

Rotch Travelling Scholarship

2011 PRELIMINARY COMPETITION



“Man on a bicycle can go three or four times faster than the pedestrian, but uses five times less energy in the process. He carries one gram of his weight over a kilometer of flat road at an expense of only 0.15 calories. The bicycle is the perfect transducer to match man’s metabolic energy to the impedance of locomotion. Equipped with this tool, man outstrips the efficiency of not only all machines but all other animals as well.”

—Ivan Illich, “Energy and Equity,” *Towards a History of Needs* (New York: Pantheon, 1978)

AN URBAN BICYCLE STATION IN DOWNTOWN BOSTON

Bike-sharing programs have become fixtures of progressive cities like Paris, Barcelona, and Montreal. Long in the planning phase, Boston expects to implement a similar system this year, with the hopes of establishing a more bike-friendly city for those who wish to ride in its urban core.

But what of those commuters who wish to commute by bike from the metropolitan surrounds into the city’s center? Boston has completed more than thirty miles of new bike lanes and fifteen hundred bicycle parking spots throughout the city limits. These efforts have led to an upsurge in bicycle commuting, which in 2009 reached 2.11 percent of the city’s commuters (representing a 36 percent increase over 2008 and compared to a paltry 0.55 percent

nationally). This statistic places Boston tenth among the nation’s seventy largest cities in bicycle commuters.

Even with these promising numbers, downtown offices in Boston rarely accommodate secured and sheltered bicycle parking and almost never provide facilities for workers to change, shower, and stow their commuting accessories. “Bike pollution” has become a persistent problem, with bikes locked to parking meters, fences, trees—anything static that a lock can fit around. While zoning in many cities now requires bicycle parking facilities as part of new construction, Boston’s downtown is largely built and therefore will not see the benefits of such policies. As a consequence, new freestanding facilities will be necessary to continue the city’s

ridership growth, particularly enclosed facilities where commuters can reliably leave bikes during the workday in close proximity to their offices.

Several cities and private companies have begun responding to the urgent need for bicycle parking in urban downtown settings. Vast bicycle parking structures in the Netherlands—often with thousands of parking spots—initiated the trend. Japan has emerged as a technological leader with automated structures that provide a wide range of amenities to commuters. In the United States, facilities have recently opened in Washington and Chicago to support the ecological agendas of city planners and advocacy groups. Such investments in bicycle commuting can lead to a significant ecological impact. The average

PROGRAM REQUIREMENTS

bike commuter's energy consumption is equal to 912 miles per gallon of fuel, compared to 46 miles per gallon in even the latest generation of hybrid cars.

The future of urban transportation, public health, and environmental stewardship requires cities to encourage their populations to shift to alternative modes of transportation, with the bicycle offering a leading option. This year's preliminary Rotch competition challenges each candidate to address these urgent needs through the design of an urban bicycle station near Post Office Square in downtown Boston. Some of the issues to consider are:

- Links between sustainability, transportation, and a healthy lifestyle.
- The relationship between infrastructure, civic space, and public life.
- Movement, speed, cycling, and the urban experience.
- Bike culture, the desire to celebrate cycling, and the bike itself as an elegant and efficient machine.
- Public and private partnerships in the financing of civic amenities and the creation of public space.
- The relationship between a fixed site and a prototypical structure.

IMAGES ON PREVIOUS PAGE

1. Urban space required to transport a set number of people by car, bus, and bicycle respectively.
2. The Earth Cycle by Seven Cycles of Watertown, Massachusetts.

The program envisions a major symbolic center for biking in Boston—combining storage, service elements, and public amenities with the reconsideration of the public realm. Proposals should create a multidimensional urban environment, layered with activity and enriched by landscape elements. The material, experiential, and formal qualities of each intervention should reflect the larger initiative to deepen the sense of bicycle culture in Boston. The program may be organized into a

single building or a series of structures. Consider the nature of rolling through space (as opposed to walking) in the development of sequences, circulation patterns, and public environments. Designs are encouraged to celebrate bicycle culture through the display of stored bikes.

Please note that all square footages are approximate. The facility must be accessible according to ADA standards and provide easy movement of bicycles using ramps and/or an elevator.

