



May 8, 2012

Milford W. Donaldson  
State Historic Preservation Officer  
California State Department of Parks and Recreation  
PO Box 942896  
Sacramento, CA 94296-0001

Subject: Proposed Hydrogen Energy California Project in Kern County, California

Dear Mr. Donaldson:

The purpose of this letter is to inform you of the proposed Hydrogen Energy California Project (HECA or the Project) in Kern County, California; to initiate Section 106 consultation under the *National Historic Preservation Act of 1966* (NHPA); and to seek concurrence and input on the delineation of Area of Potential Effects (APE) for both archaeological and historic architectural resources (*See Attached Area Map and Area of Potential Effects Map*).

HECA is proposed by Hydrogen Energy California LLC. The Project is part of U.S. Department of Energy’s (DOE) Clean Coal Power Initiative, a cost-shared collaboration between the federal government and private industry to increase investment in low-emission coal technology by demonstrating advanced coal-based power generation technologies at commercial scale. The HECA is supported in part by DOE with a \$408 million grant in a cost-shared arrangement. Total project costs are estimated to be approximately \$4 billion. DOE has determined that the proposed Project is a federal undertaking as defined in 36 Code of Federal Regulations § 800.16(y).

The Project consists of an Integrated Gasification Combined Cycle power facility, with an integrated manufacturing complex which will produce low-carbon nitrogen-based products, such as fertilizer. The Project will utilize a blend of coal and petroleum coke as a feedstock in order to produce hydrogen-rich syngas fuel through a gasification process. This fuel will be used in a combustion turbine to produce a nominal 300 megawatts (MW) of electricity and allow the manufacture of low-carbon nitrogen-based products such as fertilizers. The production of electricity, low-carbon nitrogen-based products, and carbon dioxide (CO<sub>2</sub>) for enhanced oil recovery (EOR) enables the operational flexibilities to meet market demands. Because it produces several products, HECA is sometimes referred to as a “polygeneration” project.

The electricity and other products produced by the Project will have a smaller carbon footprint than similar products produced from traditional fossil fuel sources through a conventional combustion process. This is accomplished primarily by capturing approximately 90 percent of the CO<sub>2</sub> from the gasification process. Captured CO<sub>2</sub> will be transported (via a pipeline) for use in EOR, which results in sequestration of the CO<sub>2</sub> in secure geologic formations, at the nearby Elk Hills Oil Field (EHOF). EHOF is owned and operated by Occidental of Elk Hills, Inc. (OEHI), which will obtain necessary permits for the EOR operations.

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The 453-acre Project site is located approximately 7-miles west of the outermost edge of the city of Bakersfield and 1.5-miles northwest of the unincorporated community of Tupman in western Kern County, California. The majority of the Project site has been repetitively tilled and is presently used for agricultural purposes, including cultivation of cotton, alfalfa, and onions. Temporary construction activities, including equipment storage, construction laydown, parking and offices, will be located on the Project site and within an adjacent 91-acre Construction Laydown Area.

The Project also includes the following off-site facilities:

- Rail Spur – A new rail spur will be constructed to the Project site in order to facilitate feedstock and equipment delivery, as well as product and by-product off-take. The rail spur will extend approximately 4.6-miles from the existing San Joaquin Valley Railroad to the Project site.
- Electrical Transmission Line – An electrical transmission line will interconnect the Project to a future Pacific Gas & Electric (PG&E) switching station to the east of the Project site (adjacent to the existing Midway-Wheeler Ridge transmission lines). The electrical transmission line is approximately 3.5-miles long, of which 1.5-miles will be located within the Project site.
- Natural Gas Supply Line – A natural gas interconnection will be made with an existing PG&E natural gas pipeline that is located north of the Project site. The natural gas pipeline is approximately 11.1-miles in length.
- Water Supply Pipelines – The Project will utilize brackish groundwater supplied from the Buena Vista Water Storage District located northwest of the Project site. The raw water supply pipeline will be approximately 14.4-miles in length. Potable water for construction, drinking, and sanitary use will be delivered from a new West Kern Water District potable water production site approximately 1.3-miles east of the Project site.
- CO<sub>2</sub> Pipeline – The CO<sub>2</sub> pipeline will transfer the CO<sub>2</sub> captured during gasification from the Project site (plant) south to the EHOFF for EOR and sequestration (storage). The CO<sub>2</sub> pipeline is approximately 3.4-miles in length.

