

PMC-EF2a

(20402)

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



RECIPIENT: Oregon Department of Energy

STATE: OR

PROJECT TITLE : SEP ARRA - Oregon State University Cascades Campus Ground Source Heat Pump Project

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	EE-0000140	GFO-0000140-012	EE140

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:

Oregon State University Cascades Campus is proposing to use \$546,000 in SEP ARRA funding to install a ground source heat pump system that would serve the heating and cooling needs for Cascades Hall as well as future campus buildings. The ground source heat pump system would be a vertical, closed-loop system with a capacity of 80 tons. There would be 80 boreholes needed, drilled to a depth of 350ft. The state certified and licensed driller would follow IGSHPA and NGWA regulations during installation. The total area of the borefield would be approximately 13,600 square feet (680 feet X 20 feet). There would be approximately 1,360 linear feet of 2 feet wide by 6 feet deep utility trench within the loop system. An additional 100 feet of utility trench would connect the loop system to existing mainlines for the building. The boreholes/wells would be grouted with a Smooth Grout Thermal and silica sand mixture filled to grade. A small utility shed (approximately 12 feet by 12 feet) would be constructed in the vacant lot adjacent to Cascades Hall and would house the heat pump unit and other system control equipment. Construction for the shed would require installation of a concrete pad and associated footings. The project site will be restored following project completion by re-grading and re-vegetation. The water table (the Deschutes Aquifer) at this site is approximately 500 to 800 feet deep. Test boreholes were drilled to 380 and no water was detected at that depth.

The proposed installation area has been previously disturbed by construction activities and is currently landscaped with native and exotic vegetation. The borehole drilling would primarily occur along parking area landscaping strips and in a fill zone adjacent to the northeast parking area which is adjacent to Cascades Hall. Existing vegetation would be removed prior to construction and stored for restoration/re-vegetation purposes at the completion of the project. The vegetation includes Ponderosa Pines; native grasses, shrubs and forbs as well as non-native invasive plant species. DOE concurs with the Oregon Department of Fish and Wildlife (ODFW) determination that "the proposed project will not have a significant impact on wildlife species or their populations that use the habitat within the project area." (Documentation attached). The SHPO has been consulted and stated that "the project area lies within an area generally perceived to have a high probability for possessing archaeological sites and/or buried human remains." The SHPO requires that if any cultural material is discovered during construction activities, all work should cease immediately until a professional archaeologist can assess the discovery (Documentation attached). Due to the minimal level of ground disturbance associated with the geothermal system and the previously disturbed nature of the site, there are not expected to be adverse effects to cultural resources as a result of the proposed project. There are not expected to be any adverse effects to threatened and endangered species, wetlands, or floodplains as a result of the proposed project as these resources are not present at the project site.

After a thorough review of the information submitted for the proposed project, it has been determined that the actions involved would not have a significant impact to human health and /or the environment. The proposed project would result in a reduction in the use of conventional fossil fuels; therefore it is hereby Categorically Excluded B5.1 "actions to conserve energy," from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

If any cultural material is discovered during construction activities, all work should cease immediately until a professional archaeologist can assess the discovery.

EF2a completed by Logan Sholar

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 5/26/11
NEPA Compliance Officer

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: _____ Date: _____
Field Office Manager