SECURE STORAGE FOR 250 BIKES, PROTECTED FROM WEATHER 2,000 – 2,500 SQUARE FEET

Use ten square feet per bike as a minimum rule of thumb provided by Boston's bicycling director. Cambridge suggests fifteen square feet per bicycle (see link to follow). The number of spots per square foot can be doubled if two layers of bikes are used at each floor. Layering bikes requires the more generous proportions of the Cambridge configuration (thus two bikes per every fifteen square feet is possible, but not two per ten square feet). Provide ten larger spaces that can accommodate wheelchair cycles and/or tandem configurations. This entire portion of the building must be covered and secured. If desired, this portion of the building may be fully enclosed. This area must be secured by a card-key with an entrance that is monitored by the bike shop.

SHOWERS, CHANGING AREAS, LOCKERS, RESTROOMS 600 SQUARE FEET

This area must be secured by a card-key with an entrance that is monitored by the bike shop.

BIKE WASH AND AIR SUPPLY STATION 100 SQUARE FEET

This area may be open to the public or part of the card-key zone.

SMALL BIKE SHOP, REPAIR WORKSPACE, AND RENTAL STAND 700 SQUARE FEET

This area must be publicly accessible from the ground level.

BIKE-SHARE STATION FOR 30 BIKES WITH 50 TOTAL BIKE SLOTS 700 SQUARE FEET

Dimensions are thirty feet by eight feet for each module of ten bikes (with seventeen bike slots). This area must be open to the public and directly accessible from the ground level. This program should be open-air.

CAFÉ WITH INDOOR AND OUTDOOR SEATING 600 SQUARE FEET INSIDE (OUTSIDE SEATING AS DESIRED)

This facility must be publicly accessible. Rents from the café will be used to support ongoing maintenance for the facility.

PROJECT SITE

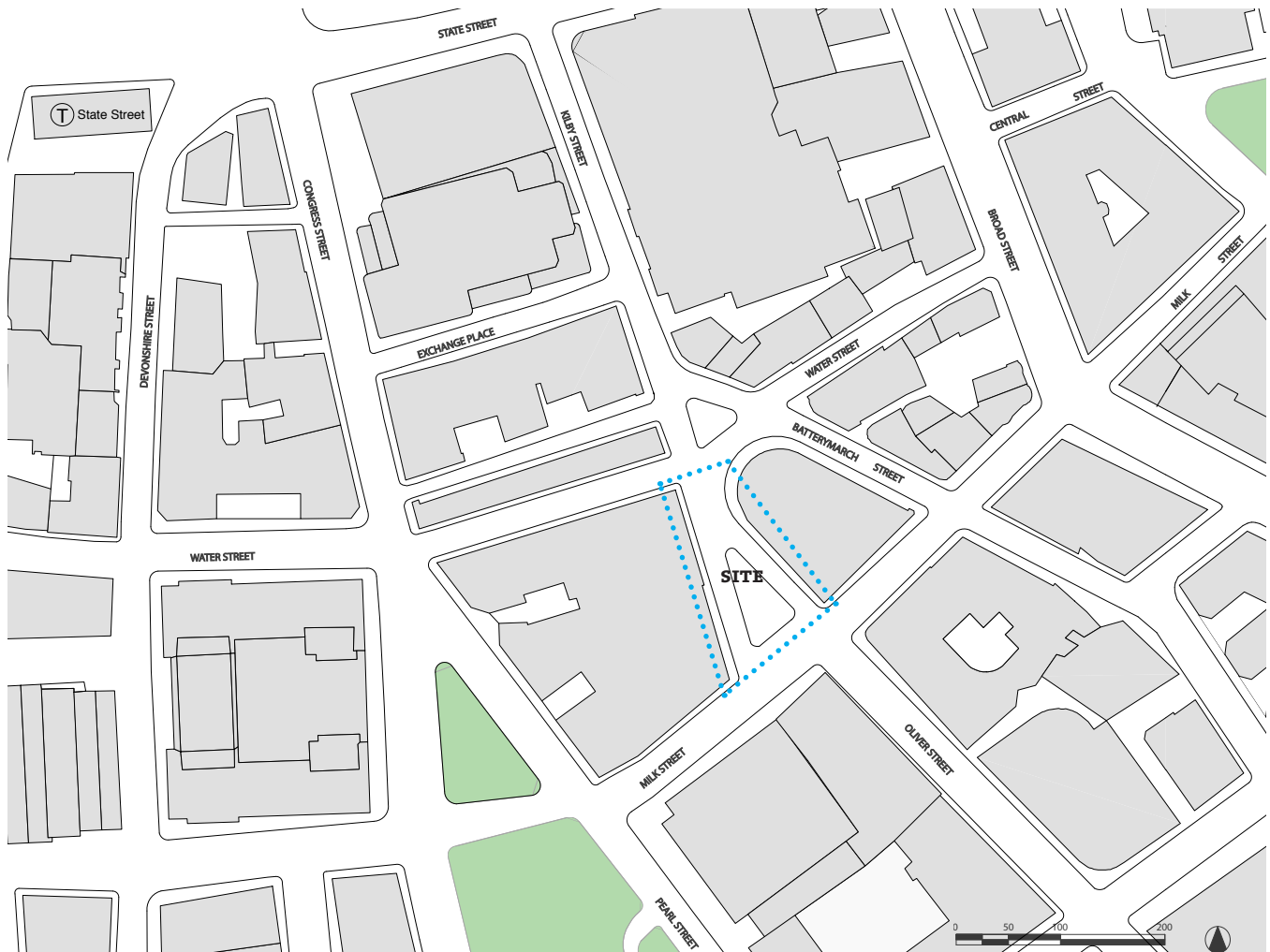
As the first in what is expected to be a series of such facilities, each candidate's design should address modular possibilities for the storage and display of bikes in an urban setting. At the same time, the proposal should reflect the specific urban setting at the intersection of Milk and Kilby Streets. The site is one block from Post Office Square and three blocks from the Orange Line transit stop at the Old State House. Centrally placed in Boston's financial district, the project will be funded through partnerships with neighboring companies contributing funds for the development of this underutilized traffic island.

