United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Nevada State Office
1340 Financial Boulevard
Reno, Nevada 89502-7147
http://www.blm.gov/nv

In Reply Refer To:
NVN-092243
2800 (NVC0100)

MAY 01 2014

EMS TRANSMISSION
MEMORANDUM

TO: Director (WO100)

FROM: Amy Lueders (NV910)
Nevada State Director, Bureau of Land Management

SUBJECT: Approval to initiate the National Environmental Policy Act (NEPA) process for a solar energy right-of-way (ROW) application in a solar variance area.

RECOMMENDATION

I recommend approval for the Stillwater Field Office to process the right-of-way (ROW) application for the Luning Solar Energy Project (LSEP) in Mineral County, Nevada. The Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Solar PEIS) identified the location of the proposed LSEP as a variance area open to applications for solar energy development. Preliminary review by the Stillwater Field Office and early coordination with Federal, State, local, and tribal government agencies has found few known resource or management conflicts at the proposed location.

The attached memorandum from the Stillwater Field Office describes the early coordination work completed as a part of the variance area review process established by the Solar PEIS Record of Decision (ROD) (October 12, 2012). The memorandum also lists the potential issues to be addressed during the NEPA review process.

DECISION BY THE DIRECTOR

✓ APPROVE

____ DISAPPROVE

Neil Kornze
BLM Director

7.14.14
Date

Attachment

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Stillwater Field Office
5665 Morgan Mill Road
Carson City, Nevada 89701
http://www.blm.gov/nv

In Reply Refer To:
NVN-092243
2800 (NVC0100)

MAR 2 5 2014

EMS TRANSMISSION
MEMORANDUM

TO: Amy Lueders
Nevada State Director, Bureau of Land Management

Gary Johnson
Acting

THROUGH: Teresa J. Knutson
Field Manager, Stillwater Field Office

FROM: Bernadette Lovato
District Manager, Carson City District Office

SUBJECT: Approval to initiate National Environmental Policy Act (NEPA) process for a solar energy right-of-way (ROW) application in a solar variance area.

The Bureau of Land Management (BLM) Stillwater Field Office (SFO) received a right-of-way (ROW) application on July 31, 2013, from Invenergy Solar Development LLC (Invenergy Solar), to develop an industrial scale solar energy facility on BLM-administered public lands between Carson City and Tonopah, Nevada. The proposed facility would utilize ground-mounted photo-voltaic solar panels, with up to 50 megawatt (MW) name-plate capacity, to generate solar energy within a 560-acre project area. Invenergy Solar is a subsidiary of Invenergy LLC, an international power generation company with projects in North America and Europe, mainly utilizing wind and natural gas resources. Invenergy LLC currently has one 20 MW solar facility in operation in Illinois and two more 10 MW facilities being constructed in Ontario, Canada.

The application from Invenergy Solar is considered a new application under the guidance provided in the Approved Resource Management Plan Amendments/Record of Decision (ROD), signed October 12, 2012, for the Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Solar PEIS). New applications are subject to the requirements in the Solar PEIS ROD, including the variance process identified in Appendix B of the ROD.

Lands outside of a Solar Energy Zone (SEZ) identified by the Solar PEIS, which are not specifically excluded from industrial solar energy development, are considered variance areas. Variance areas are open to application for industrial scale solar energy projects, but require the applicant to adhere to the variance process outlined in the PEIS ROD. Developers proposing utility-scale solar energy development in variance areas must demonstrate to the BLM a solar energy project proposal will avoid, minimize, and/or mitigate effects on sensitive resources. That demonstration includes three preliminary meetings: the first with the BLM, the second to vet the proposal through Federal, state,

local, and tribal government agencies, and the third with the general public. If the preliminary meetings and variance screening process show there are resource conflicts in the proposed location, the BLM may deny the application without completing the NEPA process.

BACKGROUND

The SFO previously completed an Environmental Assessment (EA) and issued a ROW grant for a similar solar energy application, within the same project area, in July 2009, prior to the completion of the Solar PEIS. The 2009 EA found the proposed location had few known natural resource conflicts and is potentially suitable for solar energy development. The prior ROW holder, Luning Solar Energy LLC, did not develop a solar energy facility and voluntarily relinquished their ROW in January 2013.

Invenergy Solar and Luning Solar Energy LLC contacted the SFO in early July 2013 to ask if the BLM would re-open the closed solar energy ROW so the project could be developed with Invenergy Solar as the lead company. The BLM informed both companies Luning Solar Energy LLC did not retain any rights to the project area after their ROW was relinquished and a new application for a new ROW would be required. An SF-299 ROW application was received from Invenergy Solar on July 31, 2013 which closely matched the Luning Solar Energy LLC ROW in terms of project area size and facilities, including the interconnect power line.

The proposed Luning Solar Energy Project (LSEP) is located in the Soda Spring Valley, along the U.S. Highway 95 corridor between Interstate 80, east of Reno, Nevada, and Las Vegas, Nevada. The nearest major town is Hawthorne, Nevada, next to the Hawthorne Army Depot, at the south end of Walker Lake. Hawthorne is approximately 26 highway miles west of the proposed project area. Luning, Nevada, is a small, unincorporated town, near the intersection of U.S. Highway 95 and Nevada State Highway 361, approximately 3 miles south-southwest of the proposed project area. Soda Spring Valley is bordered on the north by the Gabbs Valley Range and the south by the Garfield Hills.

The LSEP would generate up to 50 MW of electricity using ground-mounted photo voltaic solar panels. The project area would be contained on approximately 560-acres of BLM administered public lands. The area is approximately 2-miles wide by one half-mile tall. State Highway 361 bisects the project area with approximately two-thirds on the west side of the highway. Approximately 1-mile of new overhead power line is proposed to connect the solar facility to an existing transmission line owned by Sierra Pacific Power Company (NV Energy). The power line would run from the southeast corner of the project area, in a south-easterly direction, to the Table Mountain substation on the NV Energy transmission line. Some expansion of the substation may be required to connect the new power line, however specific dimensions for the expansion are not available at this time. Expansion of the substation is expected to be minimal and within the ROW for the power line.

Invenergy Solar met with the BLM at the first preliminary meeting in September 2013 to discuss the proposal. Based on the conclusions from the 2009 EA and initial review of the new proposal by BLM resource specialists, no major resource issues were immediately apparent. Therefore, the meeting mainly focused on the information needed in a Plan of Development (POD).

The BLM received a comprehensive POD from Invenergy Solar in October 2013. After reviewing the LSEP POD and comparing it to the proposed action in the 2009 EA, the SFO determined the early coordination goals, with other Federal, State, local, and tribal governments, had been largely met during the earlier NEPA process. The U.S. Fish and Wildlife Service (USFWS), Mineral County Board of Commissioners, Walker River Paiute Tribe, Yomba Shoshone Tribe, and Nevada Natural Heritage Program are listed as agencies and organizations consulted during the preparation of the July 2009 EA. Rather than scheduling a formal preliminary meeting, the SFO ID Team contacted the agencies consulted during the 2009 EA NEPA process to notify them of the new proposal. In addition, the BLM contacted the Nevada Division of State Lands (NDSL) and asked to have the new proposal sent, via electronic notice by the Nevada State Clearinghouse, to state agencies for review.

There are no National Park Service (NPS) or Department of Defense (DoD) administered lands within 14 miles of the proposed project area. The SFO contacted the DoD to provide notification of the new proposal; no conflicts were reported by the DoD. The NPS was not contacted due to there being no NPS administered lands or resources near the project area.

The SFO Field Manager attended the Mineral County Board of Commissioners meeting on February 19, 2014 to notify the board of the new proposal. The agenda item was published in the local newspaper to notify the public of the opportunity to learn about the new proposal and comment. The public had opportunities to comment during the preparation of the previous EA at two board meetings and during public review of the EA document. Neither the board members nor members of the public who attended the February 2014 meeting expressed new issues or resource concerns, therefore an additional formal public meeting was not considered necessary to fulfill the intentions of the variance process.

Tribal consultation initiated for the PEIS has been ongoing and no additional, substantial direct effects on tribal cultural practices, lands, resources, or access to traditional areas of cultural or religious importance, on federally-managed lands, have been identified. Tribes that are most likely to have historical and/or cultural ties to the areas of potential effect have not brought forward cultural or other tribal issues of concern. Thus, tribes were not contacted again during the preliminary notifications of the variance process. The BLM will continue the ongoing tribal consultation during the NEPA process.

POTENTIAL RESOURCE CONFLICTS

Following the preliminary review of the new proposal and consistent with the findings of the 2009 EA, no sensitive resource or BLM land use management objective conflicts were identified. Early coordination with other Federal, State, local, and tribal governments, as-well-as the public, did not reveal conflicts or opposition to the proposal.

Some resource issues which would need to be addressed, should the BLM elect to move forward with the NEPA process, are as follows:

- The proposed project area is within foraging habitat for golden eagles and other raptors. There have been no recent surveys for active nests in the surrounding mountain ranges, therefore the impacts to golden eagles and other raptors could not be accurately determined during preliminary

screening. The USFWS specified a 10-mile nest survey to help determine if the loss of foraging habitat will affect local population levels of golden eagles. Other raptor nests would be documented, especially within one-mile of the project area.

- There is potential for "lake-effect" mortality to migratory birds and bats from impacting solar panels that are mistaken for water bodies. Local populations of the majority of neo-tropical migratory birds are not expected to be affected due to the lack of quality nesting habitat near the project area. Local populations of burrowing owls, a BLM sensitive species, may be affected at a slightly higher level due to the habitat near the project area being more suitable for nesting purposes. The impacts to bats are not expected to be significant due to the lack of foraging and roosting habitat near the project area. The BLM will suggest a Bird and Bat Conservation Strategy (BBCS) be developed by Invenergy Solar to identify potential mitigation measures and adaptive management strategies to reduce potential impacts.

- The LSEP is within the Pilot/Table Mountain grazing allotment. The proposed project would remove 560-acres of grazing area within the allotment. The July 2009 EA stated fencing the project area would remove 11.5 AUM, which is .14 percent of the current permitted use.

- The project area is defined by BLM public land survey system (PLSS) legal subdivisions. If approved, the holder would be responsible for protecting existing survey monuments. In addition, the BLM would work with the holder to conduct and record official surveys of legal subdivisions not currently surveyed.

- The only existing BLM ROW holder within the proposed project area is the Nevada Department of Transportation, which maintains State Highway 361 that runs through the eastern third of the project area. No comments have been received suggesting the proposal would adversely affect the operation of the highway. A solar energy facility would need to be designed and operated so as to not affect the existing operation of the highway.

- Invenergy Solar estimates up to 9.2 acre-feet of water (less than 3 million gallons) would be needed during construction for compaction and dust control. During operation of the plant, panel washes would be scheduled as needed based on project performance and the level of soiling levels on panels. Approximately .75 acre-feet of water (less than 250,000 gallons) would be needed for each washing. Non-potable water for construction and operations would be brought in by 3,500 gallon water trucks from commercial sources. The BLM permits an annual, one day off-highway vehicle race (Best in the Desert – Las Vegas to Reno) which passes near the project area. Dust from the race may precipitate the need to wash some panels following the event, depending on the wind direction.

POSITION OF INTERESTED PARTIES

Preliminary early coordination with other agencies and tribes indicate the site has a low potential for conflict(s).

The proposed location is not critical habitat for threatened or endangered species, nor BLM-sensitive species or species of concern to the Nevada Department of Wildlife (NDOW). As described previously, surveys for golden eagles and other raptors would be required to determine the impacts to

local populations that use the location to forage or nest. A BBCS would address potential impacts to neo-tropical migratory birds and bats, however developing and adopting a BBCS is not currently a requirement for this type of project.

The NDSL and State Land Use Planning Agency requested that consistent lighting mitigation measures should be required which utilize "Dark Sky" lighting practices. Also, attention should be given to logical placement of improvements and use of appropriate screening and structure colors, to minimizing the proliferation of roads, consolidate disturbances, and reduce visual impacts.

The Mineral County Board of Commissioners is supportive of the proposed LSEP, as they were of the previous project proposed by Luning Solar Energy LLC. Invenergy Solar would need to coordinate with the County to insure local operating permits are secured and local regulations are followed.

Tribes that are most likely to have historical and/or cultural ties to the areas of potential effect have not brought forward cultural issues or other tribal issues of concern.

DECISION OPTIONS

In accordance with the guidance included in the Solar PEIS ROD, concurrence of the BLM Director is required to continue to process a solar energy ROW application in a variance area. There are two potential decisions:

1. Concur with the SFO recommendation to proceed with processing the application for the LSEP.
2. Withhold concurrence and deny the application. Denial of the application is considered a "final agency action" and is appealable to the Interior Board of Land Appeals.

Concurrence will not approve the proposed project. Rather, concurrence would allow for the initiation of the formal NEPA process and preparation of an EA for the proposed project. The potential impacts of the proposed project would be analyzed by an interdisciplinary team of BLM resource specialists through the NEPA process. This analysis would serve as the basis for any decision to approve or deny the proposed project.

Attachments

1. SF-299, Right-of-way application
2. LSEP Plan of Development (POD)
3. Resource maps (Wildlife and regional context maps)
4. Environmental Assessment (EA), Finding of No Significant Impact (FONSI), and Decision Record (DR) for the Luning Solar Energy Right-of-way Grant (July 2009)
5. Luning Solar Energy Project Solar Variance Area Right-of-way Application Review

STANDARD FORM 299 (5/2009)
Prescribed by DOI/USDA/DOT
P.L. 96487 and Federal
Register Notice 5-22-95

APPLICATION FOR TRANSPORTATION AND UTILITY SYSTEMS AND FACILITIES ON FEDERAL LANDS

FORM APPROVED
OMB NO. 1004-0189
Expires: April 30, 2012

FOR AGENCY USE ONLY
Application Number
Date filed

NOTE: Before completing and filing the application, the applicant should completely review this package and schedule a preapplication meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the preapplication meeting.

1. Name and address of applicant *(include zip code)*

Invenergy Solar Development LLC
Suite 200
2580 W Main St.
Littleton, CO 80120

2. Name, title, and address of authorized agent if different from Item 1 *(include zip code)*

Laura Miner, Development Manager
Invenergy Solar Development LLC
(same address as applicant)

3. TELEPHONE *(area code)*
Applicant
303-797-5487
Authorized Agent
503-964-8900

4. As applicant are you? *(check one)*
- a. ☐ Individual
- b. ☐ Corporation*
- c. ☑ Partnership/Association*
- d. ☐ State Government/State Agency
- e. ☐ Local Government
- f. ☐ Federal Agency

* *If checked, complete supplemental page*

5. Specify what application is for: *(check one)*
- a. ☑ New authorization
- b. ☐ Renewing existing authorization No.
- c. ☐ Amend existing authorization No.
- d. ☐ Assign existing authorization No.
- e. ☐ Existing use for which no authorization has been received*
- f. ☐ Other*

**If checked provide details under Item 7*

RECEIVED
BUREAU OF LAND MGMT
CARSON CITY
DISTRICT OFFICE
2013 AUG -1 PM 3:

6. If an individual, or partnership are you a citizen(s) of the United States? ☑ Yes ☐ No

7. Project description *(describe in detail):* (a) Type of system or facility, *(e.g., canal, pipeline, road)*; (b) related structures and facilities; (c) physical specifications *(length, width, grading, etc.)*; (d) term of years needed; (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction *(Attach additional sheets, if additional space is needed.)*

a. This approximate 560 acre site is for a solar power generation facility consisting of ground-mounted solar photovoltaic panels; an electrical collection system connected to power inverter stations, and a project electrical substation. The legal description for the approximate 560 acre site is: T8N, R34E: Section 15: S2SW4; Section 15: S2S2; Section 21: N2N2; Section 22: N2N2 less about 7.5 acres of Hwy 361 ROW
b. A small operations and maintenance building, access roads within the site and a transmission line to the Table Mtn substation. The legal description for the transmission line is: Section 23: 150 ft line beginning 1,320 feet south from the NW corner of Sec 23, down the west boundary running diagonally about 3,600 feet to the Table Mtn substation in the SW 4 of Sec. 23. This area is about 12.3 acres in Sec 23.
c. Grading will be required for placement of the solar panels, inverter substations, electrical substation, and project roads. The foundations and underground collection system will require digging and trenching.
d. The term requested is 30 years.
e. In operation year round.
f. During the construction period the panels, inverters, substation equipment and electric transmission equipment will be transported to the site by truck. Once operational the plants output will be transmitted from the site to the existing NV Energy Table Mtn substation by the project's tline.
g. Construction is anticipated to take 4-8 months expected in latter part of 2014 or 2015.
h. Work areas would be on the site and for security purposes the site would be fenced.

8. Attach a map covering area and show location of project proposal

9. State or local government approval: ☐ Attached ☐ Applied for ☑ Not required

10. Nonreturnable application fee. ☐ Attached ☑ Not required

11. Does project cross international boundary or affect international waterways? ☐ Yes ☑ No *(If "yes," indicate on map)*

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

Invenergy Solar Development LLC is a wholly owned subsidiary of Invenergy LLC, the largest privately held developer, owner and operator of renewable energy projects in the United States. Invenergy has developed over 7,000 megawatts of clean energy projects in the US, including solar, wind and natural gas projects. A corporate summary document is attached to this application.

(Continued on page 2)

13a. Describe other reasonable alternative routes and modes considered.

Many prospective sites have been reviewed.. A viable solar project requires flat buildable land, a good solar resource, access to the transmission system, and land environmentally suited to energy development. The selected site was selected based on having all of the above criteria.

b. Why were these alternatives not selected?

There are very few alternatives; other sites did not possess this site's unique combination of constructability, solar resource, and proximity to a transmission substation in an area of minimal environmental impact.

c. Give explanation as to why it is necessary to cross Federal Lands

Because it is Federal Land surrounding the transmission access.

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. *(Specify number, date, code, or name)*

BLM ROW: NVN 085215 - 2800 (NVC01 00)

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal *(construction, operation, and maintenance)*; (b) estimated cost of next best alternative; and (c) expected public benefits.

Solar power generation is clean, pollution free and competitive with other types of power generation such as wind, geothermal and gas turbines. a. Estimated cost is $100-150 million. b. Wind and natural gas facilities of this size have similar capital costs. c. Multiple public benefit of the project include economic and employment benefits associated with construction and operations; reduction in carbon production, air pollution, water use associated with electrical production; long term protection from fuel price volatility associated with other fuel sources.

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

There will be a visual impact from the project ; it will generate construction jobs and long-term employment opportunities in the area operating plant. The project will generate very little day to day traffic on rural roads, and should create very few if any impacts on the rural lifestyle of the sorounding communities.

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

a. No air quality impact. b. Visual impacts will be minimal. The project will be visible from Hwy 95; however, there have been public presentations on the project's visual impact to Mineral County and a Special Use Permit for the project approved. c. the project will require minimal water use and not impact surface or groundwater d. not applicable e. no impact f. site vegetation is minimal, impacts will be negligible.

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

No impact

19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 9601 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does **not** include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

None.

20. Name all the Department(s)/Agency(ies) where this application is being filed.

Only BLM

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant	Date
	07/29/2013

Title 18, U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 3)

GENERAL INFORMATION
ALASKA NATIONAL INTEREST LANDS

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest Lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation and utility systems and facility uses for which the application may be used are:

1. Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.
2. Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom.
3. Pipelines, slurry and emulsion systems, and conveyor belts for transportation of solid materials.
4. Systems for the transmission and distribution of electric energy.
5. Systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.
6. Improved rights-of-way for snow machines, air cushion vehicles, and all-terrain vehicles.
7. Roads, highways, railroads, tunnels, tramways, airports, landing strips, docks, and other systems of general transportation.

This application must be filed simultaneously with each Federal department or agency requiring authorization to establish and operate your proposal.

In Alaska, the following agencies will help the applicant file an application and identify the other agencies the applicant should contact and possibly file with:

U.S. Department of Agriculture
FOREST SERVICE (USFS)
Alaska Regional Office (Region 10)
Physical Address:
Federal Office Building
709 West 9th Street
Juneau, Alaska 99801
Mailing Address:
P.O. Box 21628
Juneau, Alaska 99802
Telephone: 907-586-8806

U.S. Department of the Interior
BUREAU OF INDIAN AFFAIRS (BIA)
Alaska Regional Office (Juneau)
Mailing/Physical Address:
P.O. Box 25520
709 West 9th Street
Juneau, Alaska 99802
Telephone: 800-645-8397

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT (BLM)
Alaska State Office
Mailing/Physical Address:
222 West 7th Avenue #13
Anchorage, Alaska 99513
Telephone: 907-271-5960

U.S. Department of the Interior
NATIONAL PARK SERVICE (NPS)
Alaska Regional Office (Anchorage)
Mailing/Physical Address:
240 West 5th Avenue, Room 114
Anchorage, Alaska 99501
Telephone: 907-644-3501

U.S. Department of the Interior
FISH AND WILDLIFE SERVICE
Alaska Regional Office (Region 7)
Mailing/Physical Address:
1011 East Tudor Road
Anchorage, Alaska 99501
Telephone: 907-271-5011

Note: Filings with any Department of the Interior agency may be filed with any office noted above or with the:

U.S. Department of the Interior
OFFICE OF ENVIRONMENTAL POLICY AND COMPLIANCE
Alaska Regional Office (Anchorage)
Regional Environmental Officer
1689 C Street, Room 119
Anchorage, Alaska 99501
Telephone: (907) 271-5011

U.S. Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Alaska Regional Office (Anchorage)
222 West 7th Avenue, #14
Anchorage, Alaska 99513
Telephone: 907-271-5269

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska.

Individual departments/agencies may authorize the use of this form by applicants for transportation and utility systems and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

SPECIFIC INSTRUCTIONS
(Items not listed are self-explanatory)

Item

7 Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.

8 Generally, the map must show the section(s), township(s), and ranges within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.

9, 10, and 12 - The responsible agency will provide additional instructions.

13 Providing information on alternate routes and modes in as much detail as possible, discussing why certain routes or modes were rejected and why it is necessary to cross Federal lands will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate routes and modes as related to current technology and economics.

14 The responsible agency will provide instructions.

15 Generally, a simple statement of the purpose of the proposal will be sufficient. However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.

16 through 19 - Providing this information in as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. For example, if the project is not near a stream or other body of water, do not address this subject. The responsible agency will provide additional instructions.

Application must be signed by the applicant or applicant's authorized representative.

If additional space is needed to complete any item, please put the information on a separate sheet of paper and identify it as "Continuation of Item".

(For supplemental, see page 4)

SUPPLEMENTAL

NOTE: The responsible agency(ies) will provide additional instructions	CHECK APPROPRIATE BLOCK	
I - PRIVATE CORPORATIONS	ATTACHED	FILED*
a. Articles of Incorporation	☐	☐
b. Corporation Bylaws	☐	☐
c. A certification from the State showing the corporation is in good standing and is entitled to operate within the State.	☐	☐
d. Copy of resolution authorizing filing	☐	☐
e. The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	☐	☐
f. If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications	☐	☐
g. If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	☐	☐
II - PUBLIC CORPORATIONS		
a. Copy of law forming corporation	☐	☐
b. Proof of organization	☐	☐
c. Copy of Bylaws	☐	☐
d. Copy of resolution authorizing filing	☐	☐
e. If application is for an oil or gas pipeline, provide information required by Item "I-f" and "I-g" above.	☐	☐
III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY		
a. Articles of association, if any	☐	☑
b. If one partner is authorized to sign, resolution authorizing action is	☐	☐
c. Name and address of each participant, partner, association, or other	☐	☑
d. If application is for an oil or gas pipeline, provide information required by Item "I-f" and "I-g" above.	☐	☐

* If the required information is already filed with the agency processing this application and is current, check block entitled "Filed." Provide the file identification information (e.g., number, date, code, name). If not on file or current, attach the requested information.

(Continued on page 5)

NOTICES

NOTE: This applies to the Department of the Interior/Bureau of Land Management (BLM).

The Privacy Act of 1974 provides that you be furnished with the following information in connection with the information provided by this application for an authorization.
AUTHORITY: 16 U.S.C. 310 and 5 U.S.C. 301.
PRINCIPAL PURPOSE: The primary uses of the records are to facilitate the (1) processing of claims or applications; (2) recordation of adjudicative actions; and (3) indexing of documentation in case files supporting administrative actions.
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LUNING SOLAR ENERGY PROJECT

PLAN OF DEVELOPMENT

BLM Case Number NVN 092243

Prepared for:

Bureau of Land Management
Stillwater Field Office
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SWCA Project No. 27098

October 14, 2013

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1.0 PROJECT DESCRIPTION

1.1 Introduction

Invenergy Solar Development LLC (Invenergy Solar) is applying for a right-of-way (ROW) grant to construct, operate, and maintain a solar energy project (Project) on public land managed by the Bureau of Land Management (BLM). The Project would be located on 560 acres (Project boundary) in Mineral County, Nevada, approximately 3 miles north of Luning, Nevada, on U.S. Route 95 (U.S. 95) and Nevada State Route 361 (SR 361) (Figure 1). The Project would be capable of producing approximately 140,000 megawatt-hours (MWh) of renewable energy annually with a gross capacity of 50 megawatts (MW) alternating current (ac). In 2009, Luning Solar Energy LLC completed a Plan of Development (POD), and the BLM completed an environmental assessment (EA) and issued a finding of no significant impact (FONSI) and ROW for a solar project at this same location. Since then, Luning Solar Energy LLC has relinquished this ROW and Invenergy Solar has submitted a Standard Form 299 (SF-299) ROW application to the BLM. This POD is being submitted to the BLM by Invenergy Solar to support this new ROW application.

The Project would use ground-mounted solar panels. Associated with the Project would be an electrical collection system connecting power inverters and transformers to the Project's collector substation where the collection system voltage would be increased to 120 kilovolts (kV). A 120-kV generation-tie transmission line (gen-tie line) would connect the Project to the existing Table Mountain substation, which is owned by NV Energy and is approximately one mile from the Project. A control house next to the collector substation would house protective relays and communications infrastructure.

The Project is projected to take approximately 30 months from permitting to commercial operation; Table 1 provides a preliminary schedule.

Table 1. Preliminary Schedule

Activity	Date
Project permitting	Summer–Winter 2013
Receive BLM ROW grant	Spring 2014
Finalize interconnect agreement	Winter 2014
Receive BLM Notice to Proceed	Spring 2015
Complete Project financing	Spring 2015
Contractor selection	Summer 2015
Project construction	Summer–Winter 2015
Commercial operation	Beginning 2016– Beginning 2046
Construction reclamation	Winter 2015–TBD

Invenergy Solar has compiled this POD with, to the best of its knowledge, currently available information. This document is subject to change and will be modified as new information becomes available and as design drawings are brought closer to the final version.

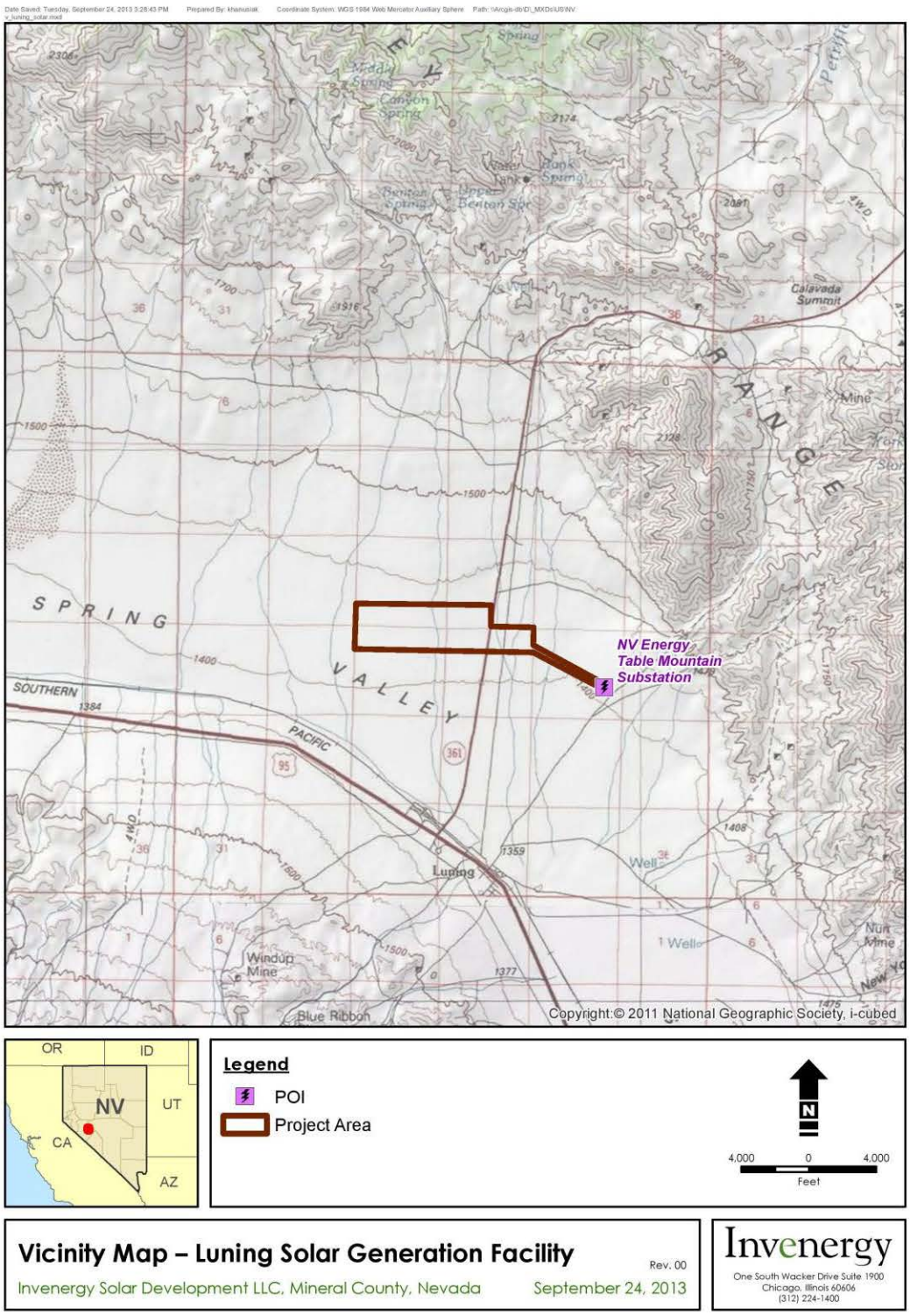

Figure 1. Project location map.

1.2 Proponent's Purpose and Need for the Project

The purpose of this Project is to provide a source of environmentally clean, renewable electricity that helps fulfill the needs of national and state renewable energy policies.

