAL VALUE OF SERVICES:.....	\$	4,000

The Encinitas Preservation Association
818 S.Coast Hwy 101
Encinitas, Ca 92024

Mr. Tom Ford, AICP
Chair, Grants Committee
Urban Design and Preservation Division
American Planning Association

Re: Letter in support of Matthew Gelbman, Community Planner, RBF Consulting Grant Application. APA Urban Design and Preservation Division's Grant Program.

Dear Mr. Ford,

The Encinitas Preservation Association purchased the Encinitas Boathouses for the benefit of all citizens and to be held in the public trust of preservation forever. The acquisition of the \$1.55 million Encinitas Boathouses was a year-long journey. The partnering of two great organizations, Downtown Encinitas Main Street Association (DEMA) and the Encinitas Historical Society, including dedicated members of the Encinitas community at large, has culminated in one of the most imaginative, creative and important preservation accomplishments in the State of California.

We believe that each and every citizen today and in the future, will benefit by the retention and preservation of this irreplaceable, National landmark.

In our extensive preparation to nominate the Encinitas Boathouses to the National Register of Historic Places, (the Encinitas Boathouses were deemed eligible in a prior architectural resources report included in the adoption of the Downtown Encinitas Specific Plan) the complexities of providing required architectural drawings have emerged. As mentioned often these boats are unique and were built in a period of frontier construction predating the requirements of permitting, with no architectural plans. They were also built in a non traditional manner and are not easily drawn with traditional tools available today.

We are extremely hopeful that this grant proposal will result in the ability to use LiDAR to map the boathouses and produce 2d and 3d drawings of the structures for our use in the nomination process, and the greater process of Historic Preservation education and preservation of these important structures. Thank you for your review of this application.

Regards.

Paul Ecke III



President
Encinitas Preservation Association.

Matthew Gelbman

Community Planner

As a Community Planner, Mr. Gelbman is involved with a variety of projects for the Urban Design Studio team, and concentrates on urban design, graphics, and Geographic Information Systems (GIS). Prior to joining RBF, Mr. Gelbman was a staff member of the Downtown Encinitas MainStreet Association (DEMA), where he gained nonprofit sector experience in downtown revitalization. In this role, Mr. Gelbman spearheaded efforts to initiate changes to the zoning code. He also worked closely with stakeholders to administer a parking study, and supported on-going promotional efforts and event planning in the downtown.

Mr. Gelbman received his Master's of Urban and Regional Planning from the University of California, Irvine, where he completed a capstone project that resulted in the nomination of a historic property to the National Register of Historic Places. Mr. Gelbman is committed to connecting people to the places around them through urban design and participatory planning processes.

RELEVANT EXPERIENCE:

Lancaster Neighborhood Vision Plans (Lancaster, CA) 2008/Ongoing - Community Planner and Urban Designer. RBF/UDS is preparing plans for several neighborhoods in Lancaster that serve as a framework for neighborhood enhancements, reflect a vision for the future as well as community goals. Each vision plan serves as a guide for creating community identity and enhancing the function of the neighborhoods. Mr. Gelbman has been involved in the preparation of maps that illustrate opportunities for physical improvements and the conception of redevelopment strategies to support the vision plans.

Town Center Specific Plan (Stanton, CA) 2009 - Community Planner. RBF/UDS is preparing a specific plan to promote development of quality mixed use and infill projects around an Orange County Transportation Authority (OCTA) owned parcel. Mr. Gelbman has assisted in the creation of a form-based code for the specific plan, data collection and analysis, and producing maps.

Perris Downtown Specific Plan (Perris, CA) 2009 - Community Planner and Urban Designer. RBF/UDS is preparing a specific plan for downtown Perris that involves, developing a community-based vision and preparation of a form-based regulating code for downtown Perris. Mr. Gelbman supported the development of the form-based code, including the production of the regulating plan. He also assisted in the facilitation of a two day Community Immersion, assisted with data collection and analysis, produced maps, and prepared graphic-rich design guidelines.

