March 14, 2012

MEMORANDUM FOR ANTHONY V. CUGINI
DIRECTOR, NATIONAL ENERGY TECHNOLOGY LABORATORY

FROM: RICHARD A. HARGIS, JR.
DIRECTOR, ENVIRONMENTAL COMPLIANCE DIVISION

SUBJECT: Finding of No Significant Impact and Final Environmental Assessment for the Boston Architectural College's Urban Sustainability Initiative for the Renovation of Public Alley #444, Boston, Massachusetts (DOE/EA 1885)

The National Energy Technology Laboratory (NETL) has completed its environmental review for the Boston Architectural College's (BAC) Urban Sustainability Initiative for the Renovation of Public Alley #444. The environmental assessment (EA) was prepared in accordance with the Council on Environmental Quality's *National Environmental Policy Act of 1969* (NEPA) regulations (40 CFR Parts 1500 to 1508) and the Department of Energy (DOE) implementing regulations (10 CFR Part 1021) to analyze the potential environmental impacts of providing cost-shared funding based on an FY2010 Congressional earmark.

DOE's proposed action is to provide $1.6 million in financial assistance, pursuant to a Congressional earmark, to BAC for the design, construction and implementation of the Urban Sustainability Initiative, including the Geothermal Solution, Green Alley II, and Sustainability Design Curriculum.

The BAC Urban Sustainability Initiative is a multi-part project with several important objectives to implement energy saving renovations and sustainable technologies while creating jobs. The scope of the project includes the Phase II Green Alley, Geothermal Solution, and Sustainability Design Curriculum. Under the assistance agreement, BAC would install 13 to 15 open loop geothermal wells to provide heating and cooling energy to the BAC's facilities; the installation of a green screen trellis system, planting soils, concrete pavement, pavers, and landscaping; and mechanical upgrades (plumbing and electrical) to accommodate the geothermal solution into the benefiting facilities. The key project objectives are to develop green alley projects, implement energy saving renovations to the BAC physical plant, and to teach ecological and sustainable technologies to students and the general public while creating jobs. The total cost of the project is estimated to be approximately $3.7 million.

The draft EA was distributed on December 12, 2010, with a 30-day public comment period as part of the NEPA process. Public notices announcing the availability of the draft EA were placed in *The Boston Globe* and the *Boston Herald* on December 11, 12, and 13, 2011. The draft EA was available at the Boston Public Library. DOE received comments from utility providers (RCN, National Grid, and Verizon) and the Massachusetts Historical Commission (MHC). No

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comments from the public were received. Copies of agency correspondence and comments on the draft EA are included in Appendix B of the final EA.

The EA analyzed potential environmental impacts of providing financial assistance to BAC for its proposed project. The resource areas that DOE evaluated in detail include air quality, noise, aesthetics and visual resources, groundwater and surface water, geology and soils, biological resources, cultural and historic resources, traffic, and socioeconomics. For these areas, DOE determined there would be negligible to moderate impacts. In consultation with MHC, DOE made a determination of conditional "no adverse effect" to historic properties.

Based on the analysis in the EA, DOE determined that its proposed action would result in no significant impact on the human environment. This determination is documented in the attached Finding of No Significant Impact (FONSI) and supported by the final EA, also attached. The FONSI requires BAC to comply with mitigation conditions to avoid adverse effects to historic properties.

NETL's Environmental Compliance Division concluded that preparation of an environmental impact statement is not required and recommends that you issue the attached FONSI for DOE's proposed action and BAC's proposed project.

Recommendation: That you sign the attached FONSI.