Federal laws and orders issued beginning in 2001 have established requirements for the BLM related to renewable energy development. Executive Order 13212, signed in 2001, states that "the increased production and transmission of energy in a safe and environmentally sound manner is essential to the well-being of the American people...[and] that agencies shall take appropriate actions, to the extent consistent with applicable law, to expedite projects that will increase the production, transmission, or conservation of energy" (U.S. General Services Administration 2001). The Energy Policy Act of 2005 set a 10-year target for the Secretary of the Interior to approve at least 10,000 MW of non-hydropower renewable energy projects located on public lands (BLM 2013). These laws and orders led to, among other things, the BLM issuing a Solar Energy Development Policy in 2007 and then the Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (PEIS) and the associated ROD (BLM 2012).

The State of Nevada has also recognized the need for new and diverse energy resources, including renewable energy generation. The Nevada Renewable Portfolio Standard (Nevada Revised Statutes [NRS] 704.7821) was revised on July 1, 2009, by Senate Bill 358 to state that by calendar year 2025, no less than 25% of the total amount of electricity sold by NV Energy to its retail customers in Nevada must be from renewable energy resources. Additionally, a solar "carve-out" states that beginning in 2016, at least 6% of the energy should be solar. More recently, Nevada passed Senate Bill 123 in June 2013 requiring NV Energy to retire at least 800 MW of coal-fired electric generating capacity by the end of 2019 and replace this with at least 350 MW from renewable energy (Nevada Legislature 2013). NV Energy will issue requests for proposals (RFPs) to acquire 300 MW of this renewable energy by the end of years 2014, 2015, and 2016 (Nevada Legislature 2013).

Similarly, the State of California has recognized the need for new and diverse energy resources, including renewable energy generation. Governor Schwarzenegger signed Executive Order S-14-08 on November 17, 2008, which established California's goal of increasing renewable energy–generated electricity. On April 12, 2011, Governor Jerry Brown signed legislation (Senate Bill X 1-2) to require one-third of the state's electricity to come from renewable energy by December 31, 2020.

1.3 General Facility Description, Design, and Operation

1.3.1 Project Location, Land Ownership and Jurisdiction

The Project is located in Mineral County approximately three miles north of Luning, Nevada, on U.S. 95 and SR 361 (see Figure 1). Luning is 160 miles southeast of Reno and 290 miles northwest of Las Vegas. All of the Project facilities are located on public lands administered by the BLM (Figure 2).

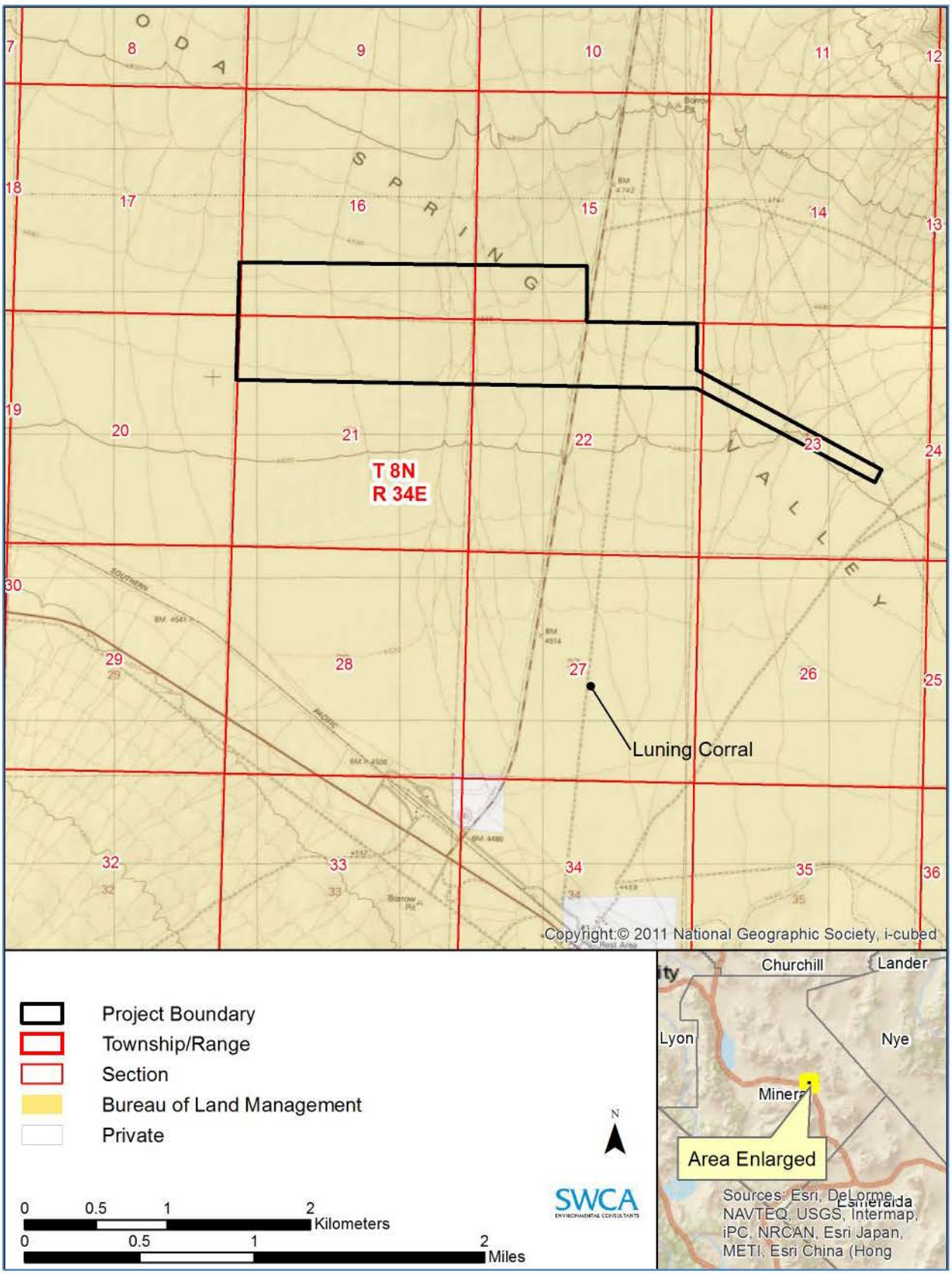

Figure 2. Landownership surrounding the Project.

1.3.2 Legal Land Description of Facility (federal and non-federal lands)

The legal description for the 560-acre Project boundary (all on federal land) is as follows:

- T8N, R34E, Section 15, S½ SW¼ (all 80 acres);
- T8N, R34E, Section 16, S½ S½ (all 160 acres);
- T8N, R34E, Section 21, N½ N½ (all 160 acres);
- T8N, R34E, Section 22, N½ N½ (all 160 acres less 7.5 acres of SR 361 ROW); and
- T8N, R34E, Section 23, (60-ft wide gen-tie ROW beginning ¼ mile from the NW corner of Section 23, running diagonally southeast approximately one mile to the Table Mountain substation in the SW¼ of Section 23, which is 7.5 acres).

1.3.3 Total Acreage and General Dimensions of All Facilities and Components

Within the 560-acre Project boundary, the Project will have short-term land disturbance effects during construction and lesser long-term land disturbance effects during operations (see Table 2). The acreage that is not needed for operations will be reclaimed (see Section 2.12). Figure 3 shows the short-term and long-term Project footprint as proposed. Detailed drawings are available in the engineering and civil design package (Appendix A).

Table 2. Project Disturbance Summary

Facility Component	Short-Term Disturbance (acres)	Long-Term Disturbance (acres)
Solar Field (including solar arrays, access roads, underground collection system, control house, laydown yard, and collector substation)	552.50	435.50
SR 361 crossing[1] (including underground collection system and access roads)	0.30	0.15
Gen-tie[2]	7.20	0.01
TOTAL	560.00	435.66

1. Assumes 20-ft wide Project access road within 400-ft wide SR 361 ROW, no disturbance to SR 361 itself, and short-term disturbance will be 2x long-term.
2. Assumes 10 poles with 100-ft radius construction circles and 3-ft radius operation circles within 60-ft wide gen-tie ROW and drive and crush vehicle traffic only (meaning no temporary or permanent road).

1.3.4 Power Plant Facilities, Thermal Conversion Process

The Project would generate electricity using multiple arrays of solar panels connected to electrical infrastructure and transmitted via a gen-tie line to the interconnection point (see Sections 1.3.5, 1.3.15 and 1.3.16 for more information).

Solar panels generate electricity using the photoelectric effect whereby the materials in the panels absorb the sun's energy in the form of photons and release electrons. The capture of these free electrons produces an electrical current that can be collected and supplied to the electrical power grid.

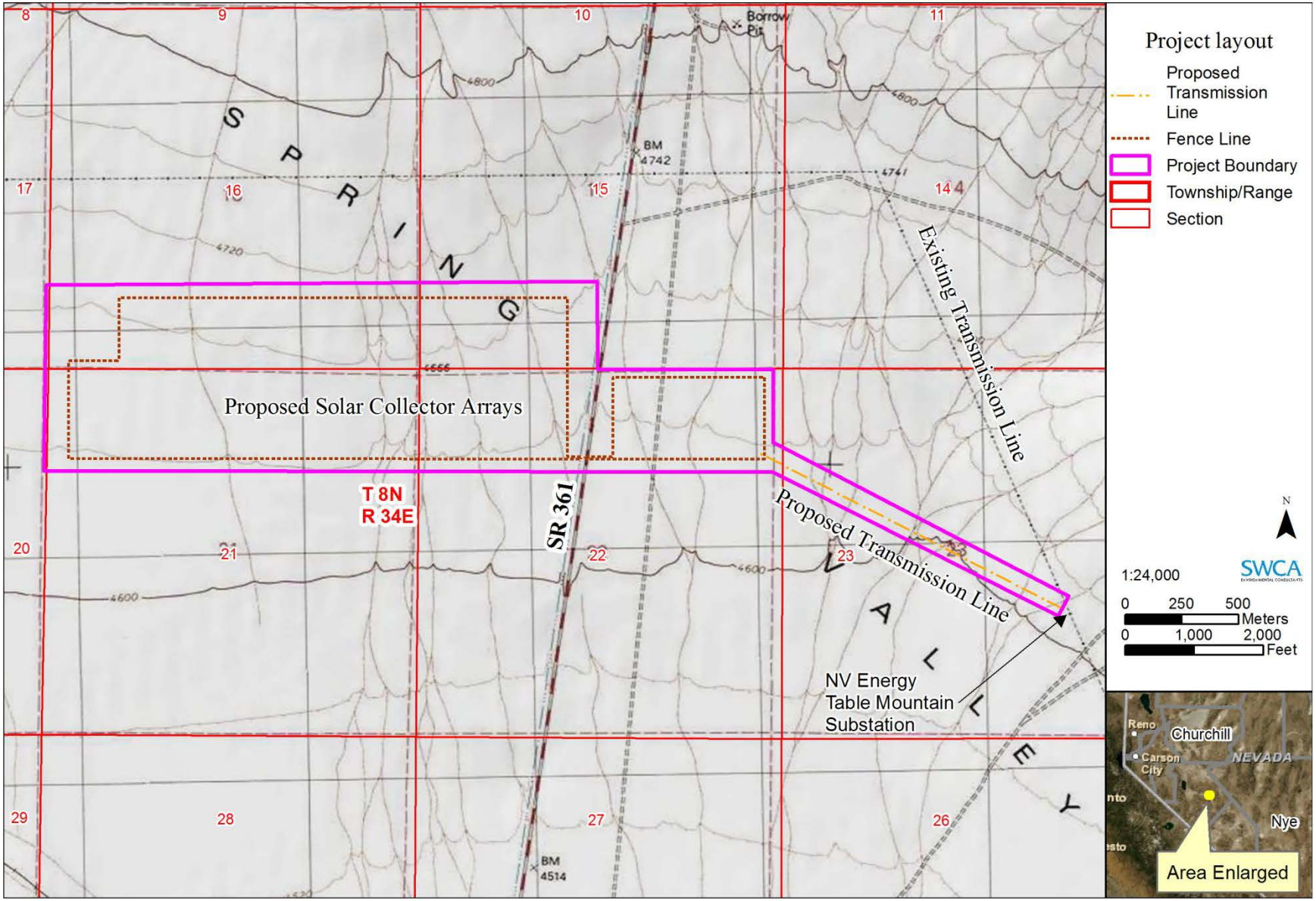

Figure 3. Project footprint.

1.3.5 Numbers and General Dimensions of Solar Array, Power Generation Units (wet or dry cooling), Towers, Substations, Transmission Lines, Access Roads, Buildings, and Parking Areas

Given the preliminary schedule, materials have not yet been procured nor have final decisions been made on specific manufacturers or designs. However, for planning purposes, an engineering and civil design package (see Appendix A) has been developed that assumes the Project would consist of the following:

- 210,000 solar modules;
- 85,000 linear feet of new access roads;
- a 300-square-foot control house;
- a 300-square-foot operations storage trailer;
- a 2,500-square-foot collector substation;
- a 15,000-square-foot temporary construction laydown yard; and
- 1 mile of overhead 120-kV gen-tie line.

The solar panel specification used for this design is a 72-cell, 300-watt multicrystalline module using a single axis tracker. The Project would use a design manufactured by Trina or a comparable firm (Appendix B). Each module measures 6.42 × 3.25 feet and would be placed in a rack with 10 to 30 other modules and mounted approximately 2 feet off the ground on a single axis tracker that rotates 45 degrees to the east and west. The Project would use a rack manufactured by Array Technologies or a comparable firm (Appendix C). Each rack would be supported by steel posts; post depth would vary depending on soil conditions but are typically 10 to 15 feet below the surface. If soil conditions require it, concrete foundations would be used. Approximately 4,200 modules would be placed along with perimeter and interior access roads, inverters and transformers to form fifty 1MWac blocks (each block would measure approximately 726 × 456 feet). Racks of modules would be installed with enough spacing between rows to minimize row-to-row shading; the planned ground coverage is approximately 33%. Figure 4 provides an example of a typical installed solar panel array.

Figure 4. Sample solar panel array.

The power would be transmitted from the solar array through electrical infrastructure to the collector substation (see Section 1.3.15 for a thorough description). At that point, it would be transmitted via the overhead 120-kV gen-tie line to the Table Mountain substation (see Section 1.3.16). The gen-tie line would be mounted on approximately ten steel or wooden poles which would be between 60 and 90 feet tall and have a 3-ft radius footprint.

1.3.6 Temporary Construction Workspace, Yards, and Staging Areas

A 15,000-square-foot laydown yard for staging and storage during construction would be located next to the collector substation (see Appendix A). In addition to providing a temporary storage space for equipment and vehicles during construction, the laydown yard would be used to house approximately five office trailers during construction for Project management purposes. Portable toilets would be used by construction workers and visitors.

1.3.7 Geotechnical Studies and Data Needs, Including Solar Insolation Testing

No on-site insolation measurement data are available. However, data from the National Renewable Energy Laboratory indicate that the site is very suitable for solar power generation (Figure 5).

The geotechnical study is forthcoming.

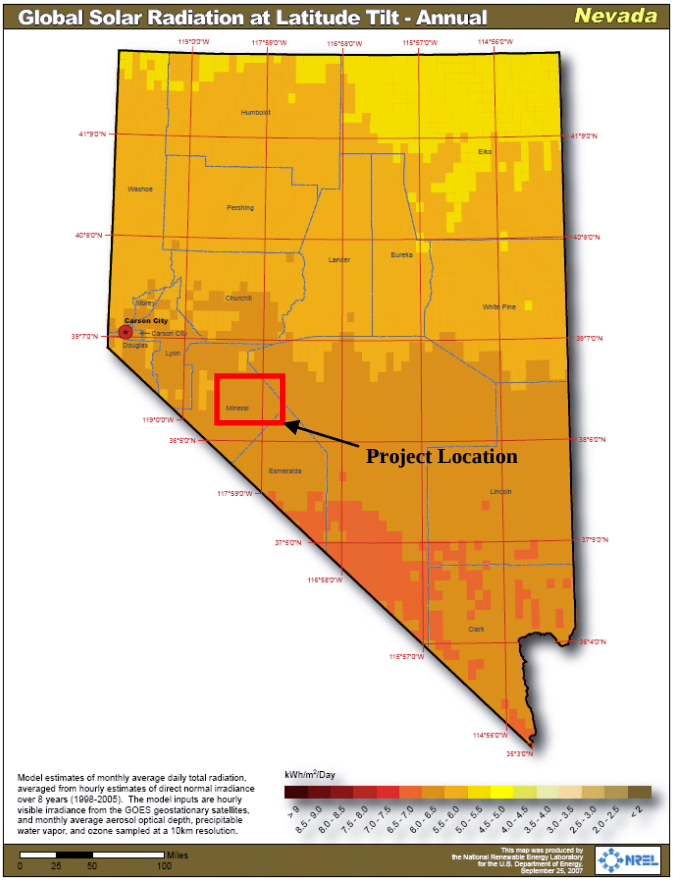

Figure 5. Solar resource map (National Renewable Energy Laboratory 2007).

1.3.8 Ancillary Facilities (administrative and maintenance facilities and storage sites)

The Project would have a control house that would sit next to the collector substation (see Appendix A) for the purpose of storing the Project's protective relay and communications equipment. It would also store potable water and Project documents for technicians. The control house would be a custom designed weatherproof structure with exterior walls and interlocking roof panels. The structural base and floor would be designed for applicable loading allowing the structure to be lifted and transported with most of the interior equipment installed and would be approximately 300 square feet. The control house would have fire and safety equipment such as smoke detectors, fire extinguishers, and an eyewash station. The control house would come with a heating and ventilation and air conditioning (HVAC) system. The HVAC system and other equipment in the control house would be powered with station power (see Section 1.3.15).

Two portable toilets would be located outside the control house to be used by maintenance technicians and visitors. A 300-square-foot storage trailer would be located next to the control house to store spare parts, consumables and tools for ongoing operations and maintenance. Maintenance trucks and personal vehicles would park adjacent to the control house.

1.3.9 Water Usage, Amounts, and Sources (during construction and operations)

Approximately 20 gallons of potable water would be stored on-site for use as drinking water during construction and operations. This water would be stored in the office trailers during construction and in the control house during operations.

Some water would be needed for site preparation and grading activities. During earthwork for the grading of access roads and other Project components, the main use of water is for compaction and dust control. Some water would be required for reclamation and for preparation of any concrete required for foundations. The total amount of water needed during construction would be less than three million gallons (9.2 acre-feet).

During operations, solar panel washings are planned to increase the average optical transmittance of the flat panel surface. Panel washes would be scheduled depending on actual soiling conditions, Project performance, and in accordance with the power purchase agreement. The demand for water to wash the panels would be less than one-quarter million gallons (0.75 acre-feet) per wash.

All water would be brought in from off-site sources as needed. The closest bulk water source is the Hawthorne Utilities stand pipe in Luning, approximately three miles from the Project. Seasonal freezing during October through March may require hauling water 22 miles from Hawthorne, Nevada, if needed during those months. Water for site preparation, grading, concrete, dust control and panel washings would be brought by 3,500-gallon water trucks, whereas potable water would be transported in 5-gallon containers.

1.3.10 Erosion Control and Stormwater Drainage

The Project design includes minimal grading in order to maintain existing stormwater drainage patterns (see Appendix A). Any erosion during construction would be controlled by implementing a Stormwater Pollution Prevention Plan (SWPPP), as required by the Nevada Department of Environmental Protection (NDEP), Bureau of Water Pollution Control for projects disturbing more than one acre.

1.3.11 Vegetation Treatment and Weed Management

No noxious weeds were observed during a vegetation survey conducted in June 2008; however, invasive non-native species are common (JBR Environmental Consultants [JBR] 2008). Russian thistle (*Salsola tragus*) is found throughout the area, and halogeton (*Halogeton glomeratus*) is common near SR 361. Cheatgrass (*Bromus tectorum*) is present in the area but is much less common than either Russian thistle or halogeton. Land clearing could result in the spread of Russian thistle or halogeton because these species are already common and frequently colonize newly disturbed areas. Any new infestations of non-native, invasive species in the Project area would be treated promptly, and any introduction of noxious weed infestations would be prevented using measures developed in consultation with the BLM.

1.3.12 Waste and Hazardous Materials Management

Locally generated trash during construction and operations would be hauled off-site for disposal.

There are two main sources of hazardous materials: padmount transformers and inverters. Each padmount transformer contains approximately 500 gallons of oil and each inverter cooling system contains approximately 11 gallons of ethylene glycol/water mixture, totaling 25,550 gallons of hazardous liquid at this Project. These hazardous materials would be managed in accordance with applicable state and federal regulations.

Section 40 Code of Federal Regulations (CFR) Part 112 requires that a Spill Prevention Control and Countermeasure (SPCC) plan be prepared for a project that stores oil in quantities greater than 1,320 gallons above ground and/or 42,000 gallons below ground. Therefore, a SPCC would be prepared for the Project to address any spills that could occur following guidelines in 40 CFR 112.

The construction contractor would also develop a SPCC to comply with Invenergy Solar standards that would address any spills during the construction period.

1.3.13 Fire Protection

Vegetation in the Project area is sparse enough that the risk of wildfire is relatively low. The solar modules are designed to be resistant to fire and the racks are constructed of non-combustible steel and aluminum. The solar panels and other electrical equipment would meet applicable Underwriters Laboratories and International Electrotechnical Commission (IEC) ratings for their resistance to fire. Specifically, the modules are IEC 61730 certified, which requires tests to assess the potential fire hazard due to operation of a module or failure of its components. Tests are conducted associated with temperature, hot spots, fire resistance bypass diode thermal, and reverse current overload in order to certify the panels. The solar modules themselves do not distribute heat to the surrounding area.

Fire extinguishers would be available in the control house and at strategic locations throughout the Project site. Roads have been designed and would be constructed and maintained to allow rescue vehicles to access the Project.

1.3.14 Site Security and Fencing (during construction and operations)

A 6-foot-high chain link fence would be installed around facilities as they are constructed, and access to the site would be controlled by gates (see Appendix A). High voltage equipment would be separately fenced with warning signage. Motion-activated lighting would be installed on the control house, on the access gates, and throughout the solar arrays for access during non-daylight hours. A motion-activated

security camera system would be installed with the lighting to monitor the collector substation, control house, and the solar arrays. During construction, temporary lighting facilities may be used if necessary.

1.3.15 Electrical Components, New Equipment, and Existing System Upgrades

Solar modules are connected in series to form strings, and electricity from these strings is aggregated in combiner boxes (see figure on Sheet W-111 of Appendix A). A single circuit then leaves each combiner box, which is installed underground and connects to the inverter.

The current produced by solar modules is in the form of direct current (DC). In order to be sent to the electrical grid, the DC current must be converted into AC power, and inverters serve this function. The conversion is accomplished by rapidly switching the DC power supply. By varying the length of time that the switch is on, as well as the polarity, the positive and negative swells of an AC wave are created. This waveform is then smoothed with an output filter. Inverters employ several advanced control systems, switching algorithms, and ancillary services for both the input and output stages. For the input stage, the inverters can manipulate the DC voltage to ensure maximum power harvest of input, and on the output various sensors ensure that AC power production is in accordance with regulatory requirements. The Project plans to use fifty General Electric (GE) Brilliance or similar inverters (Appendix D). The GE inverter is the latest evolution of power electronics designed with the heritage of GE's vast fleet of wind turbine inverters. The GE inverter is designed to fully comply with the applicable requirements of the National Electrical Code and Institute of Electrical and Electronics Engineers standards.

The inverter AC output voltage (480 volts) would then be stepped up to a higher voltage (34.5 kV) using padmount transformers located next to each inverter. Invenergy Solar has used Prolec GE transformers at many of its facilities and would use these or a comparable transformer for this Project (see Appendix E). Underground collection cables, buried to a minimum of 3 feet, would connect the electrical output to the Project collector substation. The cables would be arranged in several branch circuits, each circuit consisting of 34.5-kV three triplexed single conductor cables with PVC jackets that connect groups of solar modules to an open air isolation switch in the collector substation.

At the Project collector substation, the voltage would again be stepped up (from 34.5 to 120 kV) to prepare it to connect to the grid at the Table Mountain substation. The collector substation would include several 34.5-kV branch circuit breakers in combination with open air type isolation switches to connect the collection system feeders to the main 34.5-kV substation bus, a 34.5-kV main bus open air isolation switch, a 34.5- to 120-kV step-up transformer, and a 120-kV circuit breaker and open air isolation switch. The collector substation would also include protective relay and metering equipment, utility and customer revenue metering, and a 34.5-kV to 480-volt station service transformer to provide power to the collector substation service load and the control house.

The power output would then flow through the 120-kV isolation switch at the Project collector substation onto an approximately 1-mile-long, single circuit 120-kV gen-tie line to the point of interconnection at the Table Mountain substation (see Section 1.3.16).

1.3.16 Interconnection to Electrical Grid

Connection to the electrical grid would be made at the Table Mountain substation. An Interconnection Feasibility Study was completed by NV Energy in November 2008 for 50 MW of interconnection at this same substation for Luning Solar Energy LLC. A System Impact Study was completed in October 2010 and a Facility Study was completed in November 2011. These studies concluded that no significant negative impacts would be imposed on the NV Energy transmission grid from the proposed

interconnection if it was constructed as proposed, and a Large Generator Interconnection Agreement (LGIA) was drafted in 2012. Invenergy Solar is now in the interconnection queue for 50 MW. NV Energy expects to complete the System Impact Study by April 2014 and the Facility Study by October 2014, after which a new LGIA can be drafted and executed.

1.3.17 Health and Safety Program

Potential safety issues for the Project include safe work practices, site security, emergency response procedures, fire control, heavy equipment use and transportation, traffic control, and others. A detailed and complete health and safety program that meets all requirements under the federal Occupational Safety and Health Administration regulations would be developed for the protection of both workers and the general public during the construction and operational phases of the Project. The health and safety program would be developed, implemented, and administered by the contractors during construction and by the owner during operations.

1.4 Alternatives Considered by Applicant

Because Luning Solar Energy LLC received a BLM ROW for a comparable project with mitigation measures at this location after finding no significant environmental impacts, Invenergy Solar did not consider alternative Project locations or sizes as part of the new application.

1.5 Other Federal, State, and Local Agency Permits Requirements

BLM permitting is required since the Project is being proposed on federal land managed by BLM, and this POD has been prepared to comply with BLM ROW regulations as set forth at 43 C.F.R. Pt. 2800, BLM Instruction Memorandum 2011-060 and various provisions described in the PEIS. Other federal, state and local agency involvement would be completed through the National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) processes led by BLM and would include stakeholders such as the U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service (USFWS), Nevada Department of Wildlife, and the Nevada State Historic Preservation Office (SHPO). Because the entire Project is located on federal land, local permitting jurisdiction is limited. Appropriate coordination with Mineral County will be undertaken when applicable. Table 3 lists permits and authorizations that may be required prior to the commencement of construction.

Table 3. Permits, Certifications, and Authorizations

Authorization	Status	Statutory Reference	Permit or Authorization Trigger
Federal			
BLM ROW	Submitted ROW application July 31, 2013 and this POD October 14, 2013.	Federal Land Policy and Management Act of 1976 (Public Law [PL] 94-579; 43 United States Code [USC] 1761–1771; 43 CFR 2800); NEPA (PL 91-190, 42 USC 4321−4347, January 1, 1970, as amended by PL 94-52, July 3, 1975; PL 94-83, August 9, 1975; and PL 97-258, 4[b], September 13, 1982)	Federal land, federal permit
BLM National Historic Preservation Act (NHPA) Compliance	Prior BLM consultation was undertaken with the Walker River Paiute Tribe and the Yomba Shoshone Tribe as part of the Section 106 process associated with the NEPA review for Luning Solar Energy LLC (2009 EA). There were no impacts to register eligible resources within the Project boundary.	NHPA (36 CFR Part 800)	Register eligible cultural resources on federal land
Endangered Species Act (ESA)	No listed, threatened, or candidate species are present.	ESA (PL 93-205, as amended by PL 100-478 [16 USC 1531, *et seq*.])	Section 7 consultation.
USFWS Migratory Bird Treaty Act (MBTA)	No permit available allowing take of migratory bird.	16 USC 703–711; 50 CFR Subchapter B	
Clean Water Act (CWA)	No U.S. waters or wetlands have been identified.	Section 404	Placement of dredged or fill materials in waters of the U.S. or wetlands requires a federal permit.
State			
Nevada SHPO	SHPO concurrence will be required for eligibility, effect and any treatment plan developed.		Consultation required under 36 CFR Pt. 800
NDEP Bureau of Air Pollution Control Surface Disturbance Air Permit	Dust control plan and process equipment emissions control plans will be prepared.	NRS 445B.210, Nevada Administrative Code (NAC) 445B.22037	Disturbance or covering 5 acres or more of land or its topsoil.
NDEP Clean Water Act, Section 402 National Pollutant Discharge Elimination System Notification for Stormwater Management during Construction	NOI will be submitted and SWPPP prepared prior to commencement of construction.	33 USC 1251 *et seq*.	Construction activities larger than 1 acre that would discharge stormwater runoff from the construction site into a municipal separate stormwater sewer system or into waters of the U.S.
Nevada Department of Transportation (NDOT) ROW Occupancy Permit	Permit will be obtained prior to commencement of construction.	NRS 408.423, 408.210, NAC 408	Construction within an NDOT ROW.
NDOT ROW Permanent Encroachment Permit	Permit application in process.		Permanent installations such as utilities within an NDOT ROW.
Nevada Department of Public Safety Uniform Permit (for Transportation of Hazardous Materials)	Permit will be obtained prior to commencement of construction.	NAC 459.979	Transportation of hazardous materials in a vehicle on a public highway.

1.6 Financial and Technical Capability of Applicant

Invenergy Solar is a wholly owned subsidiary of Invenergy LLC, the largest privately held developer, owner, and operator of renewable energy projects in the United States. Invenergy LLC has developed over 7,000 MW of utility-scale solar, wind and gas-fueled power generation projects in the United States, Canada, and Europe. This includes more than 5,500 MW of projects in operation and more than 1,500 MW under contract and in construction.

Invenergy LLC plans on using a project financing structure for this Project. The company has numerous examples of this successful approach based on the number and types of projects currently operating or under construction. Invenergy LLC has raised more than $10 billion of capital in support of renewable and gas generation project financings in the last 10 years. Various financing structures have been used with differing debt and tax equity participants. Invenergy LLC typically secures project financing after all of the major project development components are in place (i.e. power purchase agreement, interconnect agreement, lease agreement, construction agreement).

2.0 CONSTRUCTION OF FACILITIES

2.1 Solar Field Design, Layout, Installation, and Construction Processes

2.1.1 Solar Field Design and Layout

The solar panel arrays (as described in Section 1.3.5) would be oriented north to south and track the sun from east to west to optimize energy production. More information is available in Section 1.3.5 and the engineering and civil design package (see Appendix A).