Proposals are encouraged to shape the entire public space surrounding the existing traffic island. In seeking an integrated architectural and urban solution, projects may reroute traffic as necessary to create a public realm and

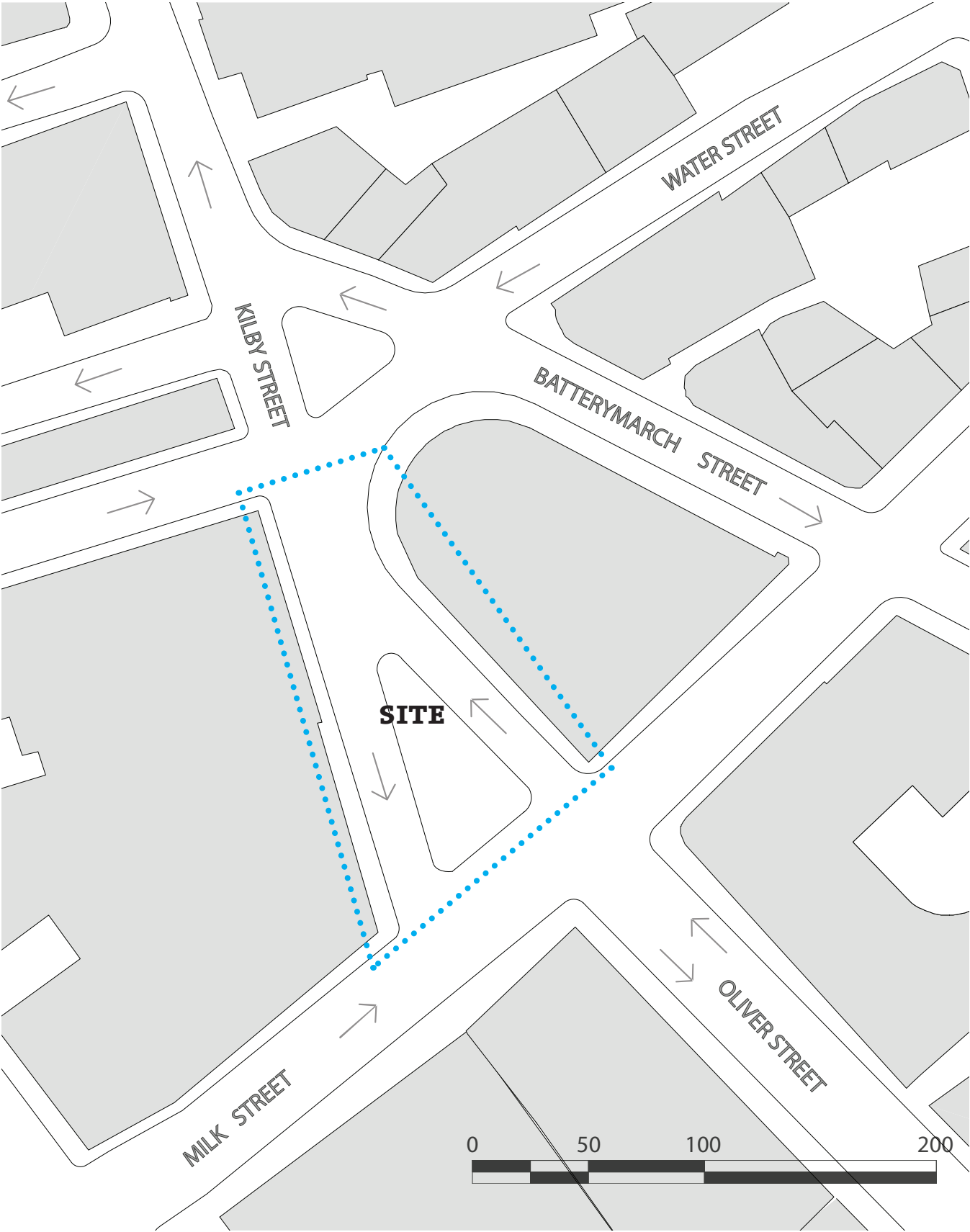
bicycle facility that work in tandem with one another. At least one lane of automotive traffic must still be routed through the site (starting from Oliver Street and running northward). This lane may take a different form than a typical street, such as the Dutch concept of a woonerf, where pedestrians and cyclists have priority over cars. On-street parking may be eliminated where necessary, although the city prefers to retain as many spots as possible.