Attachments

Email cc:
S. Klara
B. Tomer
R. Detwiler
C. Zeh
S. Sung – Golden Office
F. Pozzuto
Orignal to NEPA File (451.1)

FINDING OF NO SIGNIFICANT IMPACT
FOR THE
BOSTON ARCHITECTURAL COLLEGE'S (BAC) URBAN SUSTAINABILITY INITIATIVE FOR THE RENOVATION OF PUBLIC ALLEY #444, BOSTON, MASSACHUSETTS

RESPONSIBLE AGENCY: U.S. Department of Energy (DOE)

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: DOE completed the *Final Environmental Assessment for the Boston Architectural College's Urban Sustainability Initiative for the Renovation of Public Alley #444, Boston, Massachusetts* (DOE/EA-1885). Based on the analysis in the environmental assessment (EA), DOE determined that its proposed action of providing financial assistance to the BAC for its proposed project would not result in any significant adverse impacts. BAC's proposed project would include the installation of 13 to 15 open loop geothermal wells to provide heating and cooling energy to BAC's facilities; the installation of green screen trellis system, planting soils, concrete pavement, pavers, and landscaping; and mechanical upgrades (plumbing and electrical) to accommodate the geothermal solution into the benefiting facilities. DOE further determined that BAC's proposed project would provide long-term energy related cost savings, reduce storm water runoff, and generate power through alternative energy sources, while greatly reducing BAC's carbon footprint.

BACKGROUND: The Fiscal Year 2010 Appropriations Act for Energy and Water Development and Related Agencies (Public Law 111-85) included a $1.6 million earmark sponsored by Congressman Capuano for the BAC's Urban Sustainability Initiative. The Congressionally Directed Energy Efficiency and Renewable Energy Projects in the joint explanatory statement can be found in the accompanying conference report on this Act. In accordance with the legislation, DOE was to provide financial assistance to BAC to support its design, construction and implementation of the Urban Sustainability Initiative, including the Geothermal Solution and Green Alley II. Under a cost-sharing agreement, DOE would provide $1.6 million (approximately 43 percent of the total project cost) and BAC would contribute about $2.1 million. This project promotes the goals of the DOE's Building Technology Program (BTP) by demonstrating and promoting the benefits of energy efficiency and renewable energy technologies. The mission of the BTP is to develop technologies, techniques, and tools for making buildings more energy efficient, productive, and affordable.

The federal action of providing funding for this project requires compliance with the *National Environmental Policy Act of 1969 (NEPA)*, as amended (NEPA; 42 U.S.C. 4321 et seq.), Council on Environmental Quality regulations (40 CFR Parts 1500 to 1508), and DOE NEPA implementing procedures (10 CFR 1021). DOE prepared an EA to evaluate the potential environmental consequences of its proposed action and this proposed project.

PURPOSE AND NEED: The purpose and need for DOE's action is to comply with the direction in the Fiscal Year 2010 Appropriations Act. Furthermore, DOE has determined that the project would have positive impacts on the surrounding neighborhood and achieve several

important goals including: (1) energy conservation; (2) improved quality and reduction of storm water runoff into the Charles River Basin; (3) monitoring of the quality of storm water runoff; (4) recharging of the area groundwater; (5) generation of power through alternative energy sources; (6) help eliminate the BAC's carbon footprint; and (7) furtherance of education in geothermal heating and cooling systems.

DESCRIPTION OF THE PROPOSED ACTION: DOE's proposed action is to provide $1.6 million in financial assistance, pursuant to a Congressional earmark, to BAC for its proposed project in the Historic Back Bay District of Boston, Massachusetts. BAC would design, construct and implement the Urban Sustainability Initiative, including the Geothermal Solution, Green Alley II, and Sustainability Design Curriculum. The total cost of the project is estimated to be approximately $3.7 million.

The BAC Urban Sustainability Initiative is a multi-part project with several important objectives to implement energy saving renovations and sustainable technologies while creating jobs. The scope of the project includes the Phase II Green Alley, Geothermal Solution, and Sustainability Design Curriculum. Under the assistance agreement, BAC would install: 13 to 15 open loop geothermal wells to provide heating and cooling energy to the BAC's facilities; a green screen trellis system, planting soils, concrete pavement, pavers, and landscaping; and mechanical upgrades (plumbing and electrical) to accommodate the geothermal solution into the benefiting facilities. The proposed project would contribute slightly to the reduction of storm water runoff into the Charles River Basin and would become an ongoing tool for the BAC curriculum and community public education. The key project objectives are to develop green alley projects, implement energy saving renovations to the BAC physical plant, and to teach ecological and sustainable technologies to students and the general public while creating jobs.