2.1.2 Installation and Construction Processes

An engineering, procurement, and construction (EPC) contractor would be selected to complete construction of the Project. Construction of specific Project components would be completed by subcontractors under the direction of the EPC contractor and Invenergy Solar. The EPC contractor would prepare a construction plan that it and its subcontractors would follow that would provide detailed guidance on Project design, construction process, safety, permitting, schedule, and other related construction items.

Project construction would follow a progressive approach. Construction of the facility would begin with surveying and staking the construction limits. The site would then be graded and fenced with security fencing prior to installation of the roads, solar panels, inverters, collector substation, and control house. Construction of the gen-tie line would be completed last, before the facility is energized.

2.2 Approach to Construction and Operations

Several activities must be completed prior to the commercial operation date. The majority of the activities relate to equipment ordering lead-time, as well as design and construction of the facility. A construction schedule is shown in Table 4. Pre-construction, construction, and post-construction activities, some of which would occur concurrently, include:

- Finalize project design;
- Soil borings, testing, and analysis for proper foundation design and materials;
- Ordering of all necessary components, including solar modules, inverters, and padmount transformers;
- Survey to establish locations of structures and roadways;
- Construction of access roads to be used for construction and maintenance;
- Installation of rack foundations (vibratory or pile driving);
- Installation of racks;
- Installation and stringing of modules;
- Installation of underground cables;
- Construction of underground feeder lines;
- Design and construction of Project collector substation;

- Commissioning of modules and inverters; and
- Commencement of commercial operation.

Table 4. Construction Schedule

Activity	Timeframe
Contractor selection	1 month
Mobilization	1 week
Site survey and staking	1 week
Site grading and fencing	2 weeks
Solar array installation	7 months
Collector substation construction	1 month
Gen-tie line construction	1 month
Energize facility	1 week

Once commercial operation begins, it is expected to continue for 30 years. Invenergy Services LLC operates most projects that are owned by Invenergy LLC affiliate companies in the United States, and it is anticipated that Invenergy Services LLC would also operate this Project. Project management, including remote monitoring and control, is performed from Chicago, Illinois.

2.3 Access and Transportation System, Component Delivery, and Worker Access

Equipment deliveries and workers would have easy access to the site. The SR 361 turnoff from U.S. 95 is approximately one mile northwest of Luning, Nevada. The site is approximately two miles north on SR 361 from U.S. 95 (see Figure 1). That section of U.S. 95 has an annual average daily traffic (AADT) count of 2,900, and that section of SR 361 has an AADT count of 100 (Nevada Department of Transportation [NDOT] 2013).

New roads would facilitate access within the Project site; refer to the engineering and civil design package for location (Appendix A). The roads would be approximately twenty feet wide and have aggregate as cover, adequate to support the size and weight of construction, maintenance, and rescue vehicles. There would be access to the Project from SR 361 via two driveways, one on the west side of the highway and one on the east side. The NDOT ROW (BLM Serial Number NVCC 0021174) extends 200 feet on both sides of the SR 361 centerline. Facility setbacks, underground collection system cabling and access road designs are being completed in accordance with NDOT procedures as part of the NDOT ROW permanent encroachment permit (see Table 3). Any lane closure or other impacts to SR 361 during construction will be coordinated as part of the NDOT ROW temporary occupancy permit (see Table 3).

During the construction phase, several types of light and medium construction vehicles would travel to and from the site. Private vehicles would also be used by the construction personnel. At this time, Invenergy Solar estimates that there would be approximately 100 truck trips per day in the area during peak construction periods. The highest traffic volume would occur during the peak construction periods when the rack foundation posts, rack, and module assembly is taking place concurrently. Oversize and overweight loads are not expected.

During the operations phase, the peak traffic time will be during water haul truck trips for panel washing during which approximately 70 truck trips would be required. Routine maintenance will require one or two light-duty trucks.

Signs reminding construction and maintenance personnel to maintain low vehicle speeds will be posted throughout the Project in order to minimize dust and promote safety.

A 200-foot-wide temporary ROW would be needed for the approximately 1-mile-long gen-tie line. Within that ROW, a two-track construction access road would be designated for drive and crush travel. Drive and crush is vehicular travel to access a site without significantly modifying the landscape. Vegetation is crushed but not cropped and will likely re-sprout after temporary use is stopped. After construction, the permanent gen-tie ROW would be 60 feet wide, and access would be along the two-track road, using drive and crush during infrequent maintenance and inspection events. Figure 6 provides a diagram of the gen-tie line ROW and disturbance areas.

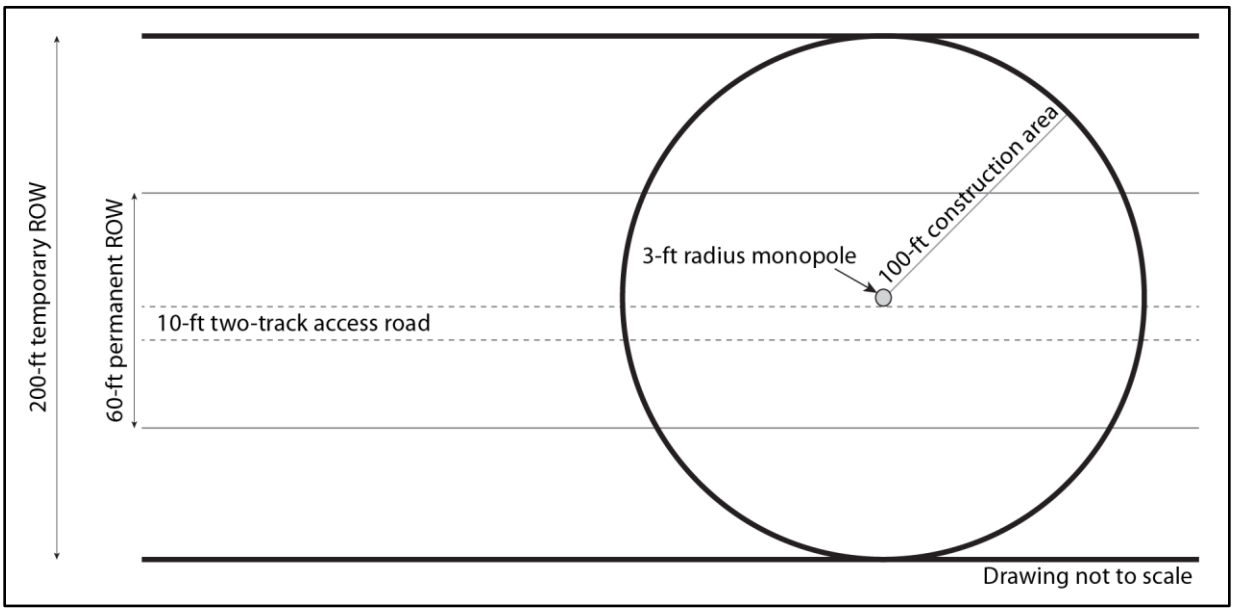

Figure 6. Gen-tie line ROW and disturbance area diagram.

2.4 Construction Work Force Numbers, Vehicles, Equipment, and Timeframes

Approximately 100 workers per day would be required for construction of the Project and associated facilities. Construction personnel would be from both the local labor force and from outside regions, with an emphasis placed on using local labor, contractors, and suppliers when possible. Temporary facilities, including office trailers and portable toilets, would be installed in the laydown area. No more than 100 employee vehicles are anticipated on the site at any one time.

Construction would generally occur between 7 a.m. and 7 p.m., Monday through Friday. Additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities.

Equipment and vehicles that may be used during construction are listed in Table 5.

Table 5. List of Equipment Typically Used for Construction

Equipment	Use
D7 bulldozer	Road and pad construction
Grader	Road and pad construction
Water trucks	Compaction, erosion, and dust control
Roller/compactor	Road and pad construction
Backhoe	Digging foundations and trenches for utilities
Trenching machine	Digging trenches for underground utilities
Truck-mounted drill rig	Drilling pole foundations
Concrete trucks and pumps	Pouring pole and other structure foundations
Dump trucks	Hauling road and pad material
Flatbed trucks	Hauling towers and other equipment
Pickup trucks	General use and hauling minor equipment
Small hydraulic cranes and forklifts	Loading and unloading equipment
Four-wheel-drive all-terrain vehicles	Rough grade access and underground cable installation
Rough terrain forklifts	Lifting equipment
Crane	Framing and erecting poles
Pulling/braking equipment	Stringing and anchoring wires and conductors

2.5 Site Preparation, Surveying and Staking

Prior to construction a surveyor would obtain or calculate benchmark data, grades, and alignment of facilities based on information provided in the site plan. Benchmark data, grades, and alignment of facilities would be marked via control staking. The surveyor would re-establish and set additional control staking during construction.

2.6 Site Preparation, Vegetation Removal, and Treatment

Prior to commencement of earth-disturbing activity, Invenergy Solar (or its selected contractor) would identify any sensitive resources, such as cactus species, within the Project area. Sensitive resources would be marked with a global positioning system (GPS) unit, flagging, or other non-destructive method. Sensitive resources would be mitigated and/or removed from the Project area.

2.7 Site Clearing, Grading, and Excavation

Once site preparation is complete, the Project footprint would be cleared and grubbed of vegetation and debris using D7 or similar bulldozers. Cleared vegetation and debris suitable for compaction would be incorporated and/or stockpiled for later use while unsuitable materials, such as large rocks and boulders, would be stockpiled, then hauled off-site and disposed of.

Grading may require both excavation and soil compaction in order to achieve desired grades and elevations and ensure proper soil compaction as identified in the detailed design. Grading would be most extensive in areas for the access roads, control house, collector substation, and laydown yard, while grading would be minimized to the extent practicable for the solar array footprint. Stockpiling and grading would require the use of backhoes, graders, and rollers/compactors. Excavation for utility lines

and support structure foundations would be completed with truck-mounted drill rigs, backhoes, and trenching machines.

2.8 Solar Array Assembly and Construction

Solar array construction would begin with the installation support structures and foundations. The final support structure design is unknown at this time and would be determined by results of the geotechnical survey, the solar technology, and EPC contractor selected to complete construction.

Once foundations and support structures are in place, tracker assemblies would be constructed on-site and installed on the support structures. Final assembly of the trackers onto the support structures would require a variety of heavy equipment including small cranes, tractors, welding machines, and forklifts.

2.9 Gravel, Aggregate, and Concrete Needs and Sources

The quantities of construction materials required for the Project, such as gravel, aggregate (or road base), asphalt, and concrete, are dependent on the geotechnical study and final arrangements and layouts. These layouts would be part of the detailed design, and the material takeoffs would be estimated at that stage in the Project.

Preliminary studies indicate that the nearest processing plant for gravel and aggregate is at the intersection of U.S. 95 and SR 361. An alternate source is Corner Stone Ready Mix in Hawthorne, Nevada. Transportation fees associated with delivery of these materials must be considered, and alternative sources would be explored as further studies are conducted and construction needs become known.

2.10 Electrical Construction Activities

Installation of the collector substation would be done concurrent with the installation of solar trackers. Installation of the electrical infrastructure (as described in Section 1.3.15) would begin after the solar array structural installation is complete.

2.11 Aviation Lighting (power towers, transmission)

No towers, transmission lines, or structures would be tall enough to require aviation lighting.

2.12 Site Stabilization, Protection, and Reclamation Practices

After Project construction, any area that was temporarily disturbed and no longer needed for on-going operations will be reclaimed using a seed and plant mix as approved by the BLM. The greatest area to be reclaimed would be along the gen-tie route.

At the end of the useful life of the Project, or upon the expiration or termination of the ROW grant, whoever comes first, the solar panels and all ancillary equipment and facilities (including control house, portable toilets, collector substation, gen-tie) would be removed from the site. Any support structures would be demolished and all debris would be removed. After removal of all equipment and structures, the ground and roads would be smoothed by disking and planted with a seed and plant mix as approved by the BLM. These practices would be described in more detail in a forthcoming Decommissioning and Site

Reclamation Plan (DSRP). The DSRP would include a reclamation cost estimate using a methodology similar to the one used by the mining industry (NDEP 2013) in order to help the BLM establish a performance and reclamation bond amount to ensure the Project's compliance with the terms and conditions of the ROW authorization (BLM 2011a, 2012). Invenergy Solar would post the bond prior to receiving a Notice to Proceed.

3.0 RELATED FACILITIES AND SYSTEMS

3.1 Transmission Systems Interconnect

Connection to the electrical grid would be made at the Table Mountain substation via the Project's new 120-kV gen-tie line. The 2012 draft LGIA indicated that the change in ownership would occur just inside the Table Mountain substation fencing. At the pre-application meeting held with NV Energy and Invenergy Solar on September 17, 2013, it was determined that the substation fencing may need to be expanded in order to accommodate NV Energy's new facilities to interconnect the Project. NV Energy is in the process of determining whether its existing BLM ROW (BLM Serial Number NVN 007255) is sufficient to cover this expansion or whether it would need to amend its ROW, and subsequent information would be provided as part of this POD when that determination is made.

A 200-foot-wide temporary ROW would be needed for the approximately 1-mile-long gen-tie line. Within that ROW, 10 monopole structures would be erected. Each monopole would require a 100-foot-radius area for construction. Following construction, the permanent disturbance would be 3 feet around each monopole, and the temporary disturbance area would be reclaimed (see Section 2.12). Additionally, all necessary pulling and tensioning sites would be within the temporary 200-foot ROW and would be reclaimed following construction. Figure 6 above provides a diagram of the gen-tie line ROW and disturbance areas.

3.2 Gas Supply Systems

No gas supply systems would be required.

3.3 Other Related Systems

3.3.1 Communication System

On-site communications during the construction and operations phases of the Project would be accomplished with cellular telephones and two-way radios. Air horns may also be used for emergency communications as necessary.

Communications with NV Energy during the operations phase of the Project would be done using a primary and secondary fiber optic cable. The primary fiber optic line would be integrated with the gen-tie line while the secondary fiber optic line would be buried.

There would also be a Supervisory Control and Data Acquisition (SCADA) system such as the GE SunIQ system (see Appendix F) that allows Invenergy Services LLC on-site and remote personnel to operate the Project.

4.0 OPERATIONS AND MAINTENANCE

4.1 Operation and Maintenance Facility Needs

The control house and associated facilities (i.e., parking, storage trailer, and portable toilets) would accommodate operation and maintenance needs. Because the Project would not be staffed regularly, there would not be a separate operations and maintenance facility.

4.2 Maintenance Activities, Including Mirror Washing and Road Maintenance

On-site maintenance activities would include inspections, planned and unplanned maintenance, and panel washing. Inspections of the Project's electrical facilities, roads, and grounds would be conducted a minimum of one day per month. The equipment is modular and can be easily removed and replaced if necessary. Given the relatively small size, modules can be easily picked up with a small loader and placed on a flatbed truck. Preventative maintenance on the Project solar arrays and inverters would be conducted a minimum of twice per year. PV panel washings would occur as needed to increase the average optical transmittance of the flat panel surface (see Section 1.3.9). Some minor roadwork and weed control would be performed as needed.

4.3 Operations Workforce and Equipment

The Project would not utilize full-time on-site staff, but would be monitored 24 hours per day, 7 days per week via the SCADA system by Invenergy Services LLC. A minimum of two maintenance technicians would be dispatched during inspections, unplanned and planned maintenance, and panel washing. A special crew may be deployed for panel washing depending on the frequency. The two technicians and all contractors during the operations phase would be under the supervision of a regional Invenergy Services LLC operations and maintenance manager. Invenergy Services LLC provides competitive salaries, benefits, and training and strives to hire locally when possible.

Most of the maintenance equipment would be stored on-site in the control house, though some equipment and tooling would arrive from off-site with the technicians.

5.0 ENVIRONMENTAL CONSIDERATIONS AND OTHER RESOURCES

5.1 General Description of Site Characteristics and Potential Environmental Issues

The Project area occurs on a flat outwash fan in Soda Springs Valley. The area is sandy to gravelly and the limited vegetation consists of two dominant species, Shockley's wolfberry (*Lycium shockleyi*) and Bailey's greasewood (*Sarcobatus baileyi*) (JBR 2008).

Figure 7. Project area overview (Kautz 2009).

5.1.1 Special or Sensitive Species and Habitats

A Nevada Natural Heritage Program (NNHP) database query performed in August 2013 (NNHP 2013) identified no records of listed, candidate, or sensitive plant and animal species in the Project site. No state or federally listed plants or BLM sensitive plants were observed during a vegetation survey or NNHP query conducted in June and July 2008 (JBR 2008). Nine cacti were observed in the Project area during the June 2008 vegetation survey including six plains pricklypears (*Opuntia polyacantha*) and three sand chollas (*Grusonia pulchella*). All cacti species are protected from willful destruction under state law (NRS 527.060–527.120) (JBR 2008).

The USFWS online species list for Mineral County identifies five species: greater sage-grouse (*Centrocercus urophasianus*, candidate), yellow-billed cuckoo (*Coccyzus americanus*, candidate), Hiko White River springfish (*Crenichthys baileyi grandis*, endangered), Railroad Valley springfish (*Crenichthys nevadae*, threatened), and Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*, threatened) (USFWS). There is no suitable habitat for these species in the Project area.

Nevada Department of Wildlife online maps show that the Project area does not overlap sage-grouse habitat or big game habitat. It is possible that some BLM sensitive wildlife species such as various bats,

owls, and hawks would forage in the area but these species are unlikely to be negatively affected by the Project.

5.1.2 Special Land Use Designations

No special land use designations have been identified in the Project area.

5.1.3 Visual Resource Management Designations

Visual resources (the landscape) consist of landform (topography and soils), vegetation, bodies of waters (lakes, streams, and rivers), and human-made structures (roads, buildings, and modifications of the land, vegetation, and water). These elements of the landscape can be described in terms of their form, line, color, and texture. Normally, the more variety of these elements there is in a landscape, the more interesting or scenic the landscape becomes, if the elements exist in harmony with one another. The visual impact of projects is often raised as an issue during project development. The risk is determined by evaluating the existing landscape, including current structures and developments, the proximity to viewers with high sensitivity, and how the proposed Project would contrast with existing conditions.

BLM lands surrounding the Project site are unclassified and managed as visual resource management (VRM) Class IV. The objective of Class IV is to provide for management activities that require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repetition of basic elements.

A BLM Visual Contrast Rating Worksheet was completed by JBR in 2009 for one key observation point (KOP) at the junction of U.S. 95 and SR 361. JBR's assessment concluded that the proposed buildings and solar arrays would create additional areas of contrast with the surrounding undisturbed landform and vegetation. The proposed transmission line to the existing Table Mountain substation would be indistinct and difficult to see. The overall contrast would be weak to moderate because the disturbance is two miles away from an observer at the KOP. Outside of daylight hours, the Project should not be visible from the KOP due to the limited use of lighting (see Section 1.3.14). It was determined that the Project meets VRM Class IV objectives.

5.1.4 Cultural and Historic Resource Sites and Values

The Project site was inventoried to federal Class III standards by Kautz Environmental Consultants, Inc. (Kautz), in June and July 2008 (Kautz 2009). This inventory identified six archaeological sites, all historic in age. Five of these resources are recommended not eligible for the National Register of Historic Places. The remaining resource is a segment of the Wadsworth to Columbus Freight Road, a resource eligible for the National Register. The segment is located in the Project area; however, it is recommended as a non-contributing element. Therefore, Kautz recommended that no further management considerations are necessary for these resources prior to Project implementation. This report has been submitted to the BLM for review, who agreed that cultural resources in the Project area do not require additional management actions (BLM 2009:9).

5.1.5 Native American Tribal Concerns

In accordance with National Historic Preservation Act compliance, the Walker River Paiute Tribe and Yomba Shoshone Tribe were provided with a consultation letter including a general summary of the earlier proposed project including a map (BLM 2009:7). The Yomba Shoshone Tribe deferred to the

Walker River Paiute Tribe as to whether the site posed any concern to Native American religious resources (BLM 2009). The Walker River Paiute Tribe determined that there were no Native American religious concerns within the proposed footprint. However, the tribe would be contacted in the event that human remains are inadvertently discovered during construction (BLM 2009).

5.1.6 Noise

During construction activities, there will be noise from vehicles, earth movement, and post driving. During operations, there will be some low level of noise from the electronic equipment. Motorists traveling on SR 361 may hear construction noise as they pass by. Motorists are unlikely to hear any operations noise as they pass by. Because there are no residences nearby, no noise from construction or operations is expected to directly impact any person.

5.1.7 Other Environmental Considerations

No other pertinent environmental considerations have been identified at this time.

5.2 Other Uses on the Project Site

5.2.1 Grazing Permit (grazing use, range improvements including fences and water sources and distribution, access, proposed mitigation, and any agreements with permittee)

The Project is located within the Pilot-Table Mountain grazing allotment, which encompasses approximately 520,000 acres and has an active grazing preference of 7,900 animal unit months (AUMs) (BLM 2009). By restricting access to the Project area, this would effectively remove 435.66 acres from the allotment. However, given the paucity of vegetation in the Project area, it is not anticipated that the Project would impact grazing directly. Nor would the Project require any range improvements to be removed.

The Project may have an impact on permittees if they use the Project or another nearby area for transporting animals. For example, the Luning Corral is located one mile south of the Project (see Figure 2) and has been used by allotment permittees to move cows from one side of SR 361 to the other (BLM 2009). Increased vehicle traffic during the construction period may affect permittees as they cross SR 361.

The BLM issued a policy in 2011, and restated it in the PEIS, to define the involvement of grazing permittees in the solar and wind energy ROW application process (BLM 2011b, 2012). Invenergy Solar plans to work with BLM and affected permittees to mitigate impacts in accordance with this policy.

5.2.2 Other Existing Authorized Uses (rights-of-way, leases, and permits)

There are two existing ROW grants in the Project area: the first is the NV Energy transmission facilities ROW and the second is the NDOT SR 361 ROW. Invenergy Solar will work with both permittees throughout Project development, construction and operations (see Sections 2.3 and 3.1).

5.2.3 Public Access and Roads

Access to the general public would be denied for security and safety reasons.

5.2.4 Recreation and Off-highway Vehicle Conflicts

Current recreational use within the Project boundary is believed to be low. During construction and operation, the site would be closed to recreational use for site security and for the safety of the public. There is a possibility that the Las Vegas to Reno off-road race would pass through the vicinity of the Project. Invenergy Solar would coordinate with the BLM to avoid conflicts with the race.

5.2.5 Aviation and/or Military Conflicts

The Federal Aviation Administration (FAA) is an agency of the U.S. Department of Transportation that regulates civil aviation in the United States. Based on the FAA's Special Use Airspace website mapping tool (http://sua.faa.gov/sua/siteFrame.app), there are no special or restricted airspace concerns within the Project site. The Fallon South Military Operating Airspace is approximately six miles north of the Project area.

5.2.6 Mining Claims

Per communication with BLM, there are no active mining claims within the Project boundary.

5.3 Mitigation Measures Proposed by the Applicant

5.3.1 Cultural and Historic Resources

- Any cultural (historic or prehistoric site or object) or paleontological resources or Native American human remains, funerary items, sacred objects, or objects of cultural patrimony discovered by the holder, or any person working on their behalf, during the course of activities on federal land will be immediately reported to the Authorized Officer by telephone, followed by written confirmation. The holder will suspend all operations in the immediate area of such discovery and protect it until an evaluation of the discovery can be made by the Authorized Officer.

- For cultural resources other than Native American human remains, funerary items, sacred objects, or objects of cultural patrimony, this evaluation will determine the significance of the discovery and what mitigation measures are necessary to allow the activities to proceed. The holder is responsible for the cost of evaluation and mitigation. Any decision on treatment and/or mitigation will be made by the Authorized Officer after consulting with the holder. Operations may resume only upon written authorization to proceed from the Authorized Officer.

- Invenergy Solar will inform all persons working in the Project area that knowingly disturbing cultural resources or collecting artifacts is prohibited.

- Invenergy Solar will ensure that any cultural resources discovered in the process of construction are protected by halting work within 100 meters of the discovery until the BLM issues a Notice to Proceed.

5.3.2 Native American Tribal Concerns

- For Native American human remains, funerary items, sacred objects, or objects of cultural patrimony the holder must stop activities in the immediate vicinity of the discovery and protect it from activities for 30 days or until notified to proceed by the Authorized Officer. The holder is responsible for the cost of consultation, evaluation, and mitigation. Any decision on treatment and/or mitigation will be made by the Authorized Officer after consulting with the holder.

5.3.3 Grazing

- Invenergy Solar will coordinate with the BLM and allotment holders to minimize potential conflicts with the permittees' operation of the Luning Corral.

5.3.4 Other Environmental Considerations

- Construction sites will be maintained in a sanitary condition at all times; waste material at those sites will be disposed of promptly at an appropriate waste disposal site.

- Six months prior to termination of the grant, the Authorized Officer will be contacted to arrange a joint inspection of the ROW. This inspection will be held to agree to the Project DSRP. This plan will include, but is not limited to, removal of facilities, drainage structures, or surface material, recontouring, topsoiling, or seeding.

- New infestations of invasive, non-native weeds will be treated promptly to prevent them from being spread off-site.

- Cactus and yucca plants will be avoided if possible. With BLM approval, cactus and yucca plants that cannot be avoided will be transplanted to nearby suitable habitat.

- A surface area disturbance permit will be obtained from the NDEP Bureau of Air Pollution Control to construct and operate the site in accordance with permit conditions.

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APPENDIX A. ENGINEERING AND CIVIL DESIGN

APPENDIX B. TRINA SOLAR MODULE EXAMPLE

APPENDIX C. ARRAY TECHNOLOGIES RACK EXAMPLE

APPENDIX D. GE INVERTER EXAMPLE

APPENDIX E. PROLEC GE TRANSFORMER EXAMPLE

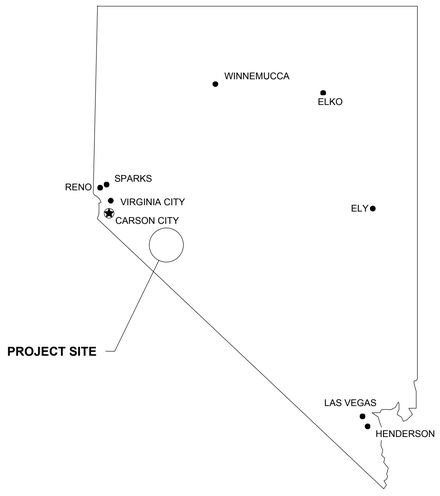
APPENDIX F. GE SUNIQ SCADA EXAMPLE

LUNING SOLAR GENERATION FACILITY

MINERAL COUNTY, LUNING, NEVADA 89420

SOLAR ELECTRIC SYSTEM PROJECT - 50.0 MWAC

PROJECT LOCATION:



PROJECT SCOPE:

SOLAR ELECTRIC SYSTEM

THIS PROJECT ENTAILS THE INSTALLATION OF A SOLAR PHOTOVOLTAIC SYSTEM. THE SYSTEM WILL BE A NET ELECTRICITY EXPORTER TO THE UTILITY GRID.

THE INSTALLATION CONSISTS OF PHOTOVOLTAIC MODULES ON A GROUND MOUNTED SINGLE AXIS TRACKING SYSTEM. THE SYSTEM WILL ALSO INCLUDE SEVERAL INVERTERS. THE PROPOSED INVERTERS ARE UL1741 LISTED FOR POWER QUALITY AND SAFETY.

THE SYSTEM WILL BE INTERCONNECTED TO AND WILL BE OPERATED IN PARALLEL WITH THE ENERGY PROVIDER ELECTRIC GRID PER THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

PERMITTING/PLANNING NOTES:

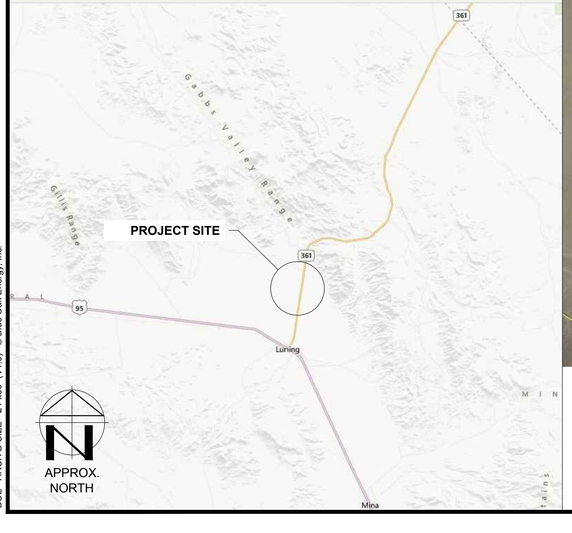
1. THIS PV SYSTEM INSTALLATION IS SUBJECT TO INSPECTION BY THE AUTHORITY HAVING JURISDICTION, INVENERGY, BLUE OAK ENERGY AND MULTIPLE OTHER STAKEHOLDERS IN THIS PROJECT.
2. THIS PROJECT SHALL CONFORM TO THE FOLLOWING CODE VERSIONS:
   - 2010 CA BUILDING CODE
   - 2010 CA ELECTRICAL CODE

   AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)
   - ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES

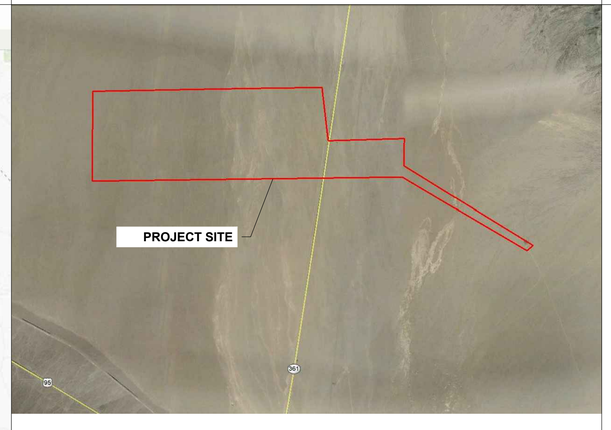
DRAWING INDEX:

DWG #	DRAWING	REV #
WG-001	TITLE SHEET	
C-100	EXISTING SITE PLAN	
C-101	GRADING AND DRAINAGE PLAN	
W-111	ARRAY PLAN	
W-112	TRANSMISSION LINE PLAN	

STREET MAP:



AERIAL VIEW:



PROJECT TEAM:

DEVELOPER

INVENERGY
ONE SOUTH WACKER DRIVE, SUITE 1900
CHICAGO, IL 60606
CONTACT: LAURA MINER
TEL: (503) 964-8900

DESIGN ENGINEERING FIRM

BLUE OAK ENERGY
1560 DREW AVENUE
DAVIS, CA 95618
CONTACT: SAM LAUGHLIN
TEL: (530) 747.2026

PRELIMINARY NOT FOR CONSTRUCTION

REV. NO.	DESCRIPTION	DATE	BY
-	PRELIMINARY	10.02.13	MJW

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DRAWN BY:	RGD	CHECKED BY:	SPL	APPD BY:	JTG
PROJECT #:	INV0.13.001		PRINTED ON:	10/2/13	
FILE NAME:	DETL.dwg		TIME:	10:58 AM	

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1560 Drew Avenue, Davis, CA 95618
www.blueoakenergy.com - Phone: 530.747.2026

OWNER:

Invenergy

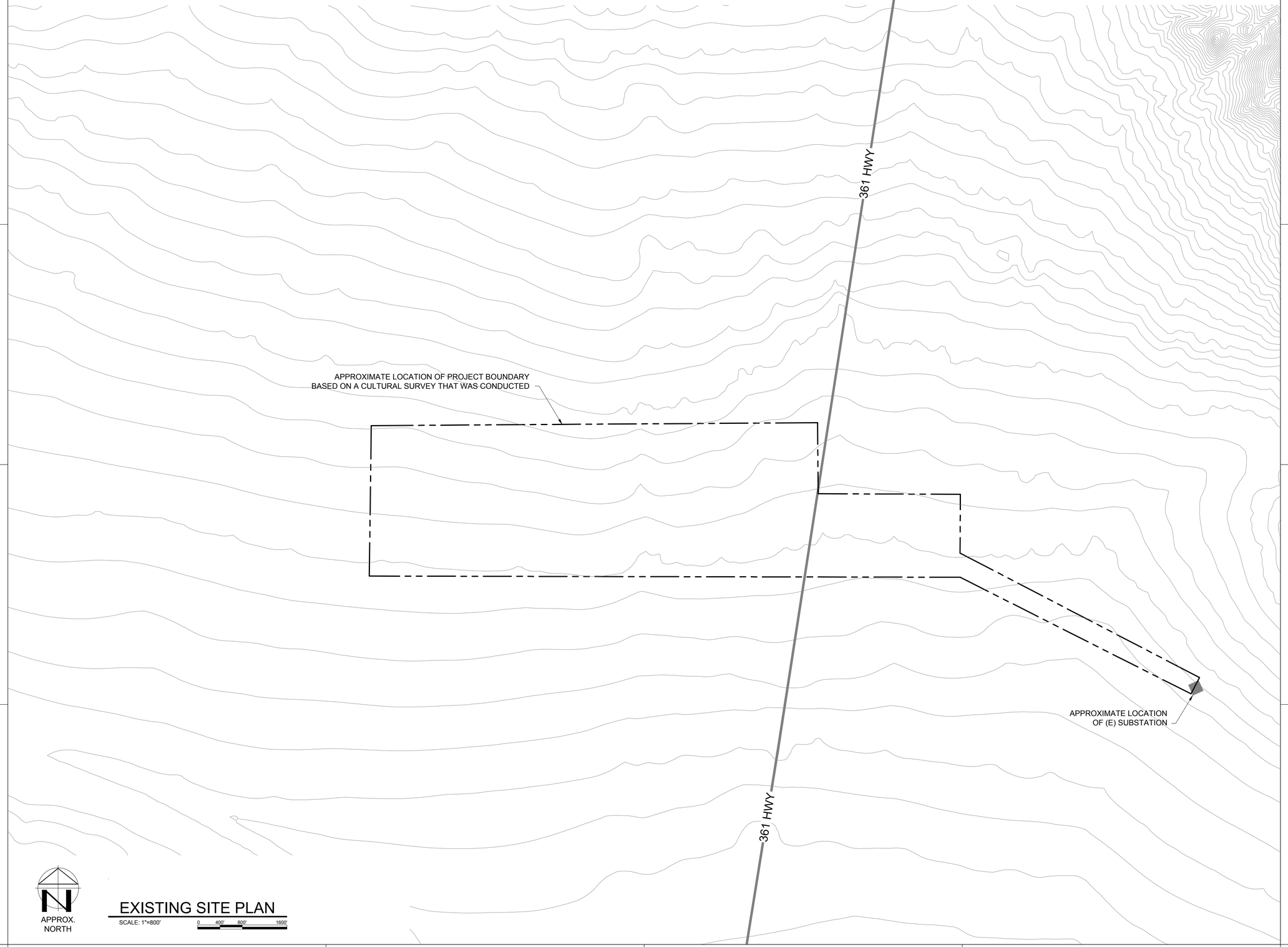
ONE SOUTH WACKER DRIVE SUITE 1900
CHICAGO, ILLINOIS 60606

PROJECT SITE:

LUNING SOLAR GENERATION FACILITY
MINERAL COUNTY
LUNING, NEVADA 89420

DRAWING: TITLE SHEET

DRAWING NO.: WG-001



EXISTING SITE PLAN

SCALE: 1"=800' 0 400' 800' 1600'

NOTES:

1. THE TOPOGRAPHY PROVIDED AND USED IS 5 METER CONTOUR USGS DATA.

KEYED NOTES:

1 NONE.

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REV. NO.	DESCRIPTION	DATE	BY
-	PRELIMINARY	10.02.13	MJW

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DRAWN BY:	RGD	CHECKED BY:	SPL	APPD BY:	JTG
PROJECT #:	INV0.13.001			PRINTED ON:	10/2/13
FILE NAME:	SITE.dwg			TIME:	10:59 AM

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OWNER:

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ONE SOUTH WACKER DRIVE SUITE 1900
CHICAGO, ILLINOIS 60606

PROJECT SITE:

LUNING SOLAR GENERATION FACILITY

MINERAL COUNTY
LUNING, NEVADA 89420

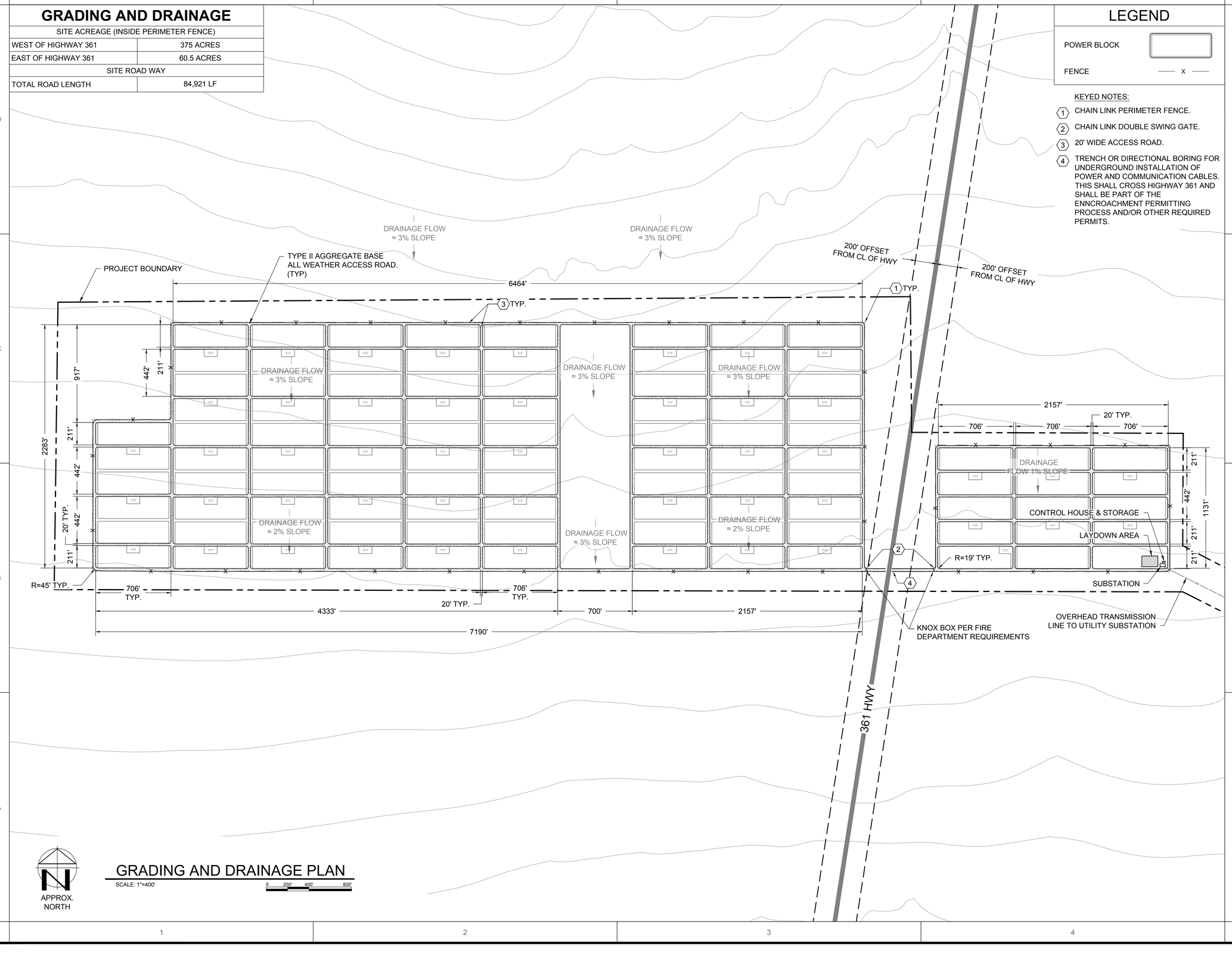
DRAWING: EXISTING SITE PLAN

DRAWING NO.

C-100

GRADING AND DRAINAGE

SITE ACREAGE (INSIDE PERIMETER FENCE)	
WEST OF HIGHWAY 361	375 ACRES
EAST OF HIGHWAY 361	60.5 ACRES
SITE ROAD WAY	
TOTAL ROAD LENGTH	84,921 LF



APPROX. NORTH

GRADING AND DRAINAGE PLAN

SCALE: 1"=400'

0 200' 400' 800'

LEGEND

POWER BLOCK

FENCE — x —

KEYED NOTES:

1. CHAIN LINK PERIMETER FENCE.
2. CHAIN LINK DOUBLE SWING GATE.
3. 20' WIDE ACCESS ROAD.
4. TRENCH OR DIRECTIONAL BORING FOR UNDERGROUND INSTALLATION OF POWER AND COMMUNICATION CABLES. THIS SHALL CROSS HIGHWAY 361 AND SHALL BE PART OF THE ENNCROACHMENT PERMITTING PROCESS AND/OR OTHER REQUIRED PERMITS.

NOTES:

1. THE OVERALL HISTORICAL DRAINAGE PATTERNS ARE TO REMAIN. MINIMAL CHANGE IN FINISHED GRADE IS PROPOSED. SOLAR ARRAYS ARE TO BE INSTALLED AT EXISTING GRADE. THE INTENT OF THE PROPOSED MAINTENANCE ROAD IS TO MATCH THE EXISTING GRADES.
2. THE TOPOGRAPHY USED FOR THE GRADING & DRAINAGE PLAN IS 5 METER USGS DATA.
3. THE OFFSITE CONTRIBUTING WATERSHED IS APPROX. 20 SQ. MILES. THE FINAL OFF SITE CONTRIBUTIONS AND FLOOD DEPTHS TO BE DETERMINED DURING FINAL ENGINEERING. ELECTRICAL EQUIPMENT WILL BE RAISED ACCORDINGLY, IF NEEDED.
4. THE TOTAL PROJECT BOUNDARY IS APPROX. 628 ACRES.
5. DIMENSIONS PROVIDED ARE FOR GUIDANCE ONLY.

PRELIMINARY NOT FOR CONSTRUCTION

REV. NO.	DESCRIPTION	DATE	BY
-	PRELIMINARY	10.02.13	MJW

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PROJECT #:	INV0.13.001			PRINTED ON:	10/3/13
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OWNER:

Invenergy

ONE SOUTH WACKER DRIVE SUITE 1900
CHICAGO, ILLINOIS 60606

PROJECT SITE:

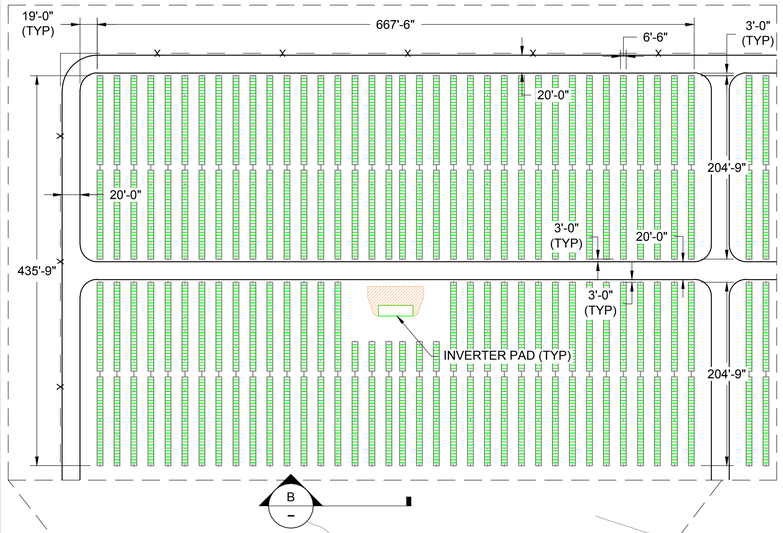
LUNING SOLAR GENERATION FACILITY

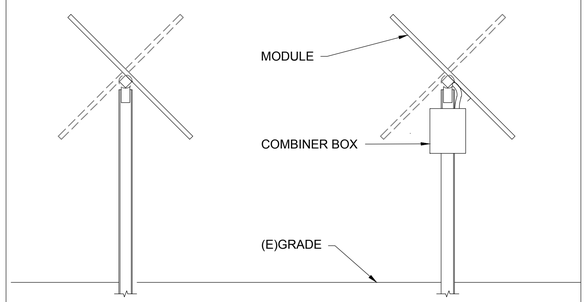
MINERAL COUNTY
LUNING, NEVADA 89420

DRAWING: GRADING AND DRAINAGE PLAN

DRAWING NO.

C-101





B TRACKER PROFILE
SCALE: NTS

SYSTEM SUMMARY

MODULE STC RATING	300W
TOTAL MODULE COUNT	210,000
TOTAL STC-DC SYSTEM SIZE	63.0 MW
TOTAL AC SYSTEM SIZE	50.0 MW
SITE LATITUDE	38°N
TRACKER ROW ORIENTATION	NORTH-SOUTH
TRACKER RANGE OF MOTION	±45° (FACING EAST-WEST)
TRACKER TILT	0°
GROUND COVER RATIO	33%

LEGEND

SOLAR TRACKER

SHADE PATH (FROM 10AM TO 2PM)

FENCE LINE — — x — —

A ARRAY PLAN
SCALE: 1"=400'
0 200' 400' 800'

NOTES:

1. DIMENSIONS PROVIDED ARE FOR GENERAL GUIDANCE ONLY.

KEYED NOTES:

1. TRENCH OR DIRECTIONAL BORING FOR UNDERGROUND INSTALLATION OF POWER AND COMMUNICATION CABLES. THIS SHALL CROSS HIGHWAY 361 AND SHALL BE PART OF THE ENCROACHMENT PERMITTING PROCESS AND/OR OTHER REQUIRED PERMITS.

PRELIMINARY NOT FOR CONSTRUCTION

REV. NO.	DESCRIPTION	DATE	BY
-	PRELIMINARY	10.02.13	MJW

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PROJECT #:	INV0.13.001			PRINTED ON:	10/2/13
FILE NAME:	SITE.dwg			TIME:	11:01 AM

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OWNER:
Invenergy
ONE SOUTH WACKER DRIVE SUITE 1900
CHICAGO, ILLINOIS 60606

PROJECT SITE:
LUNING SOLAR GENERATION FACILITY
MINERAL COUNTY
LUNING, NEVADA 89420

DRAWING: ARRAY PLAN

DRAWING NO. W-111

PROJECT BOUNDARY

(N) SUBSTATION

±4925'

(N) OVERHEAD
TRANSMISSION LINE

(E) UTILITY SUBSTATION

361 HWY

APPROX.
NORTH

A TRANSMISSION LINE PLAN
SCALE: 1"=600'

0 300' 600' 1200'

NOTES:

1. DIMENSIONS PROVIDED ARE FOR GENERAL GUIDANCE ONLY.

KEYED NOTES:

1 NONE.

PRELIMINARY
NOT FOR
CONSTRUCTION

REV. NO.	DESCRIPTION	DATE	BY
-	PRELIMINARY	10.02.13	MJW

–FOR INTERNAL USE ONLY –					
DRAWN BY:	RGD	CHECKED BY:	SPL	APPD BY:	JTG
PROJECT #:	INV0.13.001			PRINTED ON:	10/2/13
FILE NAME:	SITE.dwg			TIME:	11:02 AM

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CHICAGO, ILLINOIS 60606

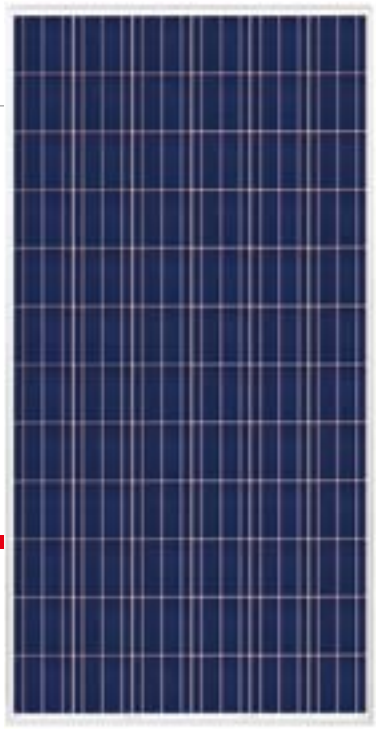
PROJECT SITE:

LUNING SOLAR GENERATION FACILITY

MINERAL COUNTY
LUNING, NEVADA 89420

DRAWING: TRANSMISSION LINE PLAN

DRAWING NO. W-112



TSM-PA14

THE UTILITY SOLUTION

15.7%
MAX EFFICIENCY

305W
MAX POWER OUTPUT

10 YEAR
PRODUCT WARRANTY

25 YEAR
LINEAR POWER WARRANTY

Module can bear snow loads up to **5400Pa** and wind loads up to **2400Pa**

Guaranteed power output
0~+3%

High performance under low light conditions
Cloudy days, mornings and evenings

Enhanced module durability with **4.0mm** thick tempered glass

Manufactured according to International Quality and Environment Management System Standards
ISO9001, ISO14001

MC4 photovoltaic connectors increase system reliability

Founded in 1997, Trina Solar (NYSE: TSL) has established itself as a leader in the solar community with its vertically integrated business model. Our modules and system solutions provide clean solar power in on-grid and off-grid residential, commercial, industrial and utility-scale systems.

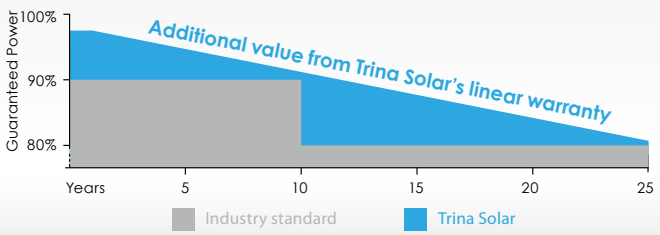
With more than 22 offices worldwide, Trina Solar has partnerships with leading installers, distributors, utilities and developers in all major PV markets. Trina Solar is committed to driving smarter energy choices.

Trina Solar Limited
www.trinasolar.com

Trinasolar
Smart Energy Together

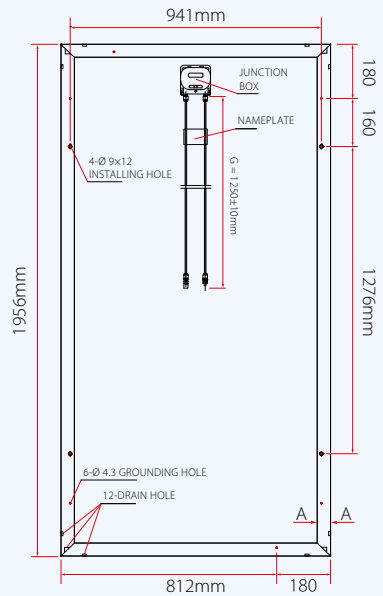
LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty • 25 Year Linear Power Warranty

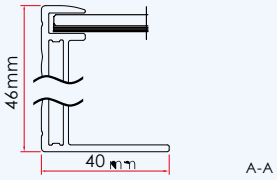


TSM-PA14 Utility Scale Solar Module

DIMENSIONS OF PV MODULE TSM-PA14

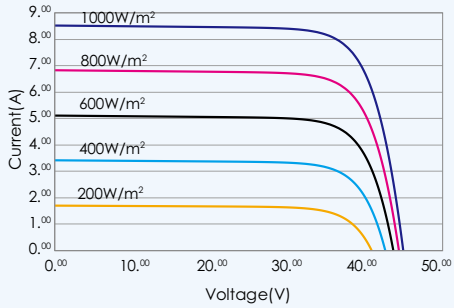


Back View



A-A

I-V CURVES OF PV MODULE TSM-290 PA14



Average efficiency reduction of 4.5% at 200W/m² according to EN 60904-1.

CERTIFICATION

ELECTRICAL DATA @ STC

ELECTRICAL DATA @ STC	TSM-285 PA14	TSM-290 PA14	TSM-295 PA14	TSM-300 PA14	TSM-305 PA14
Peak Power Watts-P_{MAX} (Wp)	285	290	295	300	305
Power Output Tolerance-P_{MAX} (%)	0/+3	0/+3	0/+3	0/+3	0/+3
Maximum Power Voltage-V_{MP} (V)	35.6	36.1	36.6	36.9	37.0
Maximum Power Current-I_{MPP} (A)	8.02	8.04	8.07	8.13	8.25
Open Circuit Voltage-V_{OC} (V)	44.7	44.9	45.2	45.3	45.4
Short Circuit Current-I_{SC} (A)	8.50	8.53	8.55	8.60	8.75
Module Efficiency η_m (%)	14.7	14.9	15.2	15..5	15.7

Values at Standard Test Conditions STC (Air Mass AM1.5, Irradiance 1000W/m², Cell Temperature 25°C).
Power measurement tolerance: ±3%

ELECTRICAL DATA @ NOCT

ELECTRICAL DATA @ NOCT	TSM-285 PA14	TSM-290 PA14	TSM-295 PA14	TSM-300 PA14	TSM-305 PA14
Maximum Power-P_{MAX} (Wp)	207	211	214	218	221
Maximum Power Voltage-V_{MP} (V)	32.1	32.6	33.0	33.3	33.4
Maximum Power Current-I_{MPP} (A)	6.46	6.47	6.48	6.55	6.62
Open Circuit Voltage (V)-V_{OC} (V)	40.7	40.9	41.2	41.3	41.4
Short Circuit Current (A)-I_{SC} (A)	6.93	6.97	7.00	7.04	7.17

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.
Power measurement tolerance: ±3%

MECHANICAL DATA

Solar cells	Multicrystalline 156 × 156mm (6 inches)
Cell orientation	72 cells (6 × 12)
Module dimensions	1956 × 992 × 46mm (77 × 39.05 × 1.81 inches)
Weight	27.6kg (60.8 lb)
Glass	High transparency solar glass 4.0mm (0.16 inches)
Frame	Anodized aluminium alloy
J-Box	IP 67 rated
Cables	Photovoltaic Technology cable 4.0mm² (0.006 inches²) , 1250mm (49.2 inches)
Connector	Original MC4 Multi-Contact MC STÄUBLI GROUP

TEMPERATURE RATINGS

Nominal Operating Cell Temperature (NOCT)	45°C (±2°C)
Temperature Coefficient of P_{MAX}	- 0.44%/°C
Temperature Coefficient of V_{OC}	- 0.33%/°C
Temperature Coefficient of I_{SC}	0.046%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1000V DC(IEC)/ 600V DC(UL)
Max Series Fuse Rating	15A

WARRANTY

10 year Product Workmanship Warranty

25 year Linear Power Warranty

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 24 pieces

Modules per 40' container: 528 pieces

TSM_US_Feb_2013

Trinasolar
Smart Energy Together

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

DuraTrack™ HZ

Array Technologies' DuraTrack™ HZ single-axis horizontal solar tracker optimally balances performance with high durability, long-term reliability, and minimal operation and maintenance, to maximize the ROI for utility-scale and commercial projects.

> "The constructability of the system is a huge benefit to both the contractor installing the system and ultimately the project's developer in terms of labor cost and schedule savings."
>
> JASON LIVENGOOD & STEVE HOYE, JE DUNN CONSTRUCTION

SMART DESIGN

Unlike "push-pull" tracker designs, DuraTrack HZ's rotating gear-drive system does not compound wind forces through the driveline, resulting in an uncomplicated, robust solution that requires less structural material and parts.

GREATEST DESIGN FLEXIBILITY

Articulating driveline connections accommodate installation on undulating terrain and irregular site boundaries while immensely relaxing installation tolerances, reducing the risk of installation errors and increasing deployment speed.

FEWER MOTORS PER MW INCREASES PAYBACK

Designed to expedite the development of large-scale solar plants, the DuraTrack HZ high-density, low-profile system has less motors per MW making it easier to install, operate and maintain.

WIND TUNNEL AND LAB TESTED

Full-scale wind tunnel testing of the DuraTrack structure, and laboratory lifetime-tested components, results in a reliable and durable system that has proved to exceed expectations.

Array Technologies Inc.

A 3901 Midway Place NE
Albuquerque, NM 87109 USA

T +1 505.881.7567
+1 855.TRACKPV (872.2578)

F +1 505.881.7572

E utilitysales@arraytechinc.com

E commercialsales@arraytechinc.com

W arraytechinc.com

DuraTrack™ HZ

AJO, ARIZONA – 6 MW

There are many types of terrain that present unique challenges for solar installations, but one is particularly common: sites that have uneven, undulating topography that in many cases requires extensive grading. Array Technologies' DuraTrack™ HZ system utilizes a cutting-edge, articulating driveline design that enables installation on undulating terrain, equipped with proprietary joints that can move up to 40° off angle while relaxing installation tolerances. This completely eliminates the need for extensive earthworks at naturally undulating sites such as this one in Arizona.

ABOUT ARRAY TECHNOLOGIES

Solar industry pioneer Array Technologies, Inc. is the leading manufacturer of innovative, cost-effective, reliable and robust solar tracking and racking systems. Our customers include utilities, corporations, small businesses, and homeowners. Headquartered in Albuquerque, NM for over 20 years with more than 1.7 GW of product delivered, Array Tech provides its customers with unequaled solar tracking expertise. Our ground mount solutions are manufactured in the USA and shipped worldwide.

STRUCTURAL & MECHANICAL FEATURES/SPECIFICATIONS	
Tracking Type	Single Axis
Tilt Angle	0°
kW per Drive Motor	More than 350 kW DC
Drive Type	Gear Drive
Motor Type	1.5 to 3 HP, 3 Phase, 480V AC
Motors per 1 MW	2 – 4 motors
East-West/North-South Dimensions	Site/module specific
Array Height	48" standard, adjustable
Ground Cover Ratio (GCR)	33% – 50%, flexible
Modules Supported	Most commercially available, including frameless thin film
Tracking Range of Motion	90°
Module Configuration	Single module in portrait standard, dual-in-landscape also available
Module Attachment	DuraTrack HZ high-speed mounting clamps
Materials	HDG, high-strength steel & anodized aluminum
Allowable Wind Load (IBC 2012)	Tailored to site requirements; up to IBC 180 MPH, 3-second gust exposure C
Wind Protection	None required, safety wind-stow included
ELECTRONIC CONTROLLER FEATURES/SPECIFICATIONS	
Wind Stow Device	Yes
Wind Stow Device Type	Array Tech proprietary
Solar Tracking Method	Algorithm with GPS input
Control Electronics	MCU plus Central Controller
Data Feed	MODBUS over Ethernet to SCADA system
Night-time Stow	Yes
Tracking Accuracy	+ or – 2° standard, field adjustable
Backtracking	Yes
INSTALLATION, OPERATION & MAINTENANCE	
PE Stamped Structural Calculations & Drawings	Yes
On-site Training & System Commissioning	Yes
Welding	Welded & Non-welded options available
In-field Fabrication Required	No
Dry Slide Bearings & Articulating Drive-line Connections	No lubrication required
Gear Drives	Grease once every 2 years
GENERAL	
Annual Power Consumption (kWh per 1 MW)	350 kWh per MW per year, estimated
Land Area Required per 1 MW	Approx. 5–6 acres per MW @ 33% GCR (site and design specific)
Energy Gain vs. Fixed-Tilt	Up to 25%, site specific
Warranty	5 years parts only, 10 year extended available
Made in the USA	Made in the USA from domestic and imported parts

GE Energy

GE 1 MW Brilliance* Solar Inverter

fact sheet

Introduction

GE Energy's 1 MW Brilliance Solar Inverter, a grid tie solar inverter, is the latest evolution of renewables power electronics designed with the heritage of GE's proven wind turbine control design. Building on GE's expertise as a leader in the wind industry and decades of experience in controls for a wide range of utility applications, GE will soon be offering the latest power conversion technology for your large-scale solar applications.

Technical Description

Designed specifically for multi-megawatt solar projects, GE's Brilliance Solar Inverter is UL508C certified and optimized for direct connection to the grid via a Medium Voltage Transformer. With a standard voltage output of 480 VAC, GE's solar inverter requires no additional intermediate transformer, resulting in higher conversion efficiency.

Grid Friendly Features

GE's solar inverter also comes enabled with several grid friendly features that have been developed with the expertise of GE's Controls Center of Excellence.

CONTROL System

GE's CONTROL system regulates voltage and power in real time. Like a conventional power plant, it supplies reactive power to the grid when it is needed, regulating system voltage and stabilizing weak grids. GE provides a simple integrated system of Volt-Amp-Reactive (VAR) control—unlike other systems that may require add-on capacitors or VAR compensators.

Reactive Power

GE's Reactive Power feature provides smooth fast voltage regulation by delivering controlled reactive power through all operating conditions. By supervising individual inverters, it ensures that the reactive power performance can meet—and often exceed—the performance of a conventional (non-solar) power

plant. This feature can eliminate the need for grid reinforcements specifically designed for no-sun conditions, and may allow for more economic commitment of other generating resources that can enhance grid security by reducing the risk of voltage collapse.

RIDE-THRU

Our innovative RIDE-THRU technology offers Low Voltage Ride Through (LVRT), Zero Voltage Ride Through (ZVRT) and High Voltage Ride Through (HVRT) capabilities. The ZVRT package is consistent with U.S. Federal Energy Regulatory Commission (FERC) requirements. This innovative feature enables inverters to meet transmission reliability standards more stringent than those demanded of thermal power generation plants.