For purposes of this project, it is not necessary to consider zoning regulations. Existing windows and facades that surround the site may not be modified. Proposals must maintain at least twenty feet of clearance from all existing buildings. Facilities may include up to one full story below grade (for the purposes of this competition, assume utilities can be accommodated in the

twenty foot clearance zones around the edges of the site). Within the larger site, designers have freedom to develop multi-story structures, public spaces, and landscapes as needed to encourage an animated public realm shared by bikers, drivers, and pedestrians.



SITE PLAN



SITE PHOTOS



VIEW FROM OLIVER STREET



VIEW FROM SOUTH



VIEW FROM MILK STREET



VIEW FROM WATER STREET

SITE INFORMATION

The following information is available for download: site photos, a site plan and traffic plan (in AI and PDF formats), and bicycling imagery from the City of Boston and local bike manufacturers (suitable for easy bike entourage). Please refer to the invitation email from Sarah Nastasia for instructions on where to access the zipped folders of these files.

- SitePhotos.zip
- SiteInformation.zip
- Images-CityOfBoston.zip
- Images-GeekhouseBikes.zip
- Images-SevenCycles.zip

RESOURCES

For digital maps and base models of the site and Boston, see the following sources:
www.mapjunction.com/bra
www.bostonredevelopmentauthority.org/pdf/maps/southstation.pdf
www.googleearth.com
www.bostonredevelopmentauthority.org/BRA_3D_Models/Index.html
(For 2D: CAD layers can be found under building footprints, streets, and city blocks)

RESEARCH REFERENCES

Information on the Boston Bikes program and an interview with the director:
www.cityofboston.gov/bikes
www.inhabitat.com/2010/02/10/video-boston-bike-czar-nicole-freedman-talks-bike-share-urban-cycling/

Summary of Boston's various bicycle-related programs (from 2009):
www.massbike.org/2009/12/14/boston-reports-progress-for-bikes/

Boston Globe on the Boston Bike Share program:
www.boston.com/news/local/massachusetts/articles/2010/07/09/bike_sharing_in_boston_gets_3m_federal_grant/

Cambridge, Massachusetts bike parking zoning information and recommended dimensions for non-automated parking:
www.cambridgema.gov/cdd/et/bike/bike_pkng_brochure.pdf

Information on national bike commuter trends:
www.bikeleague.org/resources/reports/pdfs/acs_commuting_trends.pdf
www.bikeleague.org/resources/reports/pdfs/2009_bike_small.pdf