ALTERNATIVES CONSIDERED: In addition to the proposed action, DOE considered the No-Action Alternative, as required under NEPA. Under the No-Action Alternative, DOE would not provide funds for the proposed project. For the purposes of the EA, DOE assumed that the project would not proceed without DOE funding. This assumption established a baseline against which the potential environmental impacts of the proposed project were compared.

ENVIRONMENTAL CONSEQUENCES: DOE evaluated the potential environmental consequences of the proposed project and the No-Action Alternative. DOE analyzed in detail the potential impacts to air quality, geology and soils, biological resources, water resources, cultural/historical resources, traffic, noise, aesthetics and visual resources, and socioeconomic resources in the EA. For these areas, DOE determined there would be negligible to moderate impacts. DOE also determined that the project would not have any meaningful or detectable impacts on land use; vegetation and wildlife resources; occupational health and safety; environmental justice; utilities, energy, and materials; and waste generation.

The proposed project would create temporary construction jobs and provide work for local firms. The project would also provide long-term energy related cost savings of approximately $60,000 per year, reduce storm water runoff, and generate power through alternative energy sources, while greatly reducing BAC's carbon footprint. The project could also provide public outreach and education of alternative energy systems upon its completion.

Under the No-Action Alternative, DOE would not provide funding to BAC and the entire Urban Sustainability Initiative would not be implemented. For comparison purposes, it is assumed no impacts to the existing environment would occur, and the beneficial impacts would not be realized.

PUBLIC AVAILABILITY: DOE issued the draft EA on December 12, 2011, and advertised its release in *The Boston Globe* and the *Boston Herald* on December 11, 12, and 13, 2011. In addition, DOE sent copies for public review to the Boston Public Library. DOE established a 30-day public comment period that began December 12, 2011, and ended January 13, 2012. DOE announced it would accept comments by mail, email, or fax. The draft EA was also sent to the applicable federal, state, and local agencies.

DOE received comments from utility providers (RCN, National Grid, and Verizon) and the Massachusetts Historical Commission (MHC). No comments from the public were received. RCN reported that RCN does not have underground facilities in the project area. National Grid and Verizon both reported that they have underground facilities within the project area. However, DOE determined that the intent of BAC is to precisely design and locate the geothermal wells in Public Alley #444 to avoid conflicts and interferences with the *all utility lines* thereby averting costly utility relocations and delays. DOE conducted formal consultation with the MHC to satisfy Section 106 of the National Historic Preservation Act. DOE received correspondence in a letter dated February 21, 2012, supporting a determination of "no adverse effects" on the Back Bay Historic District under the following conditions:

> A qualified archaeologist, with a field investigation permit issued by the State Archaeologist (950 CMR 70), shall monitor the project during the project. Should potentially significant archaeological resources be identified during implementation of the project, the area of the discovery shall be protected from further impact, and the DOE and the SHPO shall be notified by the archaeologist, and the DOE and the SHPO shall then consult pursuant to 36 CFR 800.6.

Therefore, DOE requires as a condition of this FONSI that a qualified archaeologist be present on site to monitor the well drilling portion of the project and that BAC comply with the notification requirements in the event of an unanticipated discovery. DOE will enforce this mitigation requirement through management of the assistance agreement.

Notices of availability for the final EA and this FONSI were sent to stakeholders and resource agencies that provided comments or consultation, and the documents were made available at DOE's National Energy Technology Laboratory web site at http://www.netl.doe.gov/publications/others/nepa/ea.html. Copies of the final EA and FONSI can also be obtained by sending a request to:

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DETERMINATION: On the basis of the evaluations in the final EA, DOE determined that its proposed action of providing Congressional earmark funding and BAC's proposed project would have no significant impact on the human environment. Therefore, preparation of an environmental impact statement is not required, and DOE is issuing this FONSI subject to the mitigation measure described above.

Issued in Pittsburgh, PA, this 16th day of March 2012.

Anthony V. Cugini
Director
National Energy Technology Laboratory