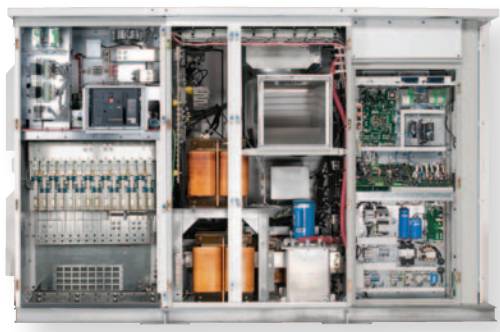
Solar SCADA System

Solar SCADA provides a broad set of intuitive tools for operation and maintenance of the solar plant. GE's Solar SCADA application is accessible from anywhere on the network. It also can be used remotely with a secure Internet connection or a telephone line. To address the ever-growing security requirements in SCADA systems, user access control is integrated into the entire system and provides an audit trail for all activity. A large set of production and maintenance reports are available to enhance the owner's ability to drive productivity across all aspects of the solar plant operation.

Technical Specifications

Output Power	Nominal AC Power	1,000 kWAC	1,000 kWAC
	Nominal AC Voltage	480 Vac (+10/-5%)	480 Vac (+10/-5%)
	Nominal AC Line Current	1,204 Aac	1,204 Aac
	Nominal Grid Frequency	50 Hz	60 Hz
	Nominal Power Factor	0.99 or greater	0.99 or greater
Efficiency	Peak Conversion Efficiency (without transformer)	> 98.0†	> 97.5%†
	Weighted Efficiency (without transformer)	> 97.5%† (EuroETA)	> 97.0%† (CEC)
	Night Time Consumption	< 250 W	< 250 W
Input Power	Input Voltage Max	1,000 Vdc	1,000 Vdc
	MPPT Voltage Range	450-850 Vdc	450-850 Vdc
	MPP DC Current	2,400 Adc	2,400 Adc
	Max Isc	3,600 Adc	3,600 Adc
Dimensions	Height Width Depth Weight	2,350 mm 3,400 mm 1,300 mm 4,000 kg	2,350 mm 3,400 mm 1,300 mm 4,000 kg
Environmental Design	Outdoor Enclosure	NEMA 3R (NEMA 3S Bridge and Controls)	NEMA 3R (NEMA 3S Bridge and Controls)
	Operating Temperature	-30.0 to 50.0 °C	-30.0 to 50.0 °C
Certifications and Standards		CE	UL508C CSA 22.2 #14 IEEE 519 UL 50E/CSA C22.2 #94.2 IBC/UBC Zone 4 (Seismic) IEC 60721-3-3 Class 3M3 (Sine Vibration) Ground Fault Indicator – per UL1741

Note: Efficiency measured using the CEC Weighted Average, and does not include losses of the Medium Voltage Transformer.
† 1000kw efficiency is preliminary. Cerification is in process.



For more information about GE Energy's Brilliance Solar Inverters visit www.ge-energy.com/solar

GEA18380 (10/2010)

Three-Phase Pad-Mounted Transformers

Prolec GE offers a complete line of liquid-filled Three-Phase Pad-Mounted distribution transformers that meet applicable ANSI®/IEEE® standards.

With high voltages up to 34.5 kV and ratings up to 5,000 kVA (ONAN), Prolec GE compartmental-type Three Phase Pad-Mounted Commercial Transformers are designed for outdoor installation on a concrete pad and provide underground power distribution to commercial, industrial and institutional loads.

High-grade materials, combined with sophisticated engineering design systems, are key elements of a transformer that will deliver years of highly reliable service.

Standard Features

- 60 Hz operation.
- 65°C average winding rise.
- Radial & loop feed arrangements.
- Dead and live front type of HV terminals.
- HV BIL 45 – 150 kV (Dead Front) 200 kV (Live Front).
- LV BIL 30 – 60 kV.
- Three-point latching of low-voltage door.
- High-voltage door, which can be opened only after the low-voltage door is opened.
- Rigid steel partition.
- Transformer tank welded from cover to base.
- Permanent nameplate.
- One-inch NPT pipe cap filling provision.
- ANSI tank ground pads.
- One-inch drain valve and sampler.
- Automatic pressure-relief valve (35 SCFM).
- Tap changer with (2) 2.5% full capacity taps above and below nominal.
- One 10"x18" (or 14"x25") hand hole in transformer tank cover.
- Painted olive-green color (Munsell 7GY 3.29/1.5).
- Designed, manufactured and tested in accordance with the latest ANSI standards.

Optional Features & Accessories

- Broad selection of design efficiencies to meet specific customer applications and the new DOE efficiency requirements.
- 50 Hz.
- Type II insulating mineral oil.
- High-fire point fluid, such as silicone, hydrocarbon or vegetable fluids.
- 55° and 55°/65°C average winding rise.
- Copper and aluminum windings available.
- Dual high-voltage ratings.
- Internal expulsion fuses.
- Current limiting fuses.
- Internal oil-immersed partial range current-limiting fuses.
- Bayonet fuse holders with and without flapper.
- Non-loadbreak and loadbreak dry-well fuseholders.
- Internal oil switch (radial or loop).
- Under oil internal arresters.
- Low-voltage molded-case circuit breaker.
- Seismic Zone III and IV.
- Stainless steel tank and cabinet construction.
- Special colors.
- RUS accepted.
- Compliance with Canadian Standards (CSA).

Tests

Each transformer receives all standard commercial tests in accordance with ANSI C57.12.90 (latest revision), with test reports available by serial number of the transformer.

- Resistance tests of all windings.
- Ratio tests on the rated voltage and all tap connections.
- Polarity and phase relation tests at rated voltage.
- No load loss at rated voltage.
- Exciting current at rated voltage.
- Impedance and load losses.
- Applied voltage test.
- Induced voltage test.
- Full-wave impulse test.
- Mechanical leak test.

Standard Voltages

Standard Primary	
Voltage Ratings	Minimum BIL (kV)

Standard Ratings

Overall Typical Dimensions for Reference

For kVAs not listed, contact factory.
Dimensions and weights are approximate and subject to change without notice and should not be used for construction purposes.

Solar SCADA Features

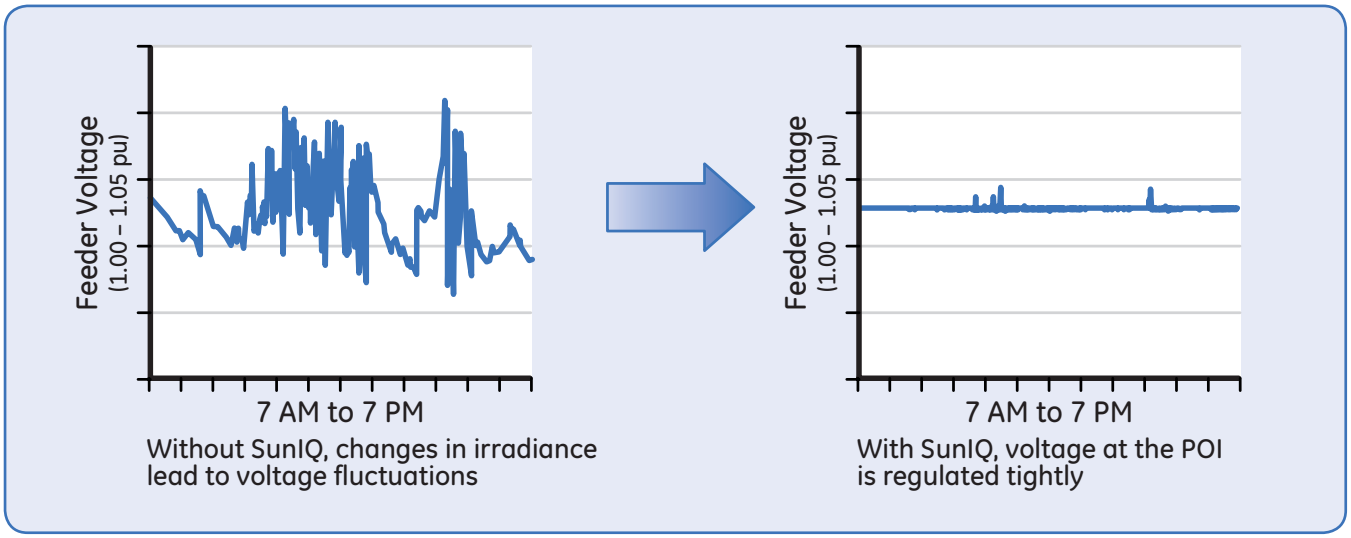
- Real-time data visualization of the plant with drill down capability
- Reporting based on historical data in SQL database
- Alarm notification via e-mail/SMS
- User configurable dashboards
- Remote troubleshooting of plant assets
- Industry standard interfaces for data access

Plant Control

The SunIQ system includes a plant level controller that coordinates behavior of multiple inverters, thus enhancing the grid integration capabilities of the Solar power plant. Like a conventional power plant, the system controls reactive power supply (KVAR) to the grid, regulating system voltage and stabilizing weak grids. The system is also capable of regulating active power (kW) providing the grid operator with the ability to curtail kW output as well as control frequency droop and ramp rate. The system can be accessed either locally or remotely via the plant monitoring system or alternatively through analog/digital I/O.

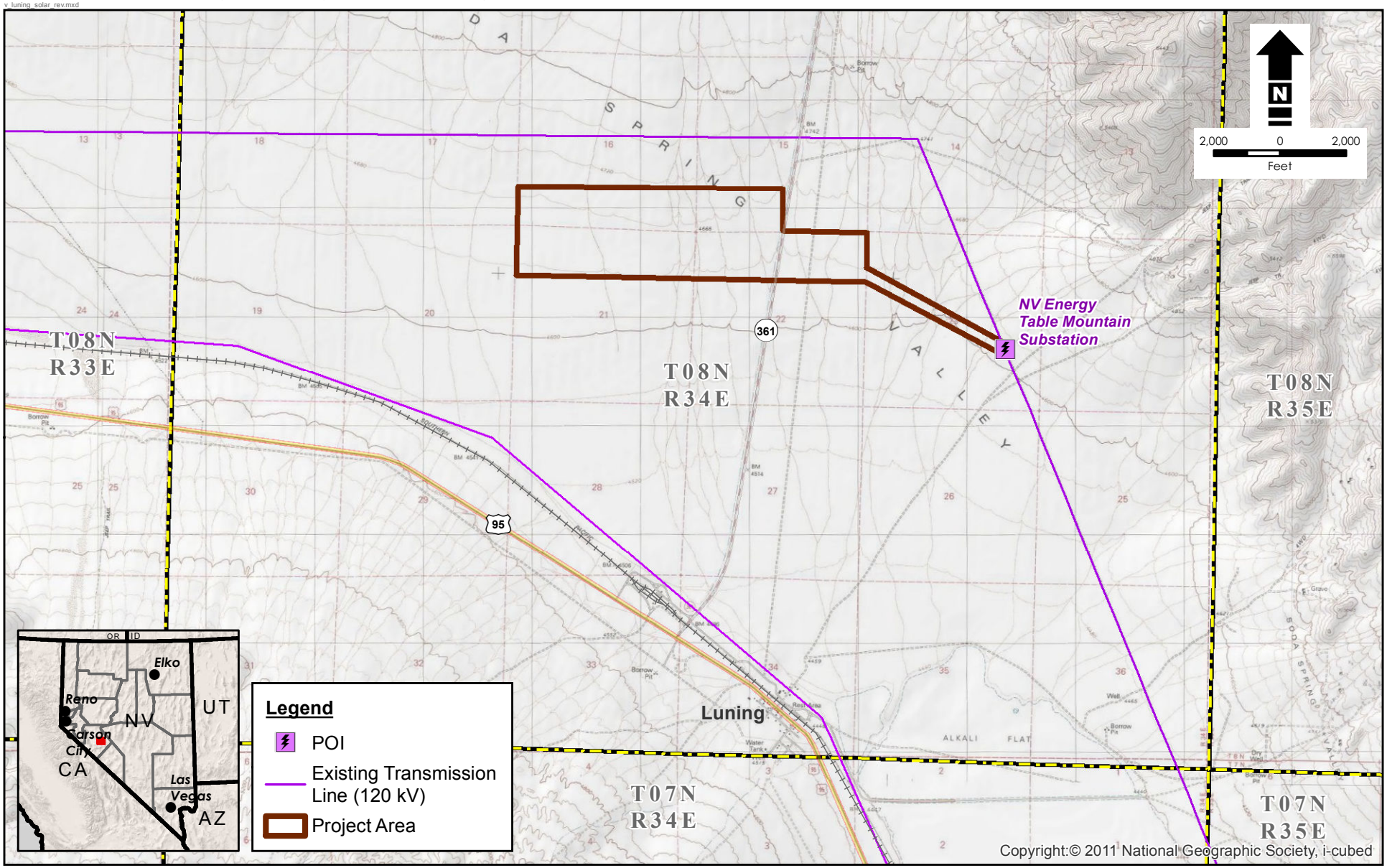
GE's system provides the following capabilities similar to those of a conventional power plant:

- **Voltage/PF control:** Regulates VARs, reduces voltage variations at point of interconnect (POI)
- **Power curtailment:** Regulates active power at the POI
- **Over frequency droop:** Reduces active power in response to frequency increase
- **Ramp rate control:** Controls MW/sec of generation change
- **Start-up/shut-down:** Avoids addition or removal of large blocks of power into/out of the grid at once



By integrating our monitoring and control system into your solar power plant, you can meet many emerging grid code requirements related to a solar plant's response.

Date Saved: Friday, October 11, 2013 11:35:44 AM Prepared By: khanusiak Coordinate System: NAD 1983 UTM Zone 11N Path: \\Arcgis-db\D_MXDs\US\NV
v_luning_solar_rev.mxd



Luning Solar Energy Project

Invenergy Solar Development LLC, Mineral County, Nevada

Rev. 01

October 11, 2013

Invenergy
One South Wacker Drive Suite 1900
Chicago, Illinois 60606
(312) 224-1400

Date Saved: Tuesday, September 24, 2013 3:28:43 PM Prepared By: khanusiak Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere Path: \\Arcgis-db\D_MXDs\US\NV
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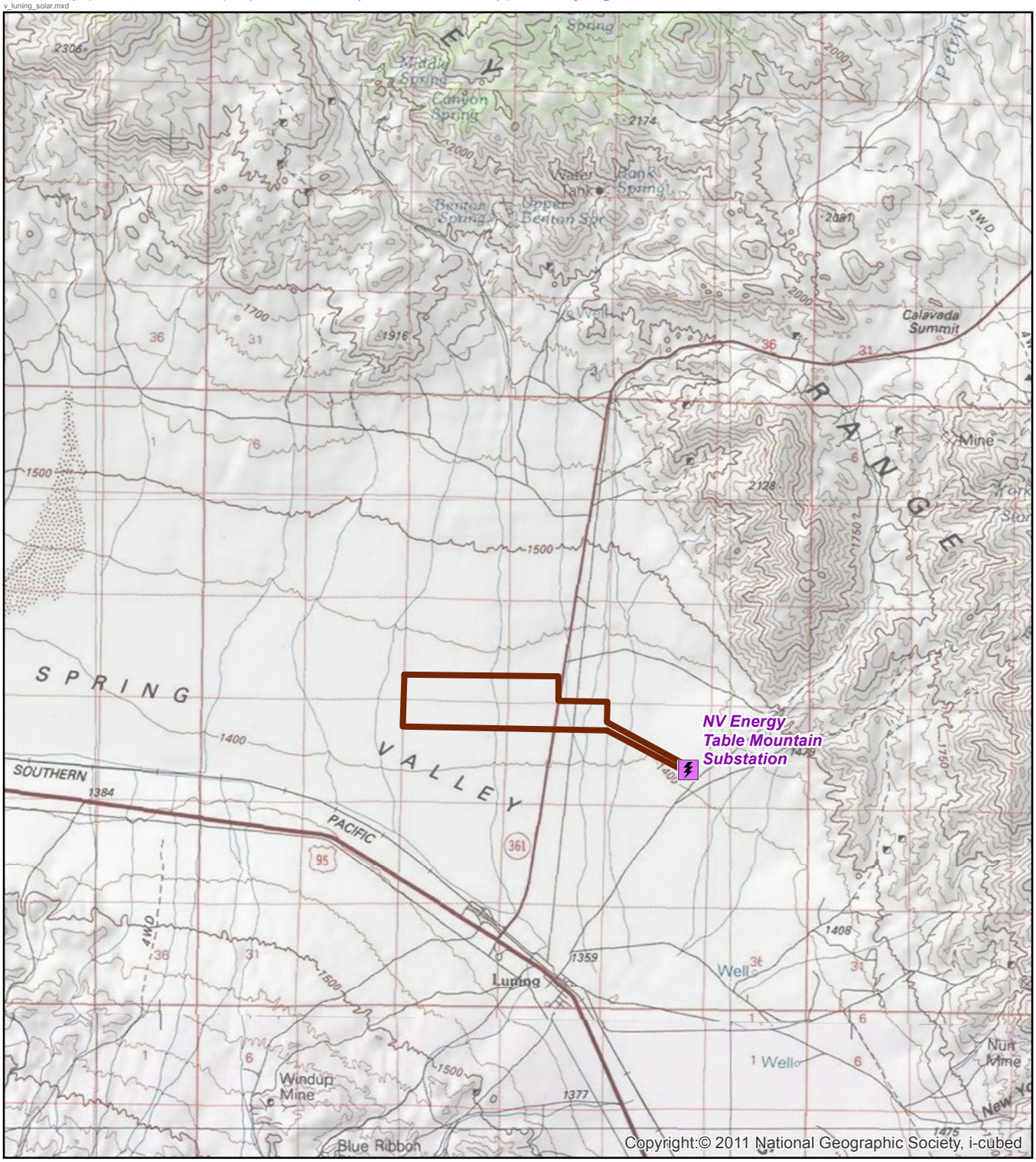

Legend

- POI
- Project Area

N

4,000 0 4,000
Feet

Vicinity Map – Luning Solar Generation Facility

Rev. 00

Invenergy Solar Development LLC, Mineral County, Nevada September 24, 2013

Invenergy
One South Wacker Drive Suite 1900
Chicago, Illinois 60606
(312) 224-1400

Date Saved: Tuesday, October 22, 2013 1:14:36 PM Prepared By: KHanusiak Coordinate System: NAD 1983 UTM Zone 11N Path: \\Arcgis-db\D_MXDs\US\NV
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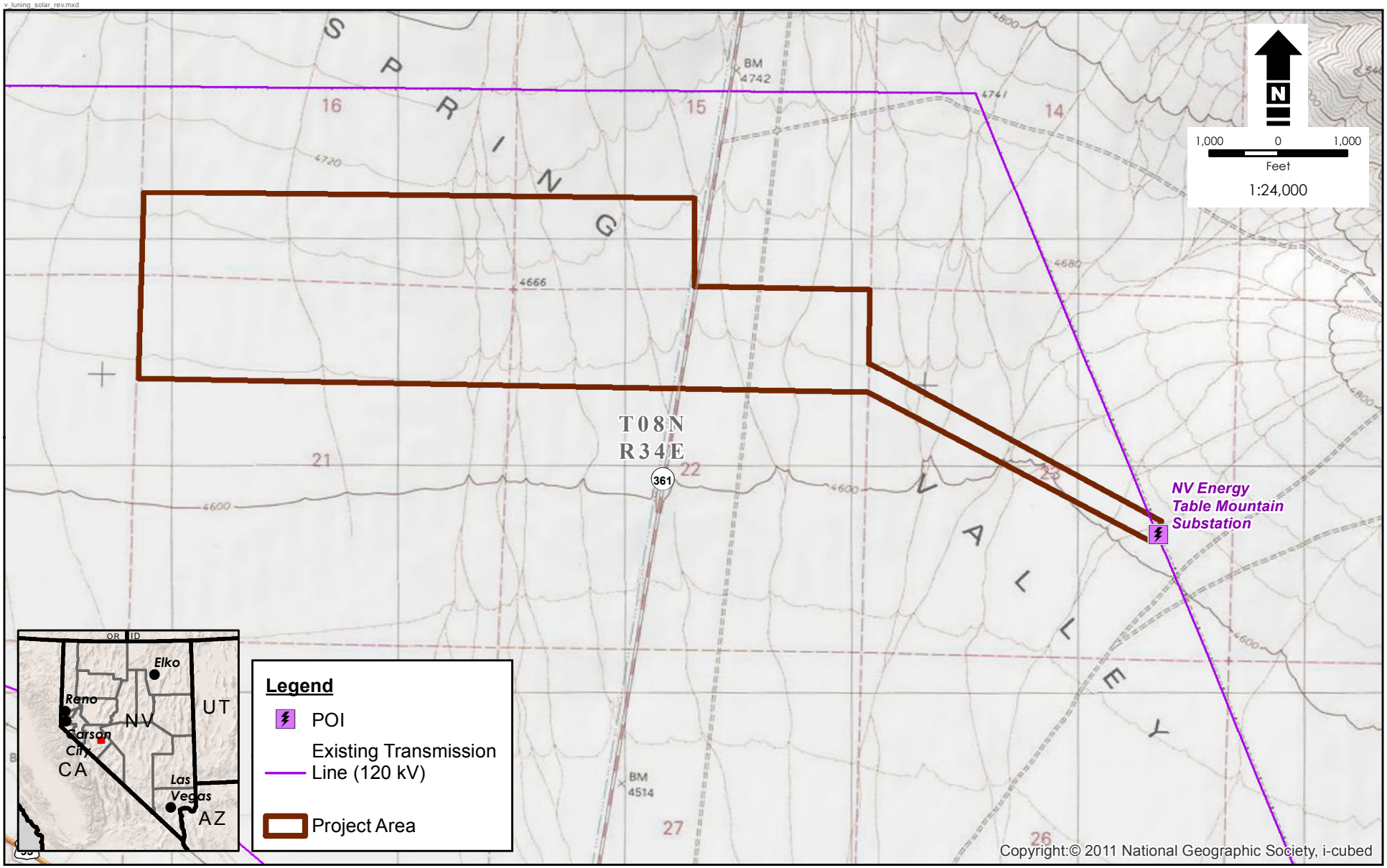


Luning Solar Energy Project

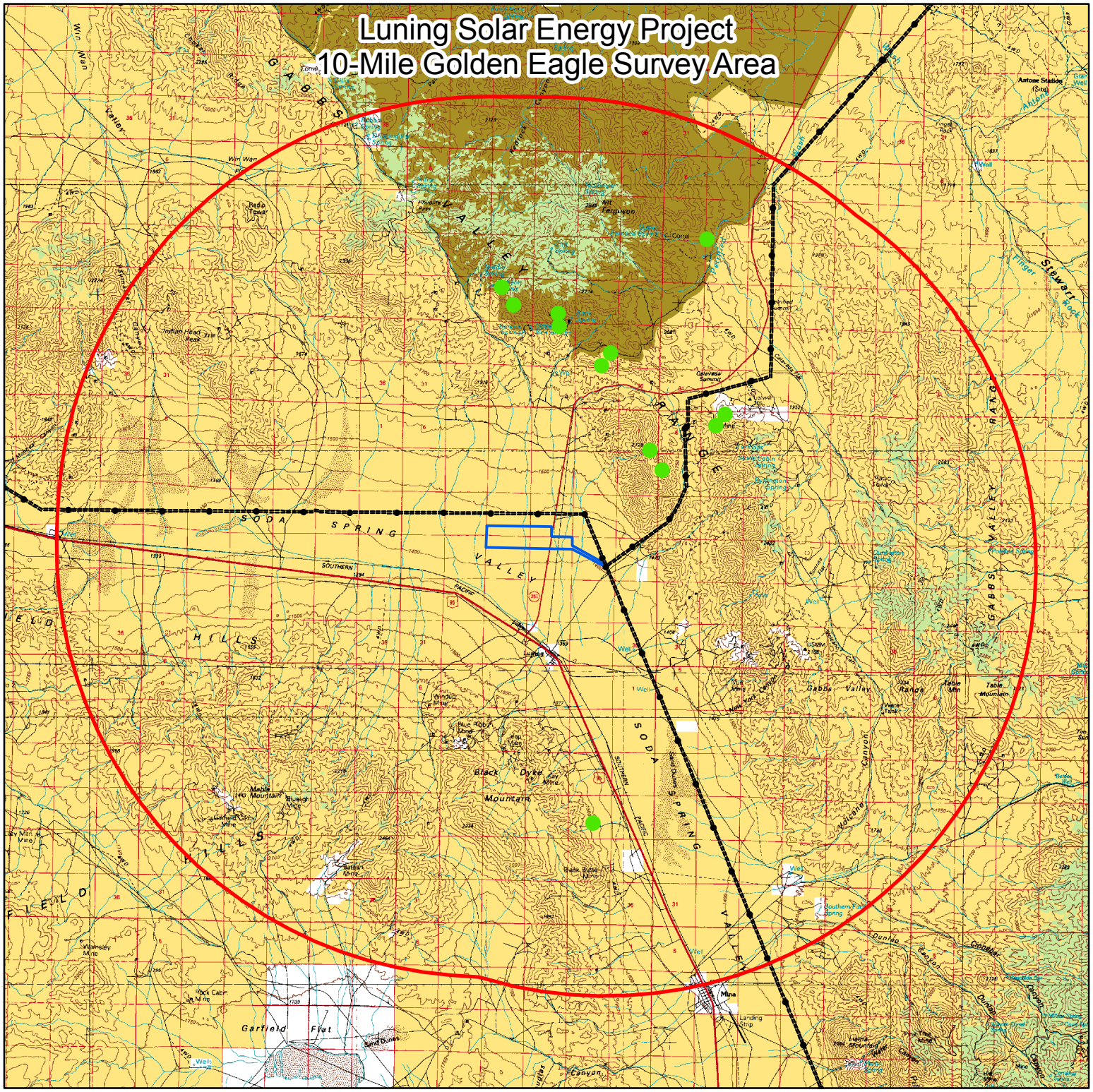
Invenergy Solar Development LLC, Mineral County, Nevada

Rev. 01

October 22, 2013

Invenergy
One South Wacker Drive Suite 1900
Chicago, Illinois 60606
(312) 224-1400

Luning Solar Energy Project
10-Mile Golden Eagle Survey Area



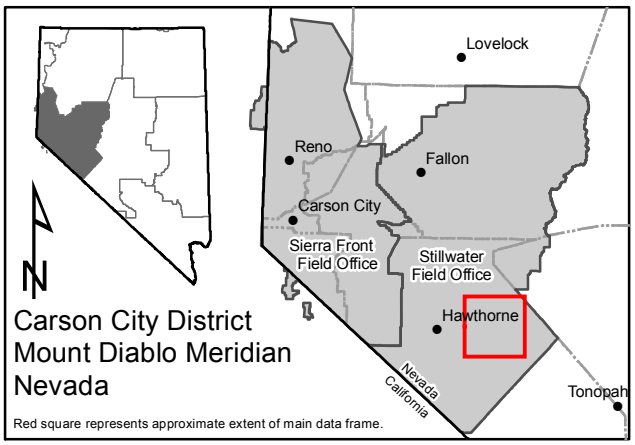
Map created 3/10/2014 by msimons.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

No warranty is made by the BLM as to the accuracy, reliability, or completeness of these data for individual or aggregate use.

8 inch by 8 inch data frame represents:
1:200,000

0 8,000 16,000 32,000 Feet



Carson City District
Mount Diablo Meridian
Nevada

Red square represents approximate extent of main data frame.

Elec. trans. line
Luning Solar Energy Project
NDOW Raptor Nest Data Oct 2011
10-Mile Golden Eagle Survey Area

WSA Boundaries

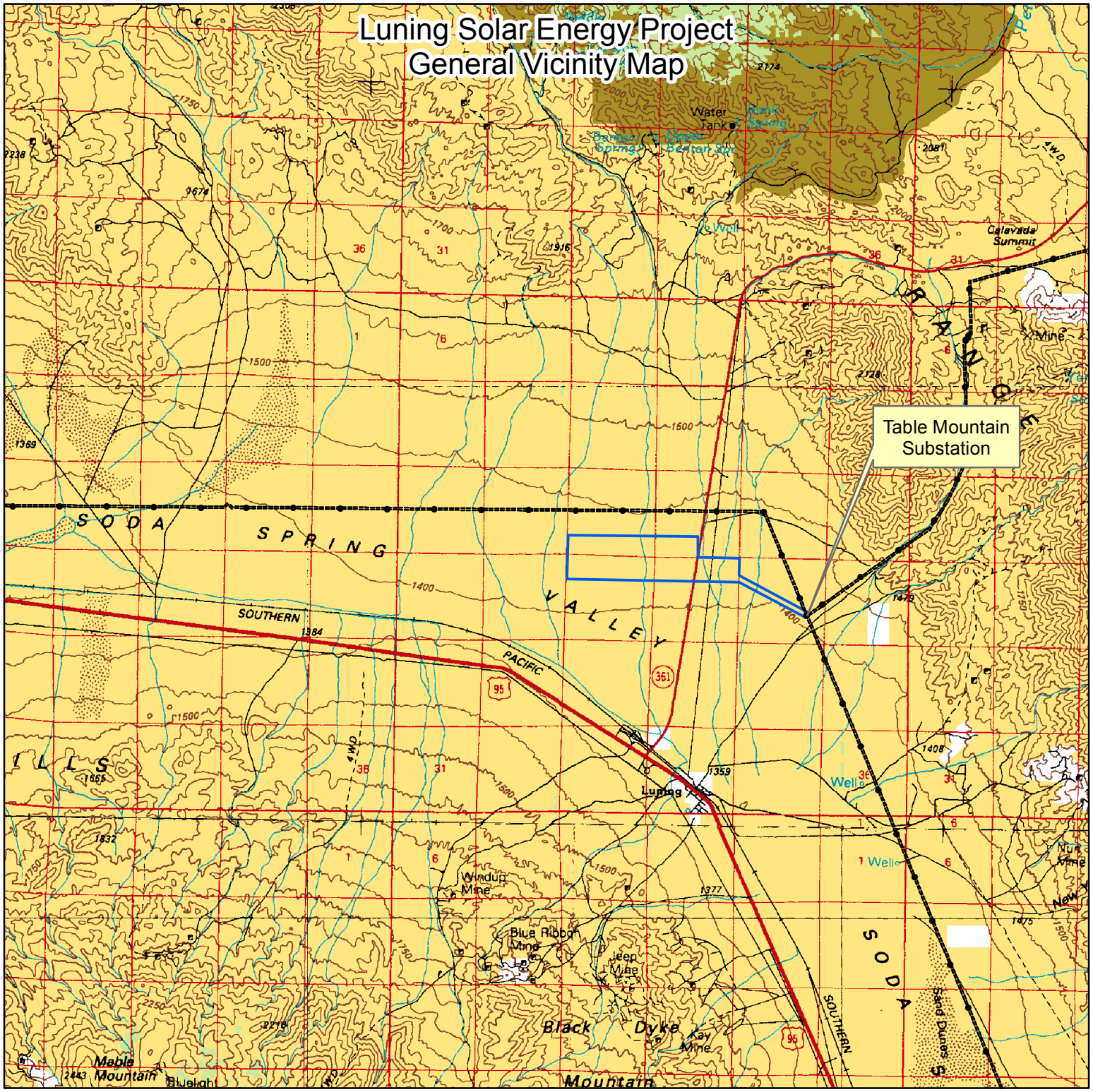
Gabbs Valley Range

Surface Mgmt. Status

Bureau of Land Management
Private

Electrical transmission lines digitized from aerial imagery.