Comparison of transit methods and fuel consumption:
<http://awesome.good.is/transparency/web/transo209gettingaroundrev.html>

Slate article on bike parking:
<http://www.slate.com/id/2225511/>

Good Magazine article on the best biking cities:
www.good.is/post/sorry-portland/

New York Times "Room for Debate" articles on New York's bike lane controversy:
www.nytimes.com/roomfordebate/2010/12/21/are-new-yorks-bike-lanes-working

BICYCLES BY LOCAL MANUFACTURERS



IMAGES OF SEVEN CYCLES AND GEEKHOUSE BIKES AVAILABLE FOR DOWNLOAD

EVALUATION CRITERIA

Submissions will be evaluated by the jury according to the following criteria:

CULTURE

Celebration of bicycle culture as a positive force for the environment, personal health, and the city's quality of life; celebration of the bicycle as a well designed machine.

URBANISM

Development of an imaginative public realm; integration of cycling, pedestrian, automobile, and public activity.

ARCHITECTURE

Sophisticated handling of program, from functional concerns to the poetics of experience; demonstrated thinking related to tectonic expression and architectural image.

REPRESENTATION

Evidence of the ability to communicate ideas visually; production of high quality work including diagrams, orthographic drawings, three-dimensional renderings, and graphic layouts.

REQUIREMENTS

Submissions should include two 24" x 36" vertical format boards featuring the following drawings, each of which should contain a graphic scale and a north arrow (where appropriate). Orient plans with north pointing generally upward on the board.

- Written explanation of design intentions (200 words maximum, brevity is encouraged, short descriptive captions may be used on drawings in addition to the main text).
- Site/urban context plan including the ground floor plan of your proposal, major public space design elements, and the surrounding urban blocks (1/32-inch scale).
- Ground-floor plan showing building proposals, all public space design elements (street furnishings, paving, landscape, etc.), and the outline of the existing buildings framing the urban space (1/8-inch scale).
- Additional floor plans and sections (1/16- or 1/8-inch scale) as necessary to explain the proposal.
- Diagrams: circulation (building/urban), public space/urban strategies, program configuration.
- At least two exterior renderings from eye level illustrating your proposed interventions and the major design elements of the public space. Where appropriate, show the existing context and projected activities.
- At least one interior perspective showing the way bikes are integrated into the architectural environment.
- Any other documentation that supports the proposal (for instance, photographs of physical models if used).

Boards must lay flat, nothing may project or be mounted to them beyond the thickness of a sheet of paper. The Rotch reserves the right to use any submitted material in publications or on websites.

HOW TO SUBMIT

To follow are the step-by-step instructions on submitting your proposal:

1. GRAPHIC SYMBOL

To ensure anonymity, each competitor must choose an abstract graphic symbol and place it:

- On the face of both printed boards.
- On the statement of sole authorship with the name of the competitor clearly printed, which must be placed in a sealed envelope and fastened to the back of one board.
- On the face of the sealed envelope mentioned above and securely fastened to the back of one board.

2. ELECTRONIC SUBMISSIONS

Email a digital copy of your boards no larger than 11" x 17" in PDF format or as two low-resolution 72 dpi JPEGs.

**Due by 10:00 am on Monday,
January 31, 2011 (your local time) to
snastasia@architects.org**

Attachments/boards may be submitted in more than one email, but each email must be smaller than 15MB. You are welcome to use FTP services such as:
www.yousendit.com
www.sendspace.com
www.dropsend.com

3. BOARD SUBMISSIONS

The submitted boards must EXACTLY match digital submissions. Absolutely no edits will be permitted. Any projects with edited boards will be disqualified.

**Due by 4:00 pm on Thursday,
February 3, 2011.**

Ship or drop off to:
The Rotch Scholarship
c/o Boston Society of Architects
Fourth Floor
52 Broad Street
Boston, MA 02109

NOTE TO COMPETITORS

The statement of sole authorship must be placed in the sealed envelope that is attached to the back of one of your boards. Your symbol must appear on the envelope and the face of your submission boards.

STATEMENT OF SOLE AUTHORSHIP

I hereby assure the Rotch Committee that I am the sole author of my submission for the 2011 Rotch Competition. I have not received criticism, suggestions, or help of any sort other than through the use of books and other published literature.

SIGNED _____

PRINT NAME _____

SYMBOL: