

PMC-EF2a

(2.04.02)

U.S. DEPARTMENT OF ENERGY  
EERE PROJECT MANAGEMENT CENTER  
NEPA DETERMINATION



RECIPIENT: Moraine Valley Community College

STATE: IL

PROJECT TITLE : Southwest Education Center

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	EE0000119	GFO-10-453	0

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

**CX, EA, EIS APPENDIX AND NUMBER:**

## Description:

**B5.1** Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

## Rational for determination:

The State of Illinois will provide \$116,00 in Recover Act funds to Moraine Valley Community College to help cover the cost of a ground source heat pump (GSHP) system that has been installed at the new Southwest Education Center. The project is located at 17900 94th Avenue, Tinley Park, IL 60477.

The Moraine Valley Community College project is in the final stages of construction and is expected to be complete by October 2010. The interior of the building is being completed and the outside areas need to be landscaped. The parking lots have not yet been paved. The building was designed to meet LEED Gold standards and in addition to the GSHP, will incorporate a green roof and other energy saving features.

DOE performed a site visit on June 15, 2010 to inspect the project and to determine whether any significant environmental impacts occurred during project construction. The ground source heat pump system is a 116 ton, vertical closed loop system. The system has 45 boreholes over 18,000 square feet drilled to a depth of 320 feet. The well field was completed in early 2010 using a licensed (Licensed by the Department of Health) and certified (IGSHPA) well driller. The recipient required the installing contractor to perform all work in accordance with IGSHPA design and installation standards, installation guide, grouting procedure for GSHP systems, and Grouting for vertical Geothermal Heat Pump Systems. The project also required that the work be performed in accordance with the IGSHPA installation guide and piping manufacturer's instructions for polyethylene pipe fusion techniques. The recipient required the installing contractor to follow and confirm to all IGSHPA, US-EPA, Illinois Water Well Construction Code 415 ILCS 3 and the National Ground Water Association manual (NGWA) rules, regulations and guidelines. All boreholes have been grouted with GEOPRO TG LITE 1.0 with the top finished with Baroid Benseal 20% solids plug designed to withstand cracking from the changes in temperature between the ground and the heat exchange pipe. The grouting of the wells was required to confirm to EPRI TR-109169 to ensure that the area around the borehole is sealed to keep any surface runoff from contaminating ground water. The system uses high density polyethylene 1 1/4" DR-9 pipe that is heat fused at the joints to minimize the risk of leaks in the system and a non-toxic refrigerant that is a 20% mixture of propylene glycol and potable water. The following permits were obtained: Village of Tinley Park Illinois - Building Permit; Cook County Highway Department Access Permit; Illinois EPA Watermain Permit; Illinois EPA Sanitary Permit; and Metropolitan Water Reclamation District (MWRD) Sanitary and Stormwater Permit.

LEED-NC (New Construction) standards for erosion and sedimentation control were followed during the GSHP installation, including prevention of stormwater runoff, prevention of sedimentation of storm sewer or receiving streams, prevention of wind erosion and air pollution with dust and particulate matter. The area of the GSHP system will be re-vegetated using sod and perennial plant groundcover.

The recipient required that all drilling waste and water be disposed of in accordance to City of Tinley Park, State requirements, and Federal laws. The collection of waste materials is performed daily and managed by construction manager. The removal of waste material is being performed by an authorized waste company.

A detailed area hydrology investigation was completed as part of the MWRD permitting process. There were no sole-source aquifers or potential drinking water sources identified on the project site. The wells were drilled to a depth of 320 feet at the request of MWRD and well above any subsurface aquifers.

Prior to the construction of the Southwest Education Center, the area was actively farmed for growing corn and soy beans. The land was cleared specifically for the construction of the Southwest Education Center. DOE has determined that clearing the area for construction of the Education Center and installation of the GSHP are not connected actions. DOE has also determined that the area impacted by the project was not likely to have an adverse affect to threatened and endangered species. Consultation with Illinois Historic Preservations Society was conducted in 2007, which determined that there was no impact on cultural resources from the installation of the ground source heat pump at this location. DOE's analysis of the National Wetland Inventory on the EPA's NEPAassist indicates that there are no floodplains or coastal zones in proximity to the proposed site location. The proposed site location is 0.35 miles from the nearest wetland providing an ample buffer against any adverse effects.

After a thorough review of the submitted information and a post-construction assessment of project impacts, it has been determined that the project has not had a significant impact to human health and/or environment. Based on the information obtained, the work outlined is consistent with activities identified in Categorical Exclusion B5.1.

**NEPA PROVISION**

DOE has made a final NEPA determination for this award

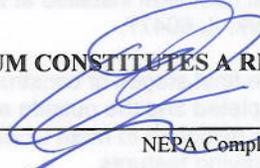
Insert the following language in the award:

Note to Specialist :

According to the project officer, funding for this project is \$116,000. Given that work on this project is about complete and the State will be paying in arrears, DOE funding based on submitted invoices may be warranted.

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature: \_\_\_\_\_



NEPA Compliance Officer

Date: \_\_\_\_\_

6/25/10

**FIELD OFFICE MANAGER DETERMINATION**

Field Office Manager review required

**NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:**

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature: \_\_\_\_\_

Field Office Manager

Date: \_\_\_\_\_