Luning Solar Energy Project
General Vicinity Map



Map created 3/10/2014 by msimons.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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8 inch by 8 inch data frame represents:
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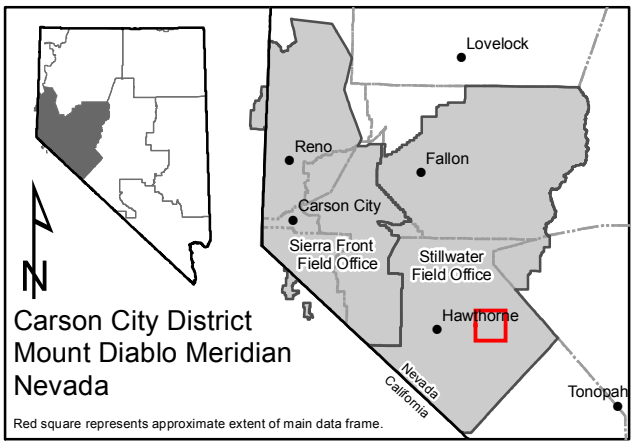
0 4,000 8,000 16,000 Feet



Carson City District
Mount Diablo Meridian
Nevada

Red square represents approximate extent of main data frame.

Elec. trans. line

Luning Solar Energy Project

Surface Mgmt. Status

Bureau of Land Management

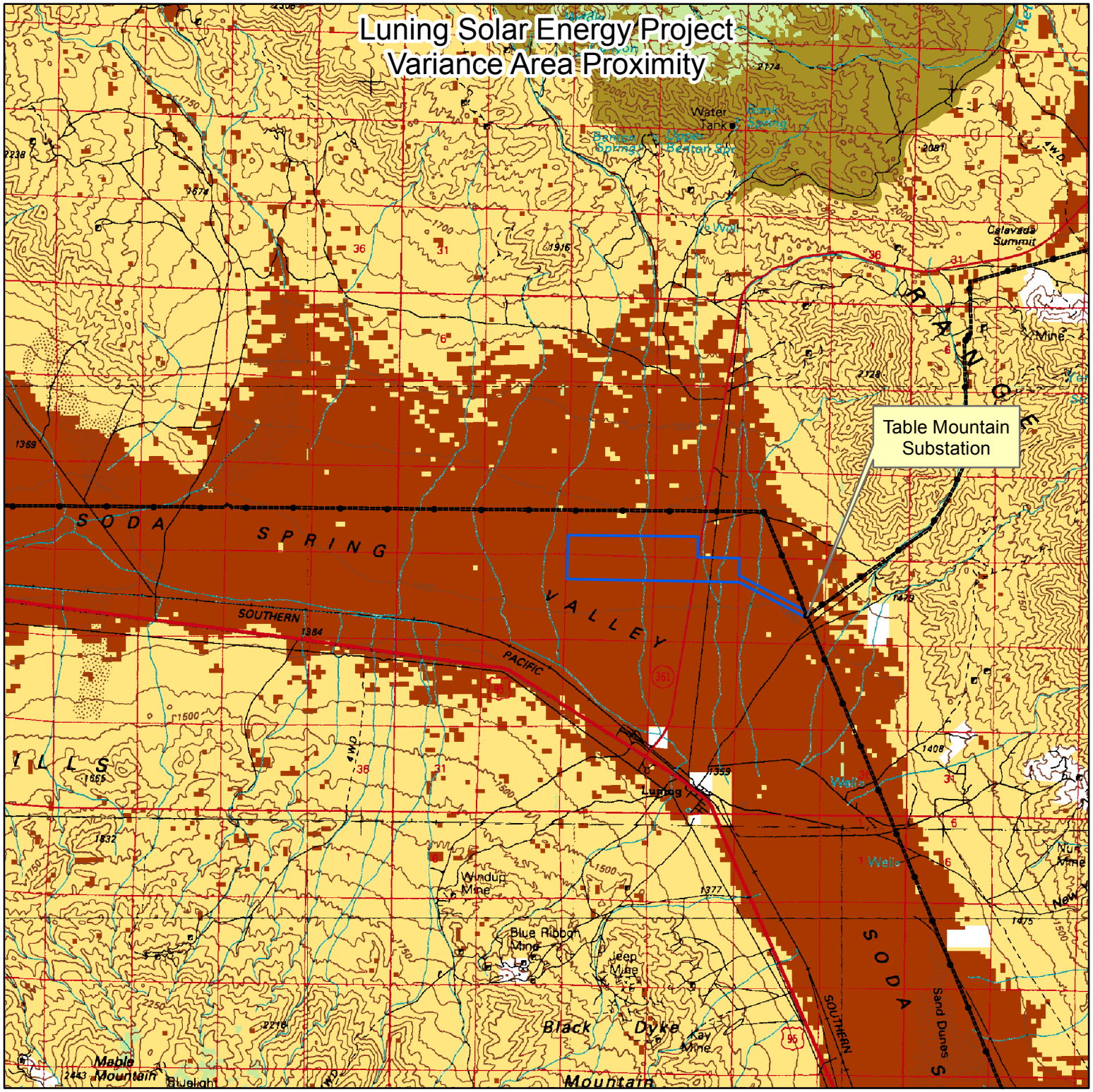
Private

WSA Boundaries

Gabbs Valley Range

Electrical transmission lines digitized from aerial imagery.

Luning Solar Energy Project
Variance Area Proximity



Map created 3/10/2014 by msimons.

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U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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8 inch by 8 inch data frame represents:
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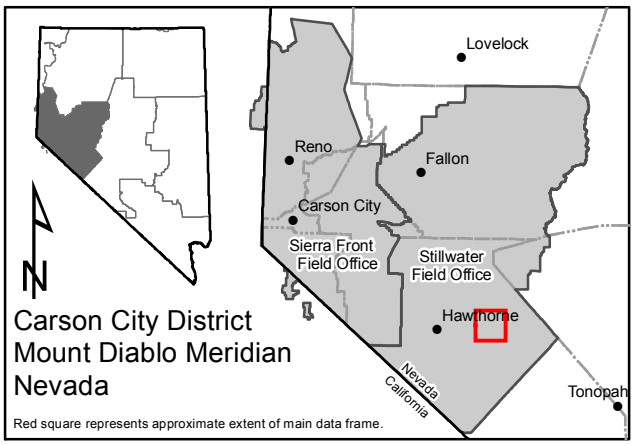
0 4,000 8,000 16,000 Feet



Carson City District
Mount Diablo Meridian
Nevada

Red square represents approximate extent of main data frame.

Elec. trans. line

Luning Solar Energy Project

BLM Variance Area

WSA Boundaries

Gabbs Valley Range

Surface Mgmt. Status

Bureau of Land Management

Private

Electrical transmission lines digitized from aerial imagery.

ENVIRONMENTAL ASSESSMENT

LUNING SOLAR ENERGY RIGHT-OF-WAY GRANT

DOI-BLM-NV-C010-2009-0017-EA
NVN-85215

U.S. Department of the Interior
Bureau of Land Management
Carson City District
Stillwater Field Office
5665 Morgan Mill Road
Carson City, Nevada 89701
775-885-6000

July 2009

BLM
Stillwater Field Office, Carson City, NV

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

DOI-BLM-NV-C010-2009-0017-EA
NVN-85215

FINDING OF NO SIGNIFICANT IMPACT AND DECISION RECORD FOR

Luning Solar Energy Project

Environmental Assessment
DOI-BLM-NV-C0100-FY09-0017-EA

INTRODUCTION

The Luning Solar Energy, LLC has applied to use public land for a proposed solar energy generation site. The new construction would provide renewable electrical energy to the central area of Mineral County, Nevada. Rights-of-way on public land are authorized by the provisions of Title V of the Federal Land Policy and Management Act (90 Stat. 2743; 43 U.S.C. § 1701). The environmental analysis (EA) considered two alternatives; the Proposed Action and the No Action Alternative. The Proposed Action is the preferred alternative for this action. EA DOI-BLM-NV-C0100-FY09-0017-EA is incorporated by reference in the Finding of No Significant Impact.

PLAN CONVROMANCE AND CONSISTENCY

The Proposed Action has been reviewed for conformance with the Carson City District Office Consolidated Resource Management Plan (2001) and is found to be consistent with current Bureau of Land Management policies, plans and programs.

FINDING OF NO SIGNIFICANT IMPACT DETERMINATION

Based on the analysis of the Luning Solar Energy Right-of-Way Grant Project environmental assessment (EA) DOI-BLM-NV-C0100-0017-EA, I have determined that the action will not have a significant effect on the human environment and an environmental impact statement (EIS) will not be prepared. This finding is based on the context and intensity of the project as described:

Context:

The proposed action involves the placement of a solar energy project to provide renewable electrical power to the central area of Mineral County, Nevada. This action is very limited in scope and has no international, national, regional, or state-wide importance. The proposed action is important to the local residents as it will provide both renewable electrical energy and employment in the local economy.

Intensity:

The Council on Environmental Quality (CEQ) regulation include the following ten considerations for evaluating intensity:

1) *Impacts that may be both beneficial and adverse.*
None of the environmental impacts discussed in detail in the EA are considered significant, nor do the effects exceed any known threshold of significance, either beneficial or adverse.

2) *The degree to which the selected alternative will affect public health or safety:*
The location of the proposed project is remote and will not have a significant impact on public health and safety.

3) *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farm lands, wetlands, wilderness, wild and scenic rivers, or ecologically critical areas.*
There are no park lands, prime farm lands, wetlands, wild and scenic rivers or ecologically critical area in or near the proposed project site.

4) *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*
The effects of the proposed action on the human environment will be negligible and not controversial.

5) *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*
The effects of the proposed action not complicated and risks will be minimal.

6) *The degree to which the action may establish a precedent for future actions with significant effects or presents a decision in principle about a future consideration.*
The proposed action of producing renewable energy (solar, wind and geothermal) is a routine use of public land and will not establish a precedent.

7) *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*
This action is not related to other actions.

8) *The degree to which the action may adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.*
As described in the EA the proposed action has been examined and will not have any significant impact on National Register of Historic Places or significant scientific, cultural or historic resources.

9) *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under ESA of 1973.*
The proposed action will have no impact on an endangered or threatened species or its habitat.

10) *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*
The proposed action does not violate any known laws or requirements that serve to protect the environment.

DECISION

It is my decision to approve the action as described in the Proposed Action of the environmental documentation cited above along with the mitigating measures contained in the EA:

Teresa J. Knutson
Field Manager
Stillwater Field Office

8/6/09
Date

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APPENDICES

Appendix A Migratory Bird Species of Concern
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Appendix D Agency Correspondence
Appendix E BLM Sensitive Species

LIST OF ACRONYMS

AMSL	Above Mean Sea Level
AUM	Animal Unit Month
BLM	Bureau of Land Management
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CRMP	Consolidated Resource Management Plan
CSU	Control Surface Use
EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Agency
FLPMA	Federal Land Policy Management Act
JBR	JBR Environmental Consultants, Inc.
KOP	Key Observation Point
MBTA	Migratory Bird Treaty Act
MW	Megawatt
MWh	Megawatt-hours
NAAQS	National Ambient Air Quality Standards
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
ROW	Right-of-Way
RPS	Renewable Portfolio Standard
SIP	State implementation plan
TL	Time Limited
USFWS	U.S. Fish and Wildlife Service
VRM	Visual Resource Management

I. INTRODUCTION/PURPOSE AND NEED

INTRODUCTION

Luning Solar Energy, LLC (Luning Solar) is applying for a Right-of-Way (ROW) grant to construct, operate, and maintain a solar energy project (Proposed Action) on public land managed by the Bureau of Land Management (BLM). The project would be located on approximately 575 acres in Mineral County, 2 miles north of Luning, Nevada on State Route 361 (SR361) (Figures 1 and 2). The project would be capable of producing approximately 110,000 megawatt-hours (MWh) of renewable energy annually with a gross output of 50 megawatts (MW) and a nominal net generating capacity of 10 to 15 MW. A new 120-kilovolt (kV) transmission line would connect the facility to the Table Mountain Substation, which is owned by NV Energy.

Luning Solar's technology would include a selection of solar power concentrators, photovoltaic solar panels, or other emerging technology. The project would be built in stages beginning in 2010 with a 10-MW facility covering 80 to 110 acres depending on the technology selected. Subsequent generating facilities would be added depending on project economics.

BACKGROUND

The primary objective of the project is to construct, operate, and maintain an efficient, economic, reliable, safe, and environmentally sound solar-powered generating facility. The site selected is in an area of the state where excellent solar resources exist. In addition to having a world-class resource, development of Nevada's solar infrastructure is being driven by the Renewable Portfolio Standard (RPS) adopted by the Nevada legislature.

LOCATION OF PROPOSED PROJECT

The project would be located in Township 8 North, Range 34 East (T8N, R34E), S½SW¼ Section 15; S½S½ Section 16; N½N½ Section 21; N½N½ Section 22. A 150-foot-wide electric power transmission corridor would extend from the project site to the existing Table Mountain Substation in the SE¼ Section 23, T8N, R34E, a distance of approximately 4,662 feet.

PURPOSE AND NEED

The project is designed to meet the increasing demand for clean, renewable electrical power. The solar energy resource potential in the United States is greater than that of any other industrialized nation. The multiple benefits associated with developing this resource have been recognized by both federal and state policy-makers. Development of solar resources reduces reliance on foreign sources of fuel, promotes national security, diversifies energy portfolios, and contributes to the reduction of greenhouse gas emissions.

Nevada enacted the RPS as part of its 1997 restructuring legislation. Under the standard, the state's investor-owned utilities must use eligible renewable energy resources to supply a minimum percentage of the total electricity they sell. The RPS requires Nevada's electric utilities to generate or acquire a minimum of 5 percent of electricity sold to retail customers from renewable energy systems in 2003 and 2004, increasing by 2 percent biennially to 15 percent by 2013 and 20 percent by 2015. Construction and operation of the project would contribute to achieving Nevada's RPS goals as well as providing jobs in the local economy.

In addition to its environmental benefits, the project would contribute much needed on-peak power to the electrical grid that serves the western United States. The demand for power continues to grow in the West, and as older technology fossil-fuel plants reach the end of their useful lives there is a benefit in replacing them with clean, reliable energy sources. The project responds to this need.

The decision to be made by the BLM is to issue a ROW grant for the project and the terms or conditions of that grant. The need for the action is established by the BLM's responsibility under the Federal Land Policy and Management Act of 1976 (FLPMA) to respond to a request for a ROW grant for use of public land.

LAND USE CONFORMANCE STATEMENT

The proposed action and alternative described in this document are in conformance with the Carson City District are in conformance with the Carson City District Consolidated Resource Management Plan (2001), Standard Operating Procedures, ROW-4, pp 1-16.

RELATIONSHIPS TO STATUTES, REGULATIONS, AND OTHER PLANS

Mineral County issued a Special Use Permit to Luning Solar Energy, LLC on June 3, 2009, with conditions as set forth by the Planning Commission. The proposed project is consistent with all federal laws and regulations.

II. PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION

Luning Solar's technology would include a selection of micro-concentrated solar power, well-established photovoltaic solar panels, inflated concentrators, or other emerging technology. The solar panels, troughs, or other solar receptors would be anchored to the ground in a way that minimizes grading and permits mounting above existing vegetation. The project would be built in stages beginning in 2010 with a 10-MW facility covering 80 to 110 acres. Subsequent generating facilities would be added depending on project economics. The availability of water may be a limiting factor in selecting the type of solar technology used.

Collector Technologies

Solar power technology is evolving rapidly, and various systems are being evaluated for use in the project. Differences among systems include the footprint of the arrays, whether water or other fluid is used for heat transfer or cooling, and the means of converting solar energy to electric energy suitable for transferring to the existing grid. A brief description of the systems being considered follows.

A typical 10-MW SunPower photovoltaic system includes 2,778 tracker modules mounted on pads, drive motors, switchgear, and DC to AC inverters. Each panel is approximately 7 feet wide by 28 feet long, mounted about 2 feet off the ground on concrete pads. The panels would be mounted on a north-south axis, and the north end would be tilted up approximately 20 degrees for maximum efficiency. The height of the north end of the panels would be approximately 14 feet above ground level. A 10-MW SunPower system would cover approximately 80 acres.

Another photovoltaic system under consideration is manufactured by Amelio Solar. A typical 10-MW amorphous silicon thin film photovoltaic system is comprised of panels 4.5 feet long by 3.2 feet wide and weighing 54 pounds each. The panels have four mounting posts would cover approximately 108 acres. These panels would be mounted closer to the ground than SunPower and because they do not have axis tracking, would be set facing south at an angle of about 30 degrees.

The 20-MW Sopogy solar parabolic trough system uses approximately 20,000 collectors that are 12 feet long, 5 feet wide, and 4 feet tall and mounted about 13 inches off the ground. Hot water from the Sopogy system drives a steam turbine/generator that produces AC power.

Another system under consideration is from Cool Earth Solar. This system uses inflated, balloon-shaped concentrators made of plastic film with a transparent upper hemisphere and a reflective lower hemisphere. When inflated, the concentrator naturally forms a shape that concentrates sunlight onto a water-cooled photovoltaic cell placed at the focal point. This approach allows for a much smaller footprint compared with other technologies.

Ancillary Facilities

Ancillary facilities include an approximately 2,400-square-foot maintenance and equipment storage building and a prefabricated caretaker residence. The caretaker residence would have propane heating and a solar electric system with backup power supplied by a propane-powered generator, a residential well, and a septic system. A 6-foot chain link fence would be installed

around facilities as they are constructed, and access to the site would be controlled by a gate. High voltage equipment would be separately fenced with warning signage. The parking area around the residence and maintenance building would be treated to prevent weeds and covered with gravel. All necessary gravel would be obtained from commercial sources.

Because SR361 crosses the site, an underground highway crossing is proposed for electric power transmission lines and any necessary utilities.

Employment

Projected employment during the construction and operation phases is shown in the table below. The number of employees required for operations depends to some degree on the type of technology selected. The systems under consideration are simple to construct and very low maintenance. Routine maintenance consists of cleaning and inspection; equipment would be repaired or replaced as needed.

Projected Employment

Project Phase	Construction	Operations Cumulative Total
Phase I 10 MW—Construction (4 months)	8	
Phase I 10 MW—Operations		2-3
Phase II 20 MW—Construction (8 months)	8	
Phase II 20 MW—Operations		3-5
Phase III 20 MW—Construction (8 months)	8	
Phase III 20 MW—Operations		5-7

Connection to Electric Power Grid

Connection to the electrical grid would be made at the NV Energy Table Mountain Substation in the southeast corner of Section 23, T8N, R34E. An Interconnection Feasibility Study was completed by NV Energy on November 3, 2008, for 50 MW of generation. The study concluded that no significant negative impacts would be imposed on the NV Energy transmission grid from the proposed interconnection if it were constructed as proposed. Luning Solar is in the interconnection queue for 50 MW.

A new 120-kV transmission line would be constructed on a 150-foot-wide corridor to connect the project site to the existing substation. The approximately 4,662-foot-long transmission line support structures would be wood pole H-frame construction.

Reclamation

At the end of the useful life of the project, the solar panels and associated equipment will be removed from the site. Any structures will be demolished and all debris will be removed. Any water wells will be capped in accordance with State regulations. After removal of all equipment and structures the ground will be smoothed by disking and planted with a BLM-approved mix of grasses and shrubs.

RESOURCE PROTECTION MEASURES

The applicant will implement the following environmental protection measures as established by regulation, policy, or guidance to prevent unnecessary and undue degradation of the environment during construction and operation of the project.

- Air Quality. Luning Solar will obtain a surface area disturbance permit from the NDEP Bureau of Air Pollution Control and construct and operate the site in accordance with permit conditions.
- Cultural Resources. Luning Solar will inform all persons working in the project area that knowingly disturbing cultural resources or collecting artifacts is prohibited.
- Cultural Resources. Luning Solar will ensure that any cultural resources discovered in the process of construction are protected by halting work within 100 meters of the discovery until the BLM issues a Notice to Proceed.
- Cactus plants will be avoided if possible. With BLM approval, cactus plants that cannot be avoided will be transplanted to nearby suitable habitat.
- Livestock grazing. Luning Solar will coordinate with BLM and allotment holder to minimize potential conflicts with the permittee's operaton of the Luning Corral.
- Luning Solar will treat new infestations of invasive, non-native weeds promptly to prevent them from being spread off-site.

NO ACTION ALTERNATIVE

Under the No Action alternative, no new ROW grant would be authorized by the BLM.

OTHER ALTERNATIVES CONSIDERED

Luning Solar investigated the possibility of constructing a transmission line west to California to connect with an electrical distribution system owned by ArcLight Capital Partners. Luning Solar was unable to come to agreement with ArcLight. Because this alternative was determined to be not feasible it was not carried forward for analysis.

III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter identifies and describes the current condition and trend of elements or resources in the human environment that may be affected by the Proposed Action as well as potential environmental consequences.

SCOPING AND ISSUE IDENTIFICATION

BLM personnel identified key issues and concerns regarding the Proposed Action at an internal scoping meeting March 9, 2009. Luning Solar presented the project to the Mineral County Commission at a meeting on May 6, 2009. The public was offered the opportunity to comment and ask questions at the meeting. The project was generally well received and no issues were raised. The public did have two additional opportunities for comment at the Special Use meetings in Hawthorn. These meeting were public noticed and held at the County facilities in May.

GENERAL SETTING

The project area is in Soda Springs Valley, which is bounded by the Gabbs Valley Range on the north and the Garfield Hills on the south. This is a high-desert environment characterized by arid to semiarid conditions, bright sunshine, low annual precipitation, and wide daily ranges in temperature. The project area is approximately 4,700 feet above mean sea level (AMSL). Vegetation consists of salt desert scrub dominated by Shockley's wolfberry (*Lycium shockleyi*) and Bailey's greasewood (*Sarcobatus baileyi*), two species that are frequently found together in transitional areas.

SUPPLEMENTAL AUTHORITIES

Appendix 1 of BLM's NEPA Handbook H-1790-1 (BLM, 2008b) identifies Supplemental Authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents. The table below lists the Supplemental Authorities and their status in the area comprising the Proposed Action. Supplemental Authorities that may be affected by the Proposed Action are further described in this EA.

Supplemental Authorities

Supplemental Authority	Not Present*	Present/Not Affected*	Present/ May Be Affected **	The following rationale was used to determine that Supplemental Authorities present in the area would not be affected as a result of implementation of the Proposed Action.
Air Quality			X	Carried forward in EA
Areas of Critical Environmental Concern	X			
Cultural Resources		X		Carried forward in EA; no eligible sites so no effect
Environmental Justice	X			
Farm Lands (prime or unique)	X			
Fish Habitat***	X			
Floodplains	X			
Invasive, Non-native Species			X	Carried forward in EA
Migratory Birds			X	Carried forward in EA
Native American Religious Concerns		X		The Native American tribes that have cultural affiliation with the area within the proposed project area are the Walker River Paiute Tribe and Yomba Shoshone Tribe. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, a consultation letter with a general summary of the proposed lease renewal program, and map of the proposed project location were sent to the Tribes on July 21, 2008. The results were provided to both Tribes in correspondence sent on October 21, 2008 and a final report was provided to the Walker River Paiute Tribe on July 14, 2009. The Yomba Shoshone Tribe deferred to the Walker River Paiute Tribe. During a face to face meeting with the Walker River Paiute Tribe (October 3, 2008) the cultural resource staff stated that there are no Native American Religious concerns relative to this project proposal, however they requested a copy of the final report upon completion. Although the Tribe did not express concerns for the proposed project, in the event that human remains are inadvertently discovered during construction, activities at that location would cease and the Tribes would be contacted immediately.
Threatened or Endangered Species	X			No listed, threatened, or candidate species are present per USFWS species list (see Appendix D).
Wastes, Hazardous or Solid	X			
Water Quality (Surface/Ground)	X			
Wetlands/Riparian Zones	X			
Wild and Scenic Rivers	X			
Wilderness	X			

**Supplemental Authorities determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.*

***Supplemental Authorities determined to be Present/May Be Affected must be carried forward in the document.*
****This fish habitat is related to specific Congressional acts protecting marine and commercial fish habitat. It does not apply to common aquatic habitats and fisheries.*

RESOURCES OR USES OTHER THAN SUPPLEMENTAL AUTHORITIES

The following resources or uses, which are not Supplemental Authorities as defined by BLM's Handbook H-1790-1 (BLM, 2008b), are present in the area. BLM specialists have evaluated the potential impact of the Proposed Action on these resources and documented their findings in the table below. Resources or uses that may be affected by the Proposed Action are further described in this EA.

Other Resources

Resource or Issue	Present/Not Affected*	Present/ May Be Affected **	The following rationale was used to determine that resources present in the area would not be affected as a result of implementation of the Proposed Action or Alternatives.
Land Use		X	Carried forward in EA
Recreation		X	Carried forward in EA
Visual		X	Carried forward in EA
Noise	X		The project area is over 2 miles from the nearest town and residences.
Soils/Geology/ Minerals		X	Carried forward in EA
Livestock Grazing/ Vegetation		X	Carried forward in EA
Wildlife and Fisheries		X	Carried forward in EA
Socioeconomics		X	Carried forward in EA

**Resources or uses determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.*
***Resources or uses determined to be Present/May Be Affected must be carried forward in the document.*

RESOURCES PRESENT AND BROUGHT FORWARD FOR ANALYSIS (ALL RESOURCES)

The following resources are present in the area, may be affected by the Proposed Action, and are carried forward for analysis.

Air Quality

The Clean Air Act was passed in 1970 (and amended in 1990) to reduce air pollution across the United States. Specific air pollutants associated with the potential to affect human health were identified as criteria pollutants. Criteria pollutants were assigned acceptable airborne concentration levels, and collectively the list was named the National Ambient Air Quality Standards (NAAQS). The Environmental Protection Agency (EPA) is responsible for revising these standards when necessary. The Clean Air Act also mandates the EPA approve state implementation plans to ensure that local agencies comply with the Act.

The EPA established NAAQS for the following six criteria pollutants: sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and particulate matter. In addition to criteria pollutants, the EPA also controls hazardous air pollutants. Such substances, if present in the surrounding air,

are thought to have serious health impacts. Each state is responsible for developing a state implementation plan (SIP) to demonstrate how those standards will be achieved, maintained, and enforced. Nevada's ambient air quality standards differ from the EPA's and may not be exceeded.

Existing air quality conditions are described in terms of attainment status. Counties are designated as "nonattainment" or "attainment/unclassified" areas depending on their ability to meet criteria pollutant standards for air quality. Ambient pollutant levels are expected to be low in the undeveloped regions and negligible in remote areas. High pollutant levels are typically associated with developed areas or areas characterized by high winds and dust-producing soil types.

Affected Environment

The project is located in the Soda Spring Valley (121A) air basin. The basin is considered "unclassified" by NDEP relative to attainment of applicable state and federal air quality standards. Unclassified basins are those for which there are insufficient ambient air quality data to determine compliance with applicable standards. Unclassified air basins are managed as attainment areas (i.e., areas that do not exceed the national standard of ambient air quality for any criteria pollutant).

Environmental Consequences

Various air emissions could result from the Proposed Action. Ground disturbance for installation of solar collectors and construction of maintenance roads and ancillary facilities would release fugitive dust. Internal combustion engines in vehicles and other equipment would release carbon dioxide, carbon monoxide, nitrogen oxides, saturated hydrocarbons, particulate matter, and photochemical air pollutants such as ozone. Potential air quality impacts would be minimized through compliance with state and federal regulations. Luning Solar would comply with the conditions of the project surface area disturbance permit issued by the NDEP Bureau of Air Pollution Control. Because impacts to air quality are minimal, no mitigation is proposed.

Affected Environment

The project area was inventoried to federal Class III standards by Kautz Environmental Consultants, Inc. (Kautz), in June and July 2008 and April 2009. The cultural resources inventory resulted in the recordation of 19 isolated finds and a total of 11 archaeological sites. No historic properties were identified during the survey therefore this project will have no effect.

Environmental Consequences

BLM has agreed that cultural resources in the project area do not require further management action. Any unanticipated discoveries of cultural resources in the project area would be protected by implementing the environmental protection measures listed in Section II. Therefore, no direct or indirect impacts to cultural resources are anticipated to occur as a result of the Proposed Action and no mitigation is proposed.

Invasive, Nonnative Species

A weed can be defined as a nonnative plant that disrupts, or has the potential to disrupt or alter, the natural ecosystem function, composition, and diversity of the site it occupies. The presence of weeds makes efficient use of natural resources difficult and may interfere with attaining

management objectives for that site. The term *noxious weed* refers to plant species that have been legally designated as unwanted or undesirable at the national, state, or county level. In the State of Nevada, noxious weeds are defined in Nevada Revised Statutes (NRS) 555.005 as "any species of plant which is, or is likely to be, detrimental or destructive and difficult to control or eradicate." A list of noxious weeds in the State of Nevada may be found on the Nevada Department of Agriculture's website.

The spread and increase of noxious and other invasive, nonnative weeds contributes to a decrease in the quantity and quality of other renewable resources, including forage quantity and quality. Noxious and other invasive, nonnative weeds complicate native plant community management and can adversely affect listed or sensitive species.

Affected Environment
No noxious weeds were found during a botanical survey of the project area; however, invasive, nonnative species are common (JBR, 2008). Russian thistle (*Salsola tragus*) is found throughout the area, and halogeton (*Halogeton glomeratus*) is common near SR361. Cheatgrass (*Bromus tectorum*) is present in the area but is much less common than either Russian thistle or halogeton.

Environmental Consequences
Land clearing could result in the spread of halogeton and Russian thistle in the area because these species are already common and frequently colonize newly disturbed areas. Any new infestations of nonnative, invasive species in the project area would be treated promptly, as required by the resource protection measures listed in Section II. No other mitigation is proposed.

Migratory Birds
On January 11, 2001, President Bill Clinton signed Executive Order 13186 (Land Bird Strategic Project) placing emphasis on conservation and management of migratory birds. The species are not protected under the Endangered Species Act, but most are protected under the Migratory Bird Treaty Act (MBTA) of 1918. Management for these species is based on Instruction Memorandum 2008-050 dated December 18, 2007. The list of migratory species of concern for the Carson City District is shown in Appendix A (BLM, 2007). The migratory species of concern that could be present in the project area, based on habitat preferences, are discussed below.

Affected Environment
Habitat in the project area consists primarily of salt desert scrub dominated by species such as Bailey's greasewood, shadscale, bud sagebrush, and wolfberry with a high percentage of Russian thistle as well. Migratory bird species of concern that may occur in the Luning Solar project area include the mourning dove (*Zenaida macroura*), golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), and sage sparrow (*Amphispiza belli*).

Others may occur in the project area as migrants or transients, particularly Swainson's hawks (*Buteo swainsoni*) and Brewer's sparrow (*Spizella breweri*).

Mourning doves are adaptable species that are found in a wide variety of habitats but seem to prefer farm fields (Terres, 1982). In the Great Basin, loggerhead shrikes are typically associated

with greasewood (Grant et al., 1991) and sagebrush communities (McAdoo et al., 1989). Dense stands of trees and shrubs are used for nesting and roosting sites, as well as for hunting perches (Ryser, 1985). Shrikes may forage in the project area although no potential nesting habitat has been identified.

Burrowing owls generally inhabit open areas with low vegetation. These owls utilize underground burrows for nesting and shelter. Nesting areas characteristically include an elevated perch site or sites, such as fence posts, utility poles, or mounds of earth. The burrowing owl is migratory in the Great Basin, though an occasional individual may overwinter (Ryser, 1985). Burrowing owls would not be expected to be found in the project area at the time of the January field visit; the area was searched for potential burrows, but none were found.

Sage sparrows likely pass through the area during migration and may remain to nest in the area. Typically, sage sparrows nest in cold desert habitats in sagebrush, saltbush, or shadscale habitat. Brewer's sparrows are considered a sagebrush obligate species. No sagebrush is present in the project area, but the species may be present in the area during spring and/or fall migration.

Environmental Consequences

Implementation of the Proposed Action could result in the removal of up to 575 acres of salt desert scrub habitat. The disturbance would result in local fragmentation of habitat, but this habitat type is common in the low elevation land surrounding the project area. Some individual birds utilizing the project area could be displaced, but impacts to avian populations beyond the local level (i.e., state-wide or range-wide) would be minimal. Certain species, specifically the loggerhead shrike, could make use of the solar collectors as foraging perches.

While no potential burrowing owl nest sites were identified in the area during a January site visit, this species may nest in the area. The amount of potential nesting area may be locally reduced by the project, but the presence of elevated perches and shade as well as areas of cleared ground under the solar collectors may serve to enhance burrowing owl nesting potential, particularly near the edges of the solar collector arrays.

There would be a long-term loss of up to 575 acres of shrubland nesting habitat for sage sparrows. However, this habitat type is common in the surrounding area, and the impact of construction on nesting sage sparrows is expected to be low.

Potential impacts to migratory birds would be minimized through compliance with state and federal regulations and implementation of appropriate best management practices (BMPs). Where these measures do not provide adequate protection, the BLM would include seasonal or time limited (TL) stipulations or control surface use (CSU) stipulations in the Record of Decision. Time limitations are used to protect resources that are sensitive to disturbance during certain periods, such as the migratory bird nesting period (approximately May 15 to July 15). Such stipulations are generally applicable to specific areas, seasons, and resources and are commonly applied to nesting habitat for migratory birds.

Because impacts to migratory birds are anticipated to be minimal, no mitigation is proposed.

Land Use

Affected Environment
Figure 3 shows existing ROWs in the project vicinity. SR361 passes through the project area in an NDOT ROW (BLM Serial Number NVCC 0021174) that extends 200 feet on both sides of centerline. An east-west electric power transmission line ROW (BLM Serial Number NVN 007255) is approximately 1,500 feet north of the project area. The transmission line ROW turns southeast toward the Table Mountain Substation about 3,500 feet east of SR361. The proposed Luning Solar transmission would cross this ROW in the vicinity of the substation. The transmission line alignment and the eastern portion of the project area also cross a portion of a large lode claim block belonging to Canyon Copper Corporation and development of the solar project cannot interfere with development of these mineral claims. Canyon Copper has indicated that they have no objection to construction of the transmission line across the lode claims (Appendix B).

Environmental Consequences
Luning Solar would obtain an encroachment permit from NDOT prior to beginning any work within the highway ROW. Any potential project conflicts with the electric transmission ROW or lode claims would be resolved by negotiation with the ROW or claim owner (NV Energy and Canyon Copper, respectively). Because no impacts to land use have been identified no mitigation is proposed.

Recreation

Affected Environment
Recreational use of land in the project area appears to be very light. There are no established trails nearby, and there are no landscape features that would tend to attract large numbers of recreational visitors.

Environmental Consequences
Because recreational use of the project area is very light and because a vast amount of similar public land would still be available in the vicinity, the project would have only a minor impact on recreation. There is a possibility that the Las Vegas to Reno off-road race would pass through the vicinity of the project area. If necessary, Luning Solar would coordinate with the BLM to avoid potential conflicts with the race. Because anticipated impacts to recreation are minimal, no mitigation is proposed.

Visual
This section describes visual resources in the project area and the BLM's Visual Resource Management (VRM) System, which is used in the analysis. The section also describes the Key Observation Point (KOP) that was used to describe existing conditions and assess potential impacts of the Proposed Action on visual resources. The visual resources analysis area for the Proposed Action consists of the portion of Soda Springs Valley north of Luning on U.S. Highway 95 (US95) and south of the Gabbs Valley Range.

The BLM's VRM system provides a means to measure the scenic value of an area's visual resources so that the area can be appropriately managed (BLM, 1986a; BLM, 1986b; BLM,

1998a; BLM, 1998b). The VRM system can also be used to analyze potential visual impacts and apply visual design techniques to minimize impacts on the landscape. The VRM system consists of an inventory stage and an analysis stage. The inventory stage involves identifying and inventorying visual resources using BLM's visual resource inventory process. The analysis stage involves rating the visual appeal of a tract of land, measuring public concern for scenic quality, and determining whether the tract of land is visible from representative or selected key travel routes and/or observation points. A Resource Management Plan establishes how public lands will be used and managed for different purposes. Visual resources are considered in development of a Resource Management Plan, and visual resources are assigned one of four VRM classes. Management objectives of the VRM classes are as follows:

Class I Objective. The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Objective. The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III Objective. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV Objective. The objective of this class is to provide for management activities that require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repetition of basic elements.

The VRM system also subdivides landscapes into three distance zones based on relative visibility from travel routes or observation points. The three zones are foreground-middleground, background, and seldom seen. The foreground-middleground zone includes areas seen from highways, rivers, or other viewing locations that are within 3 to 5 miles of the observation point. The background zone is generally considered to include areas beyond the foreground-middleground zone but usually less than 15 miles away. The seldom-seen distance zone is defined as the portion of the landscape that is not visible from the observation point or the portion that is visible but more than 15 miles distant.

Affected Environment

The project area is located on the alluvial fan that slopes to the south from the Gabbs Valley Range. Vegetation in the project area consists mostly of scattered low shrubs. The peaks of the

Gabbs Valley Range are approximately 7 miles north of the project area. The lower slopes range from light tan to brown, with darker green pinyon-juniper forest at the higher elevations.

There are no highway rest stops, scenic overlooks, or other attractions in the immediate vicinity of the project area that would create important viewing locations for large numbers of travelers. Although SR361 crosses the project area, traffic is light, averaging only 116 trips daily from 2003 through 2007 (NDOT, 2008). The intersection of SR361 and US95 is located approximately 2 miles south of the project area. From 2003 through 2007, traffic on US95 measured near the intersection with SR361 averaged 2,360 trips daily (NDOT, 2008).

The project area is within the boundaries of the Consolidated Resource Management Plan (CRMP) of the BLM's Carson City Field Office. At present, no VRM classification has been assigned to the project area (BLM, 2001); however, the land is managed as VRM Class IV.

KOPs are points on a travel route or at a use area where the view of the proposed activity would be most revealing. KOPs are used to describe the existing visual environment and make an assessment of potential project impacts. For this project, one KOP was selected at the intersection of SR361 and US95 where the maximum number of people would view the project site. The view to the north (Figure 4) shows the tan and gray-green valley floor with the Gabbs Valley Range rising in the background zone. Little disturbance is visible from the KOP except for the gravel operation in the foreground. From the KOP it is possible to discern the 120-kV transmission line support structures on the north side of the project area and the Table Mountain Substation, but it is doubtful that these features would be noticed by a casual observer. Because impacts to visual resources would be minimal, no mitigation is proposed.

Environmental Consequences

This section provides a general description of proposed facilities that could affect visual resources, describes potential impacts, and determines VRM consistency of the Proposed Action and Alternatives.

The assessment of visual impacts is based on impact criteria and methodology described in the BLM Visual Contrast Rating System (BLM, 1986b). Two issues are addressed in determining impacts: (1) the type and extent of actual physical contrast resulting from the Proposed Action and (2) the level of visibility of a facility, activity, or structure. Impacts are considered high if visual contrasts that result from landscape modifications affect the quality of any scenic resources; scenic resources having rare or unique values; views from, or the visual setting of, designated or planned parks, wilderness areas, natural areas, or other visually sensitive land uses; views from, or the visual setting of, travel routes; and/or views from, or the visual setting of, established, designated, or planned recreational, educational, or scientific facilities, use areas, activities, viewpoints, or vistas. Appendix C contains a Visual Contrast Rating Worksheet that is based on a field examination of the visual settings of the KOP. The form describes the existing conditions of the characteristic landscape seen from the KOP, types of viewers, sensitivity of viewers, and other relevant information.

Even though the facilities are over 2 miles north of the KOP, they would likely be visible from US95 because the buildings and solar panel arrays would tend to contrast with the form, line, and color of the natural vegetation. The project would meet management goals for VRM Class IV

because the contrast with the existing landscape would be weak to moderate. The project area could attract attention from US95, but it is far enough away that it is unlikely to dominate the view of a casual observer.

Soils/Geology/Minerals

Affected Environment
Soils in Mineral County have been mapped by the Natural Resources Conservation Service (USDA, 2006). The following soil map units have been identified within the project area (Figure 5):

Map Unit 1155—Gynelle-Izo Association
This map unit includes 50 percent Gynelle very gravelly loamy sand, 4 to 8 percent slopes, and 35 percent Izo extremely gravelly loamy sand, 4 to 8 percent slopes. The remainder of the unit is made up of contrasting inclusions. The Gynelle and Izo soils formed in mixed alluvium and are found on fan piedmonts and fan skirts between 4,400 and 5,200 feet. Permeability of these soils is rapid, and runoff is very slow. The hazard of water and wind erosion is slight.

Map Unit 1870—Luning-Sundown Association
This map unit is formed of eolean material and mixed alluvium and is found on fan skirts between 4,300 and 5,000 feet. The unit includes 75 percent Luning loamy sand, 2 to 4 percent slopes, and 15 percent Sundown loamy fine sand, 2 to 4 percent slopes. Permeability is rapid, and runoff is very slow. The hazard of water erosion is slight, and the hazard of wind erosion is severe.

Map Unit 1910—Izo, Rarely Flooded–Izo Association
This map unit includes 55 percent Izo very gravelly sand, rarely flooded, 2 to 15 percent slopes and Izo very stony sand, 2 to 8 percent slopes. The remainder of the map unit is made up of contrasting inclusions. Soils in this map unit are formed of mixed alluvium. The map unit is found on alluvial fans between 4,400 and 6,000 feet. Permeability is rapid, and runoff is very slow. The hazard of water erosion is slight, and the hazard of wind erosion is moderate.

Map Unit 2002—Sodaspring-Izo Association
The Sodaspring-Izo association includes 70 percent Sodaspring loamy sand, 2 to 4 percent slopes, and 15 percent Izo very gravelly sand, 2 to 4 percent slopes. This map unit is formed of mixed alluvium and is found on fan skirts between 4,500 and 5,600 feet. Permeability is moderately rapid, and runoff is slow. The hazard of water erosion is slight, and the hazard of wind erosion is severe.

Map Unit 2011—Nuahs Loamy Sand, 0 to 4 Percent Slopes
This map unit is formed of mixed alluvium and is found on fan skirts between 4,400 and 5,400 feet. Permeability is moderate, and runoff is slow. The hazard of water erosion is slight, and the hazard of wind erosion is severe.

Map Unit 3092—Inmo-Nuahs-Luning Association
This association includes 40 percent Inmo sand, overblown, 2 to 8 percent slopes; 30 percent Nuahs gravelly loamy sand, 2 to 8 percent slopes; and 15 percent Luning gravelly loamy sand,

gravelly substratum, 2 to 8 percent slopes. The remainder of the map unit is made up of contrasting inclusions. The map unit is formed of mixed alluvium with a cap of sandy eolian material and is found on fan skirts between 4,400 and 5,000 feet. Permeability is very rapid, and runoff is very slow. The hazard of water erosion is slight, and the hazard of wind erosion is very severe.

Surface geology on the alluvial fan where the project is located is described as windblown sand of Pleistocene and Pliocene age, which is interbedded with sheetflow gravel (Ekren and Byers, 1985).

The BLM's Lands and Mineral Legacy Re-Host 2000 System (LR2000) identifies unpatented lode claims in the eastern portion of the project area and transmission line alignment (see Land Use Section, above). The claims are in the northwest corner of the New York Canyon project claim block held by Canyon Copper Corporation. Canyon Copper is in the process of developing a copper mine that is located mainly south and east of the Luning Solar project.

Environmental Consequences
No adverse effects on soils and geology resources have been identified and no mitigation is proposed. Surface soil will be disturbed in the process of grading and leveling the site for construction of solar collector mountings and associated infrastructure. Potential conflicts with existing lode claims would be avoided by negotiations with the claim holder, as discussed in the Land Use Section.

Livestock Grazing/Vegetation
The BLM manages rangelands on public lands under 43 CFR Part 4100 and BLM Handbooks 4100 to 4180. Under this management, ranchers may obtain a grazing permit for an allotment of public land on which a specified number of livestock may graze. An allotment is an area of land designated and managed for livestock grazing. The number of permitted livestock on a particular allotment on public land is determined by how many animal unit months (AUMs) that land will support. An animal unit month is the quantity of forage required for one mature cow and her calf (or the equivalent in sheep or horses) for one month.

Affected Environment
The project area is located within the Pilot-Table Mountain allotment. This allotment encompasses 512,449 acres of BLM-managed lands and 8,771 acres of private lands. The allotment has an active grazing preference of 7,900 AUMs. The season of use is year round with the year divided into a summer use area (April 1 to October 31) and a winter use area (November 1 to March 31). The Luning Corral is approximately one mile south of the project area in the SE¼NW¼ of Section 27, Township 8 North, Range 34 East. This corral is an integral tool used by the permittees to move their cows from one side of Highway 361 to the other.

Vegetation in the project area is dominated by Shockley's wolfberry (*Lycium shockleyi*) and Bailey's greasewood (*Sarcobatus baileyi*) (JBR 2008). Shockley's wolfberry is usually found in gravelly, better-drained areas such as alluvial fans while Bailey's greasewood is abundant at the upper end of salt desert environments in the Great Basin. Two cactus species were observed in the project area: three occurrences of plains pricklypear (*Opuntia polyacantha*) and six

occurrences of sand cholla (*Grusonia pulchella*). No noxious weeds, State- or federally-listed plants, or BLM sensitive plants are known to be present.

Environmental Consequences
The Luning Solar generation facility would be fenced, excluding grazing from as much as 575 acres (0.1 percent) of the 521,220-acre allotment. The BLM's forage inventory of the project area indicates that 50 acres will provide forage for one AUM. The fencing of 575 acres would remove approximately 11.5 AUMs (0.14 percent of the permitted use) from the total AUMs available in the allotment. With implementation of the resource protection measures in Section II, the Proposed Action would have only a minimal effect on livestock grazing and vegetation resources and no mitigation is proposed.

Wildlife and Fisheries
Correspondence with the Nevada Natural Heritage Program identified no records of at risk taxa in the project area (see Appendix D).

Affected Environment
(a) General Wildlife. There are no lakes, ponds, or permanent streams in the project area that could support fisheries. Wildlife habitat in the project area is salt desert scrub dominated by Bailey's greasewood, shadscale, bud sagebrush, and wolfberry. Russian thistle is also present, particularly in the portion of the project area east of SR361. Wildlife species typically associated with this habitat type include horned larks (*Eremophila alpestris*), western meadowlarks (*Sturnella neglecta*), sage sparrows, black-throated sparrows (*Amphispiza bilineata*), kit foxes (*Vulpes macrotis*), coyotes (*Canis latrans*), and various small rodents and reptiles.

(b) Game Animals. The habitat in the project area is generally not suitable for game animals, as confirmed by Nevada Department of Wildlife (NDOW) online maps of game animal distribution. However, the project area is just south of mapped pronghorn antelope (*Antelocapra americana*) range, and it is possible that pronghorn occasionally use the project area.

(c) BLM Manual 6840 – Special Status Species Management, establishes policy for management of Bureau sensitive species which are found on BLM-administered lands (BLM 2008a). Species designated as Bureau sensitive must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management, and either:

1. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or

2. The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.

Based on habitat preferences, several species considered sensitive by the BLM (Appendix E) could be present in the project area. BLM sensitive species that may occur in the project area include the golden eagle, prairie falcon, burrowing owl, and loggerhead shrike. Swainson's hawks may occur in the area at least during migration. Several BLM sensitive bat species may forage in the project area, but no roosting habitat is present. NDOW online maps show that the project area does not overlap greater sage-grouse habitat.

Both the golden eagle and the prairie falcon typically nest on cliffs or outcrops. Golden eagles forage in a variety of habitats, while the prairie falcon usually forages in open country. No cliffs or outcrops are present in the project area, but golden eagles and prairie falcons may forage in the project area.

Swainson's hawks are long-distance migrants that are present in the Great Basin only during the warmer times of the year. They typically inhabit open country including agricultural lands. Swainson's hawks usually nest in trees or other elevated sites. No such features occur in the project area, but Swainson's hawks may pass through the area during migration and may forage in the area at other times. The burrowing owl and the loggerhead shrike are discussed in the Migratory Birds Section.

Environmental Consequences

(a) General Wildlife. Implementation of the Proposed Action is expected to result in the removal of as much as 575 acres of desert salt scrub habitat composed of Bailey's greasewood, shadscale, bud sagebrush, and wolfberry. Removal of this habitat could force some individuals into adjacent undisturbed habitat, potentially resulting in a local increase in competition for limited resources. This impact would be greater for smaller species with limited home ranges and less important for larger and wider-ranging species such as kit foxes or coyotes. While individual animals could be affected, there is a vast amount of similar habitat available in the valley and it is unlikely that there would be a measurable impact on any of these species.

Construction of the solar collector arrays and associated infrastructure and structures would change the natural environment by adding reflective surfaces, fences, buildings, and transmission line support structures. These new features could alter the way that wildlife will use the site and surrounding area. While some species could be attracted to the altered habitat (e.g., by the availability of new perching sites, or by being attracted to reflective surfaces), others will likely be deterred by the presence of humans. These impacts are anticipated to be minimal.

(b) Game Animals. The project area is located south of NDOW's mapped antelope range. While some antelope use of the area may occur, no well-established trails or wildlife travel corridors were noted within the project area and there are no water sources that might attract antelope. The proposed facilities would be fenced, removing up to 575 acres of habitat that could be used by antelope. Antelope would be excluded from the fenced area, but general antelope movement in the vicinity would not be affected. Because the habitat is of limited value, the overall impact on antelope or other game species would be negligible.

(c) BLM Sensitive Species. Implementation of the Proposed Action would remove up to 575 acres of salt desert scrub wildlife habitat; however, this habitat type is common in the valley surrounding the project area. The loss of this habitat type would be expected to have a negligible

impact on the foraging success of golden eagles, prairie falcons, or Swainson's hawks. Potential effects of the Proposed Action on burrowing owls and loggerhead shrikes are discussed in the Migratory Birds Section.

Because impacts to wildlife and fisheries would be minimal, no mitigation is proposed.

Socioeconomics

Affected Environment

Mineral County is a small (3,756 square miles), predominantly rural county in west-central Nevada adjacent to the California-Nevada state line. Mineral County is named for its abundant and unique mineral resources that include gold, silver, copper, tungsten, iron, coal, borax, lead, and gemstones. In addition to mining, tourism is also an important part of the economy because outdoor enthusiasts are drawn to the vast expanses of public land available for hiking and riding motorcycles and off-highway vehicles cross-country. The table below summarizes Mineral County's social and economic indicators.

Social and Economic Indicators

	Mineral County	State of Nevada
Population (July 1, 2007) [1]	4,377	2,718,000
Private non-farm employment (2005) [2]	1,263	1,089,422
Ethnicity (2006) [2]		
White persons	75.2%	81.7%
Black persons	4.7%	7.9%
American Indian/Alaska Native	16.6%	1.4%
Asian	1.0%	6.0%
Hispanic/Latino	10.1%	24.4%
Households (2000) [2]	2,197	751,165
Housing Units (2006) [2]	2,868	1,065,197
Median Household Income (2004) [2]	$33,302	$47,231
Persons Below Poverty Level (2004) [2]	14.8%	11.1%

Notes: 1. Nevada State Demographer's Office
2. U.S. Census Bureau, State and County QuickFacts

Hawthorne, which is located approximately 23 miles west of the project area, is the county seat and the county's largest town, with a population of approximately 2,960 in 2007 (NSDO, 2008). Hawthorne is the site of the Hawthorne Army Depot, which receives, stores, and disposes of conventional ammunition and provides high desert training facilities for military units. The Depot covers 147,000 acres and has 600,000 square feet of floor space in 2,427 storage bunkers. The Depot is only partially staffed during peacetime, but staffing can be rapidly expanded as necessary. The Depot is currently being run by a contractor, which has approximately 500 employees. The Depot contractor is the largest employer in Mineral County, providing about 40 percent of the county's jobs.

Luning is a small town of approximately 79 residents, which is about 2 miles south of the project area near the junction of US95 and SR361.

The current economic environment is extremely difficult and the global economy is in a severe recession. The collapse of the housing market in the United States has been marked by steeply falling home prices, foreclosures, and a virtual halt to new construction. The real estate market in Nevada has been affected even more than the national average. As a result of these problems, economic activity and employment in Nevada are contracting and there is no turnaround in economic conditions in sight. As state, county, and city revenues continue to fall, cuts in government services and employment inevitable.

Environmental Consequences

It is anticipated that construction of all three project phases combined would employ eight workers for a total of 20 months. Operations and maintenance full-time employees would increase from two or three for the initial phase to a maximum of five to seven at completion of the final phase. The number of employees depends to some degree on the solar technology installed. It is likely that most employees (except for the on-site caretaker) would reside in Hawthorne, which is only a 30-minute drive from the site.

Project spending on labor, materials, and equipment rental would benefit Mineral County and Hawthorne by increasing tax revenues. This additional income could help offset the loss of revenue if, as expected, the current difficult economic environment continues into the future. On the other hand, the addition of eight temporary workers and up to seven permanent employees to the local workforce is unlikely to make a measurable difference in the demand for housing and government services such as fire and police protection, schools, road maintenance, water, and trash collection. There should be adequate short-term housing for construction workers in Hawthorne. Overall, the project would provide a local economic benefit by creating long-term jobs and help diversify the county's employment opportunities in a new industry. Because the project impacts to social and economic factors would be minimal or positive, no mitigation is proposed.

NO ACTION ALTERNATIVE

Under the No Action alternative the solar energy project would not be developed and there would be no impacts to resources other than those already authorized. The No Action alternative would be inconsistent with the Federal Energy Policy, which promotes development of environmentally attractive energy resources. The State of Nevada and Mineral County would not receive the additional revenue that the solar project could provide.

CUMULATIVE IMPACTS

The analysis presented in this section addresses potential cumulative impacts associated with the Proposed Action and No Action alternatives, as required by Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508). CEQ regulations state that the cumulative impact analysis should include the anticipated impacts to the environment resulting from "the incremental impact of [an] action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over time" (40 CFR 1508.7).

The analysis in this section builds upon analyses of direct and indirect impacts of the Proposed Action and No Action alternatives presented above. The region of influence for each resource is evaluated in the cumulative impacts analysis area, which is defined as Soda Spring Valley between US95 on the south and the Gabbs Valley Range on the north. The reasonably foreseeable time frame for analysis is 20 years. While it is likely that effects identified in the cumulative impacts analysis would continue beyond the 20-year horizon, it is difficult to project future actions or trends beyond this time.

Proposed Action

Past, Present, and Reasonably Foreseeable Future Actions

Past, present, and reasonably foreseeable future activities on private and federal land have been and are likely to continue to be exploration and extraction of minerals, livestock grazing, recreation, utility transmission and distribution systems, and transportation. Other past, present, and reasonably foreseeable activities in the project area include realty actions, noxious weed treatment, fire suppression, and burned area rehabilitation.

The only known large-scale project in the cumulative effects analysis area is the proposed development of Canyon Copper Corporation's New York Canyon copper and molybdenum mine. The greatest portion of the project is located in the Gabbs Valley Range east of Soda Spring Valley, but the lode claim block also encompasses approximately 3,700 acres of the valley east of SR361. The extent to which the load claim block will be developed and the schedule is unknown. However, if the claim block were fully developed the mine project could have a substantial impact on resources such as air quality, grazing, economic activity and housing, traffic, and wildlife habitat.

Cumulative Impacts of the Proposed Action

The Luning Solar project area is located on public land in a low-use rural setting far away from population centers. The contribution of the Proposed Action to cumulative impacts on resources would be relatively minor, consisting mainly of the loss of wildlife habitat and rangeland.

No Action Alternative

Under the No Action alternative, the BLM would not approve the ROW grant. Current agency management practices would continue for existing authorizations in the cumulative effects analysis area.

MONITORING

The monitoring described in the Proposed Action is sufficient for this action.

IV. CONSULTATION AND COORDINATION

CONSULTATION WITH OTHERS

The following agencies and organizations were consulted during preparation of this EA:

Mineral County Board of Commissioners
- May 6, 2009. Presentation to Board by Luning Solar, opportunity for public comment.
- June 3, 2009. Approval of Luning Solar SUP, opportunity for public comment.

Walker River Paiute Tribe (tribe contacted by BLM)
Yomba Shoshone Tribe (tribe contacted by BLM)
U.S. Fish and Wildlife Service (project species list)
Nevada Natural Heritage Program (list of database occurrences in project vicinity)

LIST OF PREPARERS AND REVIEWERS

Bureau of Land Management, Carson City District
- John Axtell
- James De Laureal
- Jill Devaurs
- Fran Hull
- Carla James
- Charles Kihm
- Terri Knutson
- Susan McCabe
- Dave Schroeder
- Rita Suminski
- Desna Young

JBR Environmental Consultants, Inc.
- Catherine Clark, Division Manager
- Matt Setty, Project Scientist/Manager
- Richard Duncan, Biologist
- Dave Worley, Senior Biologist
- Mike Derby, GIS Specialist

V. REFERENCES

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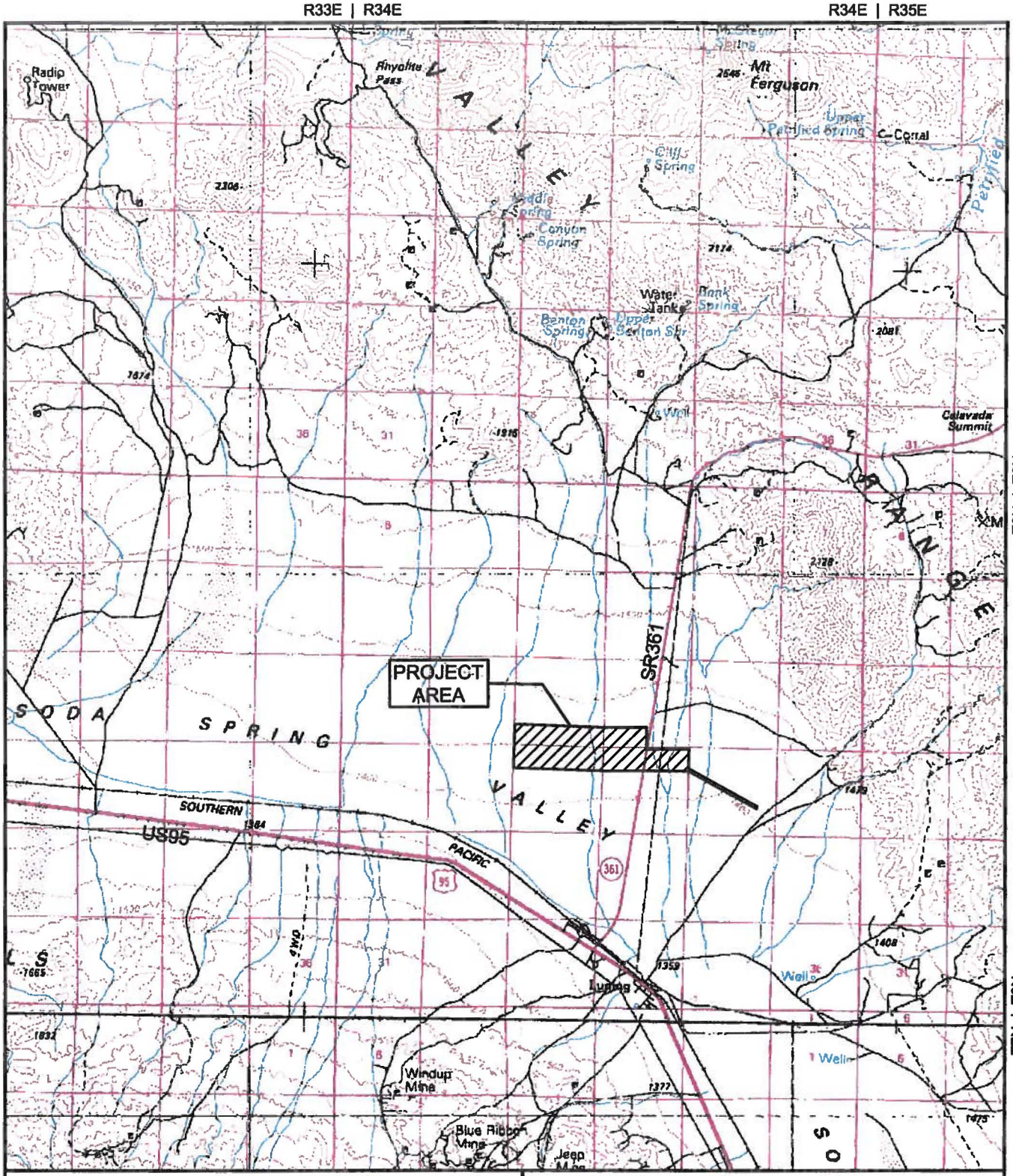
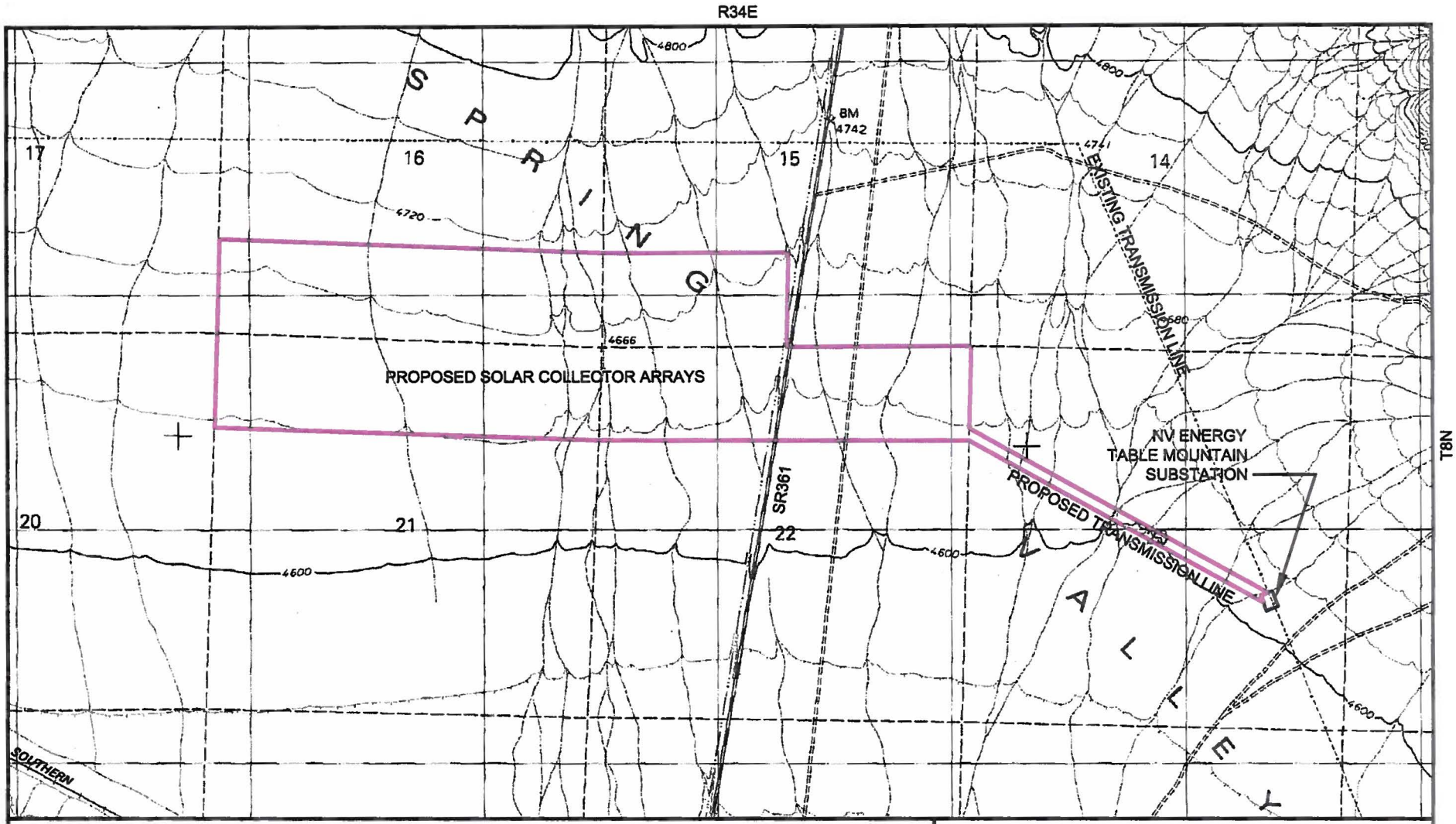
FIGURES