For the purposes of initiating informal consultation with the Office of Historic Preservation on the delineation of the APE, DOE is defining the APE for archaeological resources as all areas where ground-disturbing activities will occur in relation to the Project. More specifically, 200-feet from the Project site and Construction Laydown Area, and 50-feet from the right of way of all Project linears. The APE for historic architecture is defined as 0.5-miles around the Project site and 0.5-miles from the electric transmission and rail spur right of ways to account for potential indirect effects. Attached are copies of the proposed APEs for both archaeological and historic architectural resources.<sup>1</sup> The APEs for archaeological and historic architectural resources are consistent with the requirements of the California Energy Commission (CEC), which has exclusive authority for licensing thermal power plants in California with a generating capacity of 50-MW or more.

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<sup>1</sup> Note that the identified APEs may be over-inclusive in the sense that they include the sites of the EOR to be undertaken by OEHI, which is not a recipient of federal funding in connection with its EOR activities.

DOE seeks to initiate informal Section 106 consultation under the NHPA for the undertaking and seek concurrence on the delineation of APEs for both archaeological and historic architectural resources. A joint CEC/DOE environmental impact statement (EIS) is currently being prepared for the project, and the draft version will be made available to you at a later date where you may again respond to any specific concerns you may have. DOE will include correspondence with your office in an appendix to the EIS. HECA's full application to the CEC can also be viewed at:

[http://www.energy.ca.gov/sitingcases/hydrogen\\_energy/documents/index.html#applicant](http://www.energy.ca.gov/sitingcases/hydrogen_energy/documents/index.html#applicant)

For any overall environmental project questions please contact me at 304-285-5219. Should you have any technical questions please contact the Office of National Environmental Policy Act (NEPA) contractor, Mr. Dale Shileikis at 415-243-3708, or by email @ [dale.shileikis@urs.com](mailto:dale.shileikis@urs.com).

Sincerely,



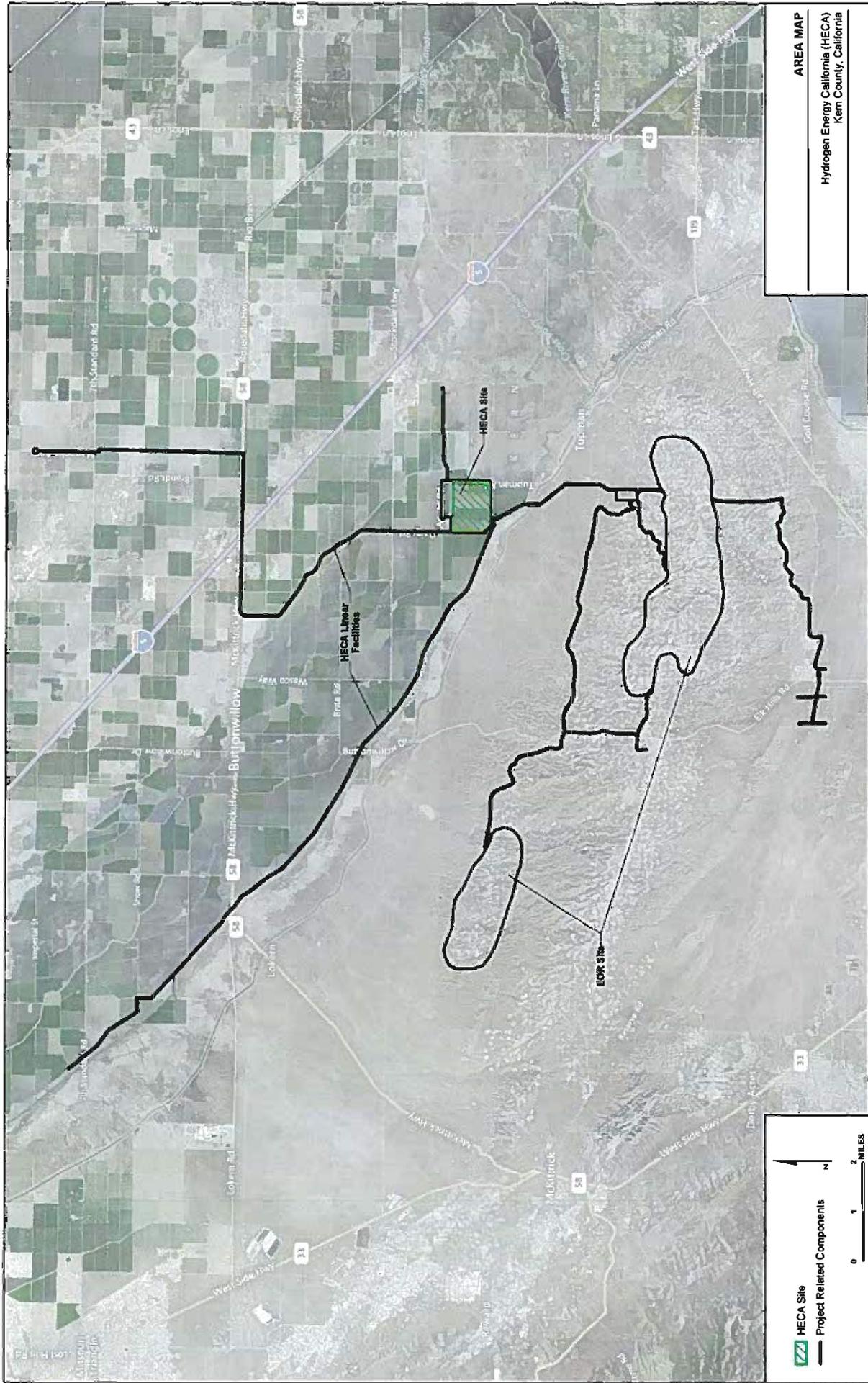
Fred Pozzuto  
Environmental Manager / NEPA Compliance  
Officer

Enclosures:

cc:

M. Mascaro - HECA-SCS Energy

D. Shileikis - URS

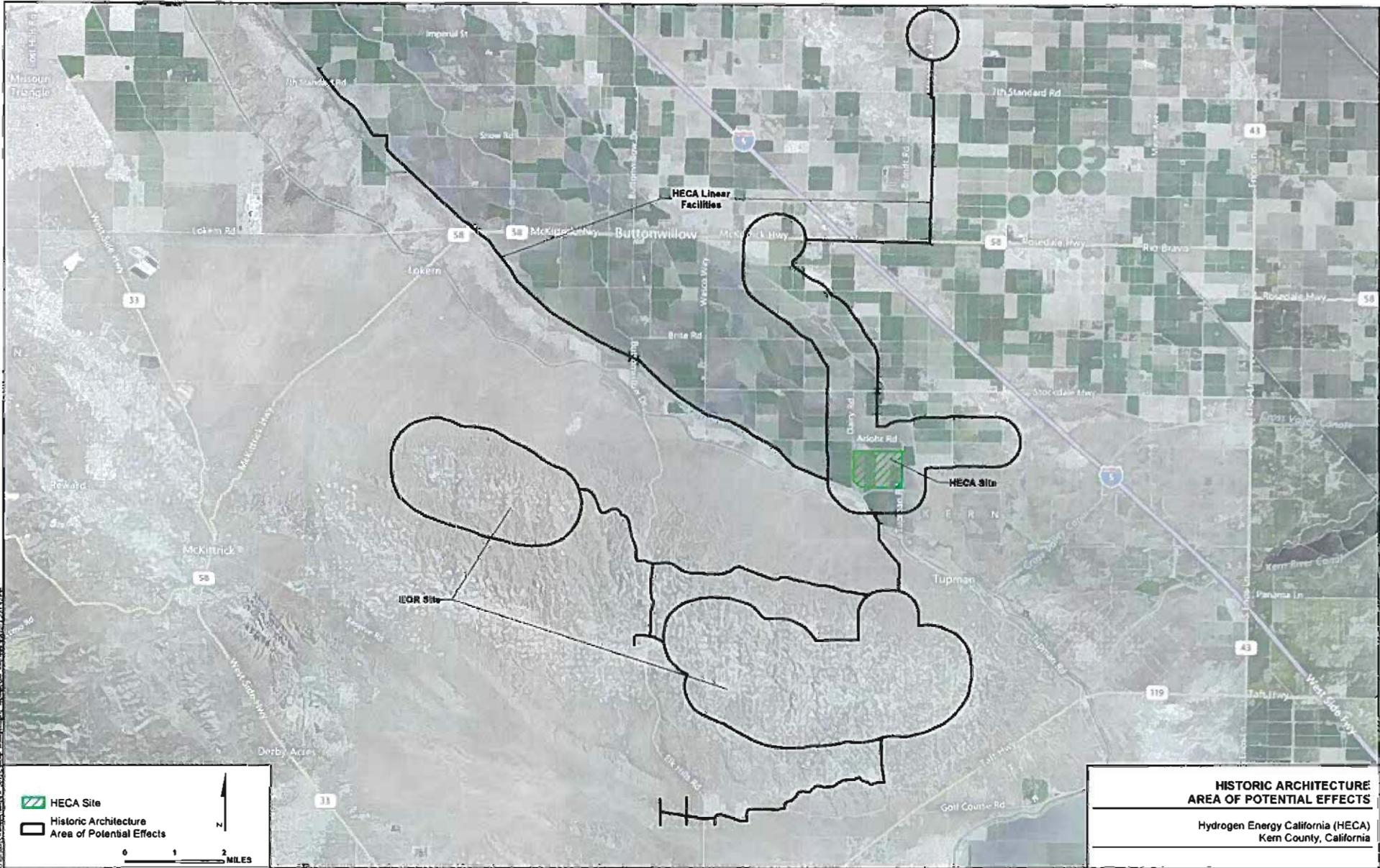


**AREA MAP**  
 Hydrogen Energy California (HECA)  
 Kern County, California

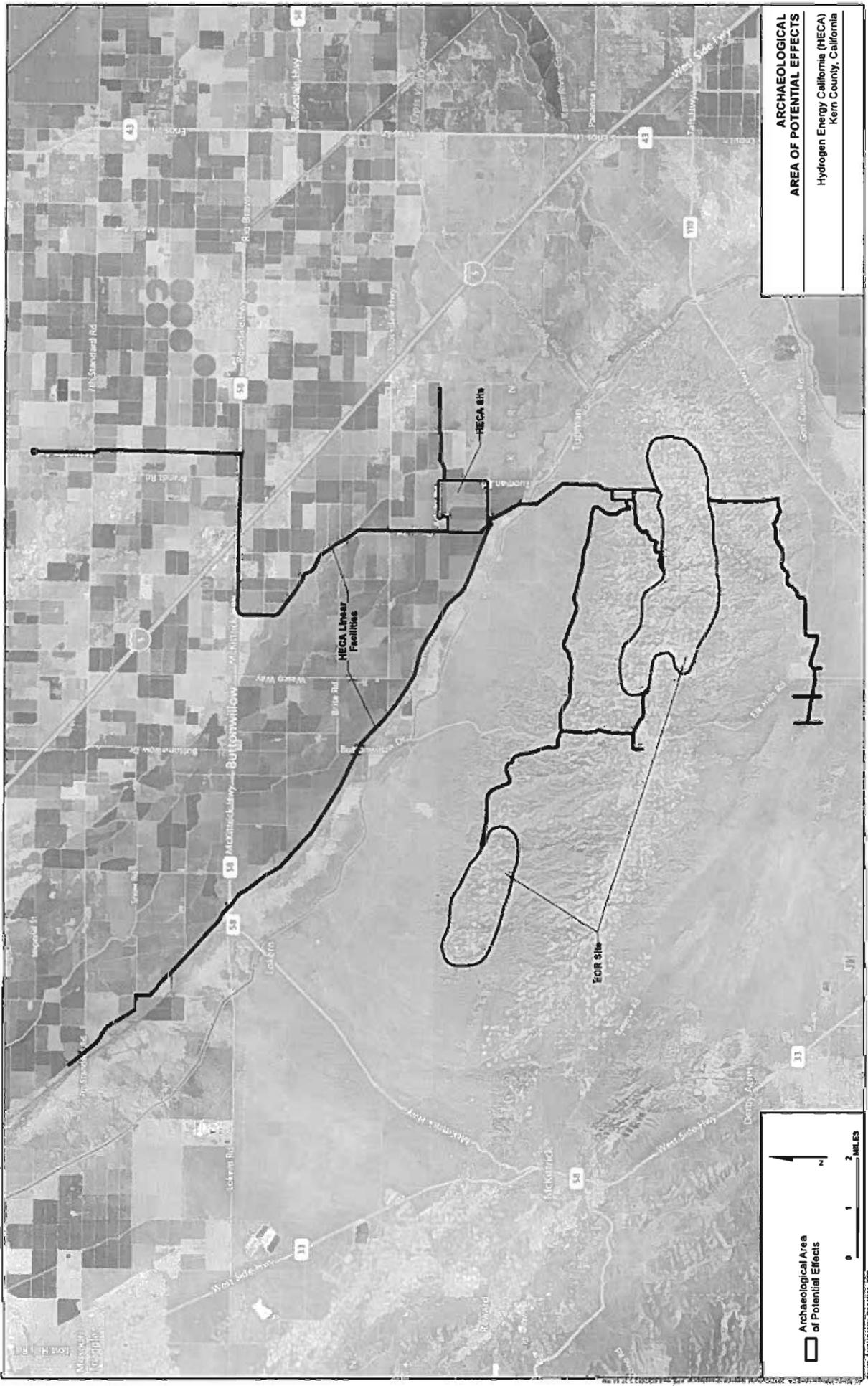
 HECA Site  
 Project Related Components

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 0 1 2 MILES

Source: Aerial Imagery, Bing Maps, 2020



Source: Aerial Imagery, Bing Maps, 2008.



**ARCHAEOLOGICAL  
AREA OF POTENTIAL EFFECTS**  
Hydrogen Energy California (HECA)  
Kern County, California


**Archaeological Area  
of Potential Effects**


Source: Aerial Imagery, Bing Maps, 2006.