Years of Experience: 2

Education:

Master's of Urban and Regional Planning, 2009, University of California, Irvine

B.S., 2006, Sociology with Minor in Economics, Boston University

Professional Affiliations:

Vice-Director of Public Information, Orange Section of the California Chapter of the American Planning Association

Founding Member, Encinitas Preservation Foundation

Member, American Planning Association (APA)

Member, Urban Design and Preservation Division, American Planning Association

Lawrence L. Truman, PLS

Vice President, Surveying Geomatics

Mr. Truman joined RBF as Vice President of Survey Geomatics in the Mapping Department of the firm's Irvine office. He is a proven leader, innovator, and project manager. Prior to joining RBF, Mr. Truman was the US West Practice Leader for Survey Geomatics with a North American AEC firm. His responsibilities included managing large complex surveying projects, creating innovative solutions by building teams of experts from multiple office locations to solve clients' needs. Mr. Truman is one of the founding members of the California Foundation for Land Surveying Education (CFLSE). The CFLSE was instrumental in starting the Land Surveying Bachelor of Science Degree program at California State Polytechnic University, Pomona. He is a former president of the Orange County Chapter of California Land Surveyors Association and is currently a board member of the Riverside/San Bernardino Chapter of the American Council of Engineering Companies.

RELEVANT EXPERIENCE:

3D Laser Scanning (LiDAR)

BP Solar International - Mr. Truman was the Project Manager for laser scanning, topographic maps, and 3D data for sun analysis of large box commercial buildings for design and construction of solar panels.

San Diego Association of Governments (SANDAG) - Prior to joining RBF, Mr. Truman was the Project Manager for the laser scanning and modeling of three commercial areas in San Diego County. The 3D scans were used as the basis for imaging the commercial sites and presentations to the property stake holders.

Tri-Tec Engineering (Kent WA) - Prior to joining RBF, Mr. Truman was the Project Manager for the laser scanning and as-built architectural drawing of a 20,000 sq ft two story manufacturing and office facility.

Bank of Oklahoma Center (Tulsa, OK) - Prior to joining RBF, Mr. Truman was the Project Manager for the 3D laser scanning of the new downtown Tulsa Arena. The scans were done during construction to ensure that the skin of the building was properly aligned.

Southern Nevada Water Agency (Las Vegas, NV) - Prior to joining RBF, Mr. Truman was the Project Manager for the 3D laser scanning of the existing pumps at the Lake Mead Pump Station 2. The scans were used to compare the existing pumps to the new pumps to ensure there proper alignment before they were installed.

City of Tucson, AZ - Prior to joining RBF, Mr. Truman was the Project Manager for the 3D laser scanning of downtown Tucson streets for a future light rail project. Topographic maps were produced from building fronts to building fronts of the route of the light rail for design purposes. Several historical buildings were also scanned and modeled for preservation and restoration.

Registration:

Professional Land Surveyor, CA,
5346

Registered Land Surveyor, NV,
8279

Years of Experience: 31

Education:

Certificate GIS Management,
University of California,
Riverside, Riverside,
California, 2007

Advanced BLM Cadastral
Workshop, US Department
of the Interior, Bureau of
Land Management,
Riverside, California, 1998

Certificate Engineering
Management, University of
California, Irvine, Irvine,
California, 1985

Surveying Technology, Santa
Ana Community College,
Santa Ana, California, 1978

Certified Survey Party Chief,
IUOE (International Union of
Operating Engineers) Local
12, Pasadena, California,
1974

Professional Affiliations:

Treasurer, Consulting Engineers
and Land Surveyors of
California

Member, American Society of
Civil Engineers

Member, California Land
Surveyors Association

Award:

CELSOC Engineering Excellence
Merit Award, 2006, Yosemite
National Park, Curry Village
Topographic and GIS
Mapping