LUNING SOLAR ENERGY, LLC
ENVIRONMENTAL ASSESSMENT

FIGURE 1
VICINITY MAP

BLM Carson City Field Office | DATE DRAWN: 04-02-09



BASE IMAGE: USGS DRGs

PROJECT BOUNDARY

2,000 1,000 0 2,000 FEET

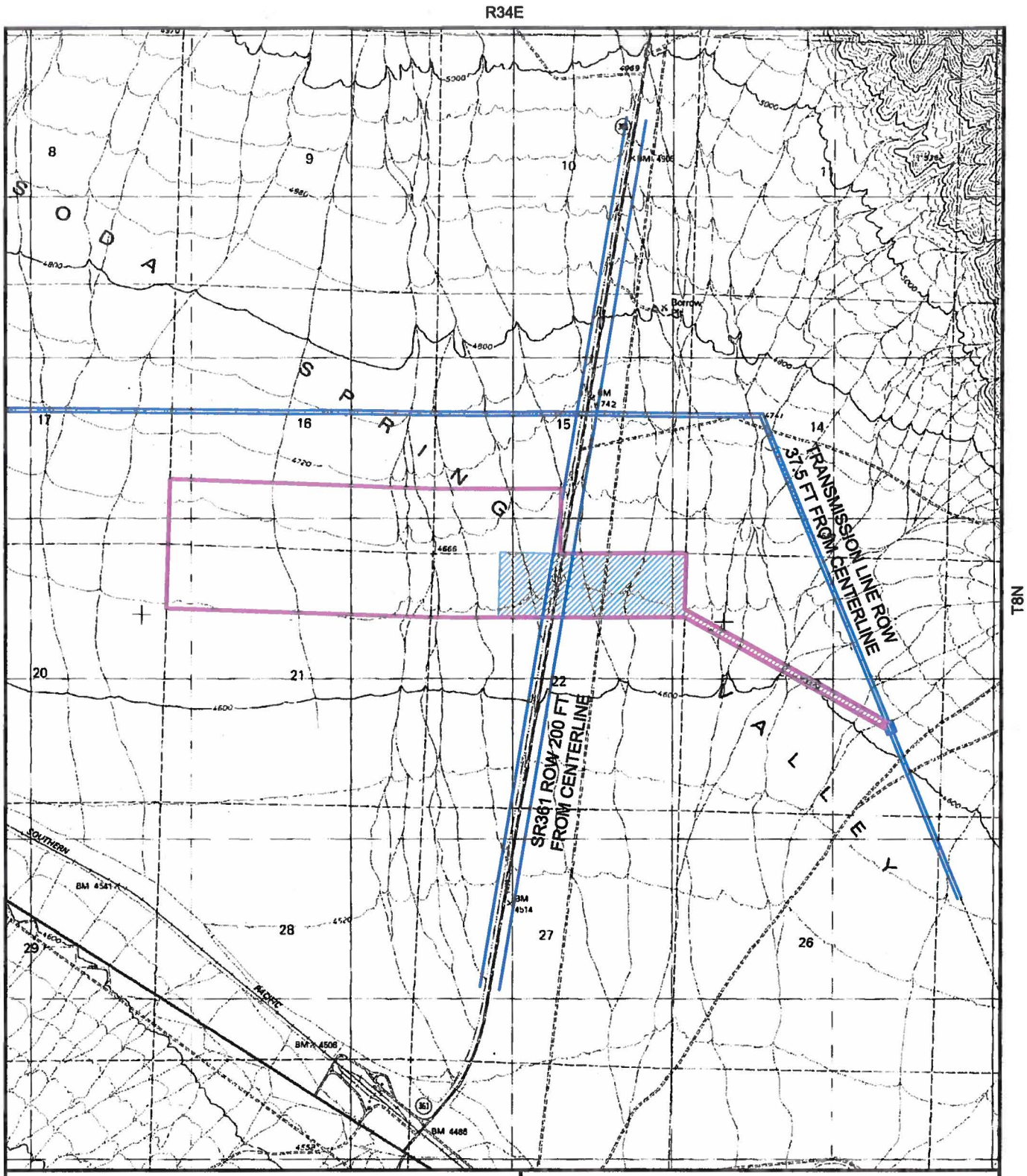
LUNING SOLAR ENERGY, LLC

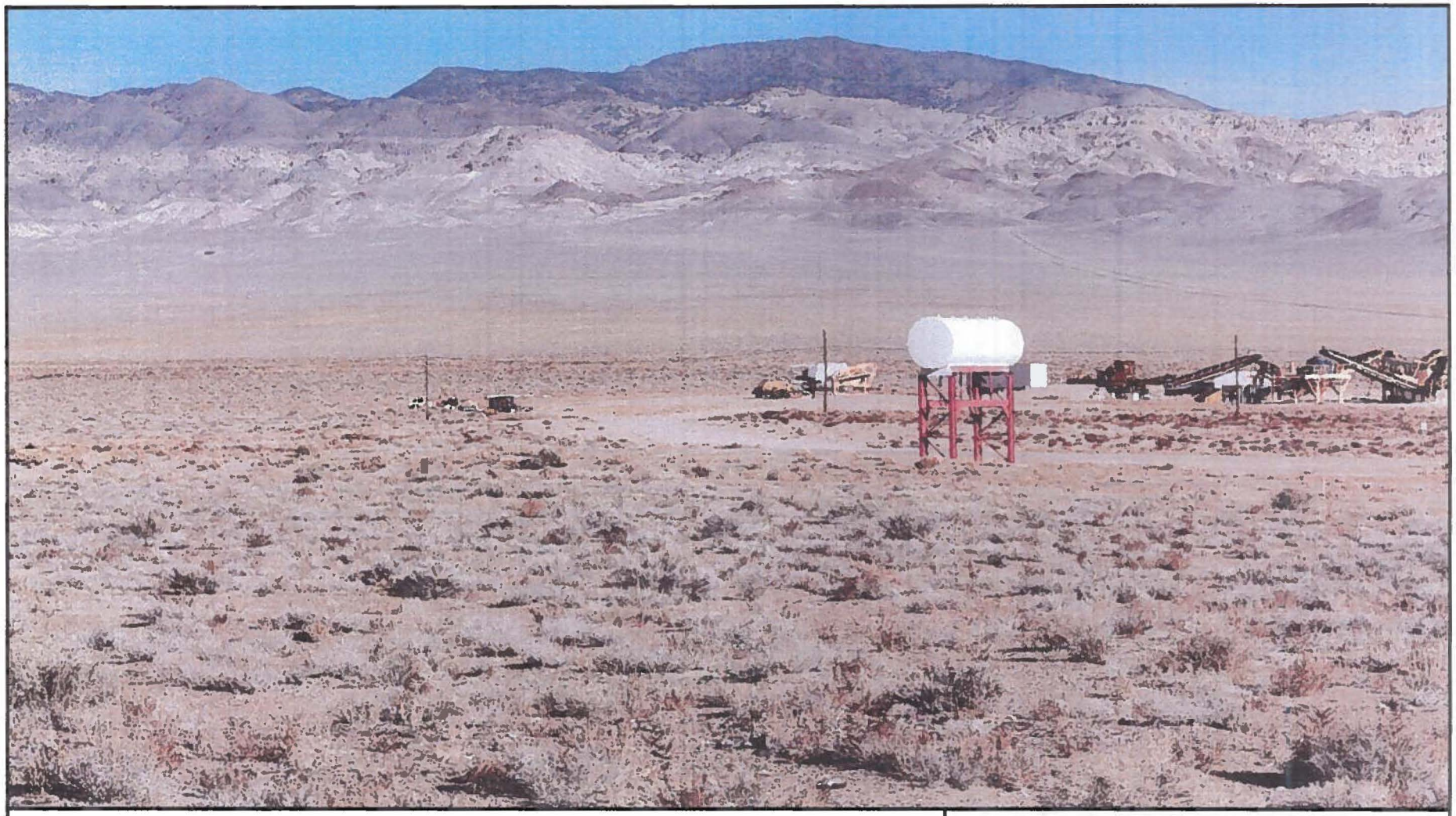
ENVIRONMENTAL ASSESSMENT

FIGURE 2
TOPOGRAPHIC MAP

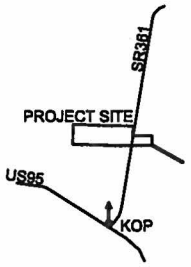
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

BLM Carson City Field Office | DATE DRAWN: 04-02-09


R34E
T8N
SODA
SPRING
SALT LEY
SR361 ROW 200 FT FROM CENTERLINE
TRANSMISSION LINE ROW 37.5 FT FROM CENTERLINE
Borrow Pit
BM 4906
BM 4742
BM 4514
BM 4541
BM 4508
BM 4488
SOUTHERN
MORIC
8
9
10
11
14
15
16
17
20
21
22
26
27
28
29
5000
4800
4600
4400
4200
4000
BASE IMAGE: USGS DRGs
PROJECT BOUNDARY
AREAS WITH POTENTIAL LODE CLAIM CONFLICTS
2,500 1,250 0 2,500 FEET
LUNING SOLAR ENERGY, LLC
ENVIRONMENTAL ASSESSMENT
FIGURE 3
LAND USE
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.
BLM Carson City Field Office
DATE DRAWN: 04-02-09



VIEW FROM KEY OBSERVATION POINT (KOP) TO THE NORTH SHOWING THE VALLEY FLOOR AND GABBS VALLEY RANGE IN THE BACKGROUND. KOP IS LOCATED AT THE INTERSECTION OF US95 AND SR361, APPROXIMATELY 2 MILES SOUTH OF THE PROJECT SITE. SR361 IS VISIBLE IN THE UPPER RIGHT PORTION OF THE PHOTOGRAPH.



LUNING SOLAR ENERGY, LLC

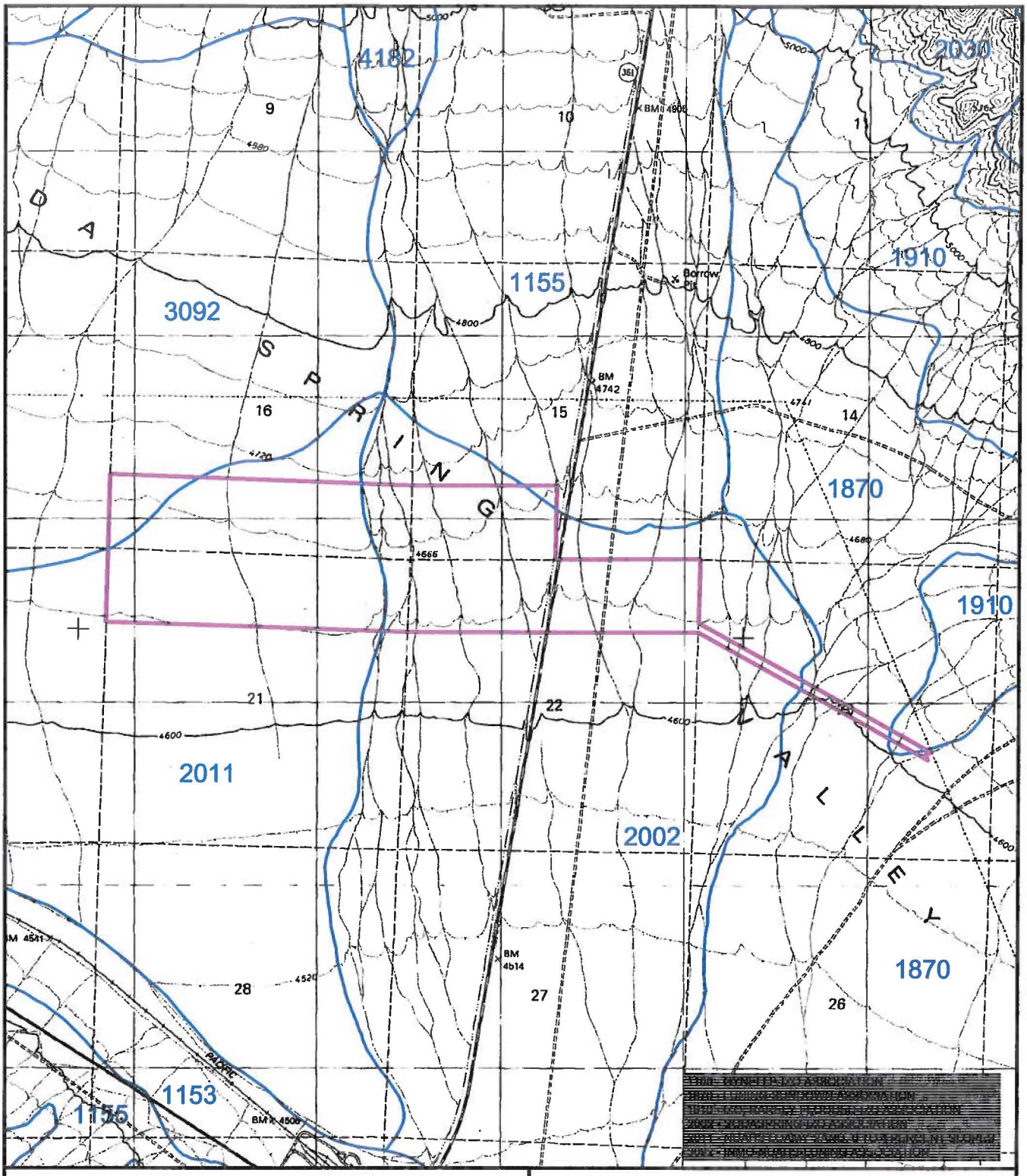
ENVIRONMENTAL ASSESSMENT

FIGURE 4
VIEW FROM KEY OBSERVATION POINT

BLM Carson City Field Office | DATE DRAWN: 04-02-09

R34E

T8N



BASE IMAGE: USGS DRGs

PROJECT BOUNDARY

SOIL BOUNDARIES FROM SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE FOR MINERAL COUNTY AREA, NEVADA, USDA, NRCS, JULY 18, 2006.

2,500 1,250 0 2,500 FEET

LUNING SOLAR ENERGY, LLC

ENVIRONMENTAL ASSESSMENT

FIGURE 5
SOILS MAP

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

BLM Carson City Field Office

DATE DRAWN: 04-02-09

APPENDIX A

Migratory Bird Species of Concern

BIRDS OF CONCERN
on Carson City District Office, BLM, per IM 2008-050 List

Game Birds of Conservation Concern

Canvasback	*Aythya valisineria*
Dove, Mourning	*Zenaida macroura*
Duck, Ring-necked	*Aythya collaris*
Duck, Wood	*Aix sponsa*
Mallard	*Anas platyrhynchos*
Pigeon, Band-tailed	*Columba fasciata*
Pintail, Northern	*Anas acuta*

Bird Species of Conservation Concern

Avocet, American
Blackbird, Tricolored
Bittern, American
Cuckoo, Yellow-billed
Curlew, Long-billed
Eagle, Golden
Falcon, Peregrine
Falcon, Prairie
Flycatcher, Olive-sided
Goshawk, Northern
Harrier, Northern
Hawk, Ferruginous
Hawk, Swainson's
Hummingbird, Costa's
Hummingbird, Rufous (Alpine Co. only)
Jay, Pinyon
Nuthatch, Pygmy
Owl, Burrowing
Owl, Flammulated
Owl, Short-eared
Owl, Spotted
Phalarope, Wilson's
Plover, Snowy
Sage Grouse, Greater, Columbia Basin pop.
Sapsucker, Red-naped
Sapsucker, Williamson's
Shrike, Loggerhead
Sparrow, Brewer's
Sparrow, Sage
Swift, Black (Alpine Co. only)
Vireo, Gray
Warbler, Black-throated Gray (east part of CCFO only)
Warbler, Virginia's
Willet
Woodpecker, Lewis's
Woodpecker, White-headed

APPENDIX B

Canyon Copper Correspondence

CANYON COPPER

OTCBB: CYOO

21st April 2009

Luning Solar Energy
6155 Plumas Street #185
Reno, NV 89519, USA.

Attention: Mr. Edward A. Benson

Dear Mr. Benson,

RE: RIGHT OF WAY FOR POWER LINE TO CONNECT WITH THE EXISTING TABLE MOUNTAIN SUBSTATION OF NV ENERGY.

I have received approval from my principals to make no objection to the easement of access for a power line to connect to the Table Mountain substation of NV Energy that is located on BLM administered mineral claims provided that Canyon Copper Corp. ("CYOO") or its heirs and successors has the right, at the expense of CYOO, to move the power line should operational conditions require that to be done.

I appreciate your contacting CYOO in this matter and wish you success in your projects. I will forward a copy of this letter to the BLM office in Carson City so they will have a paper trail on the matter.

Yours truly,

Ben Ainsworth, President,
Canyon Copper Corp.

cc Bureau of Land Management, Carson City, NV
Richard Harris, Reno, NV

Suite 408 – 1199 West Pender Street • Vancouver, B.C. • V6E 2R1
TEL (604) 331-9326 • FAX (604) 684-9365

CANYON COPPER

OTCBB: CYOO

27th April 2009

Mr Charles Kihm
Bureau of Land Management
5665 Morgan Hill Road,
Carson City, NV 89701, USA.

Dear Mr. Kihm

Re: Right of way for power line to connect with the existing Table Mountain substation of NV Energy.

I am attaching, for your records, a copy of the letter sent to Mr. Edward Benson of Luning Solar Energy regarding the potential easement of access for a power line to connect to the Table Mountain substation of NV Energy that is located on BLM administered mineral claims held by Canyon Copper Corp (CYOO). Provided that CYOO or its heirs and successors has the right, at the expense of CYOO, to move the power line should operational conditions require that to be done, CYOO has no objection to this easement for power line access.

I understand also that Luning Solar Energy will keep its solar panel arrays outside the areas of the claims since there is some question whether the close proximity of the panels to a heavy truck based operation would be desirable and there is space, potentially, on the west side of highway 361 adjacent to the claims.

Yours truly,

Ben Ainsworth, President,
Canyon Copper Corp.

cc Mr. Edward Benson, Reno, Nevada
Mr. Richard Harris, Reno, Nevada.

Suite 408 – 1199 West Pender Street • Vancouver, B.C. • V6E 2R1
TEL (604) 331-9326 • FAX (604) 684-9365

APPENDIX C

Visual Contrast Rating Worksheet

Visual Contrast Rating Worksheet

Section A. Project Information

Project Name	Luning Solar Project—Proposed Action	**KOP Location**
Key Observation Point	KOP 1, View to N	UTM Zone 11, NAD83
VRM Class	Unclassified, managed as Class IV	E 0396243 N 4263272
		Junction of US95 and SR361

Section B. Characteristic Landscape Description

	Land/Water	Vegetation	Structures
Form	Flat to rolling terrain	Indistinct, irregular	Geometric (gravel operation in foreground)
Line	Horizontal	Complex	Various angles
Color	Gray, tan	Gray-green, dark green, tan	White, red, yellow
Texture	Coarse, rough	Smooth, gradational	Smooth

Section C. Proposed Activity Description

	Land/Water	Vegetation	Structures
Form	Flat to rolling terrain	Indistinct, regular	Geometric (solar arrays, buildings)
Line	Horizontal	Complex	Vertical, horizontal
Color	Gray, tan	Gray-green, dark green	Dark colors
Texture	Coarse, rough	Patchy, gradational	Smooth

Section D. Contrast Rating

	Land/Water	Vegetation	Structures
Form	3	3	3
Line	3	3	3
Color	3	2	2
Texture	3	2	3

Notes: Degree of Contrast: 1 = Strong; 2 = Moderate; 3 = Weak; 4 = None

Does project design meet visual resource management objectives? Yes.
The proposed buildings and solar arrays would create additional areas of contrast with the surrounding undisturbed landform and vegetation. The proposed transmission line to the existing substation would be indistinct and difficult to see. The overall contrast would be weak to moderate because the disturbance is over 2 miles away from an observer at the KOP.

Additional mitigating measures recommended. None.

Evaluator: R. Duncan, JBR Environmental Consultants
Date: January 2009

APPENDIX D

Agency Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
1340 Financial Blvd., Suite 234
Reno, Nevada 89502
Ph: (775) 861-6300 ~ Fax: (775) 861-6301

February 3, 2009
File No. 2009-SL-0110

Mr. David Worley
JBR Environmental Consulting, Inc.
5355 Kietzke Lane, Suite 100
Reno, Nevada 89511

Dear Mr. Worley:

Subject: Species List Request for Luning Solar Project, Mineral County, Nevada

This responds to your letter received on January 12, 2009, requesting a species list for the Luning Solar Project in Mineral County, Nevada. To the best of our knowledge, no listed, proposed, or candidate species occur in the subject project area. This response fulfills the requirements of the Fish and Wildlife Service (Service) to provide a list of species pursuant to section 7(c) of the Endangered Species Act of 1973 (Act), as amended, for projects that are authorized, funded, or carried out by a Federal agency.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we are adopting Heritage's sensitive species list and partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

For a list of sensitive species by county, visit Heritage's website at www.heritage.nv.gov. For a specific list of sensitive species that may occur in the project area, you can obtain a data request form from the website or by contacting Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your

request is being obtained as part of your coordination with the Service under the Act. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address. Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (see http://www.leg.state.nv.us/NAC/NAC-503.html). Before a person can hunt, take, or possess any parts of wildlife species classified as protected, they must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (visit http://www.ndow.org or call 775-688-1500).

Because wetlands, springs, or streams may occur in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (Corps) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the Corps' Regulatory Section, 300 Booth Street, Room 2103, Reno, Nevada 89509, (775) 784-5304, regarding the possible need for a permit.

Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. 703 *et seq.*), we are concerned about potential impacts the proposed project may have on migratory birds in the area. Given these concerns, we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Please reference File No. 2009-SL-0110 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact me or James Harter at (775) 861-6300.

Sincerely,

Robert D. Williams
Field Supervisor

APPENDIX E

BLM Sensitive Species

ALLEN BIAGGI
Director

Department of Conservation
and Natural Resources

JENNIFER E. NEWMARK
Administrator

JIM GIBBONS
Governor

Nevada Natural Heritage Program
Richard H. Bryan Building
901 S. Stewart Street, suite 5002
Carson City, Nevada 89701-5245
U.S.A.

tel: (775) 684-2900
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STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

Nevada Natural Heritage Program

http://heritage.nv.gov

09 July 2008

Richard Duncan
JBR Environmental Consultants, Inc.
5355 Kietzke Lane, Suite 100
Reno, NV 89511

RE: Data request received 09 July 2008

Dear Mr. Duncan:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or At Risk plant and animal taxa recorded within or near the Luning Solar Energy Project area. We searched our database and maps for the following, a five kilometer radius including:

Township 08N Range 34E Sections 13-17, 20-24 and 25-29

There are no at risk taxa recorded within the given area. However, habitat may be available for, the Beatley buckwheat, *Eriogonum beatleyae*, a Taxon determined to be Imperiled by the Nevada Natural Heritage Program (NNHP), and the Watson spinecup, *Oxytheca watsonii*, a Taxon determined to be Vulnerable by the NNHP. We do not have complete data on various raptors that may also occur in the area; for more information contact Ralph Phenix, Nevada Department of Wildlife at (775) 688-1565. Note that all cacti, yuccas, and Christmas trees are protected by Nevada state law (NRS 527.060-.120), including taxa not tracked by this office.

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,

Eric S. Miskow
Biologist /Data Manager

NEVADA BLM SENSTIVE SPECIES
Associated with Carson City BLM

	A	B	C	D	E
1	**COMMON NAME**	***SCIENTIFIC NAME***	**State**	**County**	
2					
3	Sierra alligator lizard	*Elgaria coerulea palmeri*	NV	CC,Do,Hu,Wa	
4	Northern leopard frog	*Rana pipiens*	NV		
5					
6	Golden eagle	*Aquila chrysaetos*	NV	all	
7	Ferruginous hawk	*Buteo regalis*	NV		
8	Northern goshawk	*Accipiter gentilis*	NV		
9	Peregrine falcon	*Falco peregrinus*	NV		
10	Prairie falcon	*Falco mexicanus*	NV		
11	Swainson hawk	*Buteo swainsoni*	NV		
12	Burowing owl	*Athene cunicularia*	NV		
13	Short-eared owl	*Asio flammeus*	NV	Do	
14	Long-eared owl	*Asio otus*	NV		
15	Flammulated owl	*Otus flammeolus*	NV		
16	Lewis woodpecker	*Melanerpes lewis*	NV		
17	Red-napped sapsucker	*Sphyrapicus nuchalis*	NV		
18	Juniper titmouse	*Baeolophus griseus*	NV		
19	Pinyon jay	*Gymnorhinus cyanocephalus*	NV		
20	Loggerhead shrike	*Lanius ludovicianus*	NV		
21	Vesper Sparrow	*Pooecetes gamineus*	NV		
22	Gray Vireo	*Vireo vicinior*	NV		
23	Black rosy finch	*Leucosticte atrata*	NV		
24	Mountain quail	*Oreortyx pictus*	NV		
25	Greater sage grouse	*Centrocercus urophasianus*	NV		
26	Tricolored blackbird	*Agelaius tricolor*	NV	Do,Wa	
27	Sandhill Crane	*Grus canadensis*	NV	migrant	
28	Snowy plover	*Charadrius alexandrinus*	NV		
29	Black tern	*Chlidonias niger*	NV		
30	Long-billed curlew	*Numenius americanus*	NV	Ch	
31	Least bittern	*Ixobrychus exilis*	NV		
32					
33	Western pipistrelle bat	*Pipistrellus hesperus*	NV		
34	Pallid bat	*Antrozous pallidus*	NV		
35	Spotted bat	*Euderma maculatum*	NV		
36	Silver-haired bat	*Lasionycteris noctivagans*	NV		
37	Townsend's big-eared bat	*Corynorhinus townsendii*	NV		
38	Big brown bat	*Eptesicus fuscus*	NV		
39	Hoary bat	*Lasiurus cinereus*	NV		
40	Brazillian free-tailed bat	*Tadarida braziliensis*	NV		
41	Long-eared myotis	*Myotis evotis*	NV		
42	Fringed myotis	*Myotis thysanodes*	NV		
43	California myotis	*Myotis californicus*	NV		
44	Small-footed myotis	*Myotis ciliolabrum*	NV		
45	Little brown myotis	*Myotis lucifugus*	NV		
46	Long-legged myotis	*Myotis volans*	NV		
47	California wolverine	*Gulo gulo*	NV		
48	River otter	*Lontra canadensis*	NV		
49	Desert bighorn sheep	*Ovis canadensis nelsoni*	NV		
50	Western white-tail jackrabbit	*Lepus townsendii*	NV		
51	Pygmy rabbit	*Brachylagus idahoensis*	NV		
52					
53	Wong springsnail	*Pyrgulopsis wongi*	NV	Do,Es,Mi	
54	California floater	*Anodonta californiensis*	NV	Ch,Wa	

NEVADA BLM SENSTIVE SPECIES
Associated with Carson City BLM

	A	B	C	D	E
55	Hardys aegialian scarab	*Aegialia hardyi*	NV	Ch	
56	Sand Mtn aphodius scarab	*Aphodius sp*	NV	unk	
57	San Mtn serican scarab	*Serica psammobunus*	NV	Ch	
58	Carson valley silverspot	*Speyeria nokomis carsonensis*	NV	CC,Do,Wa	
59	Mono valley checkerspot	*Euphydryas editha monoensis*	NV	CC,Do,Ly,Wa	
60	Pallid wood nymph	*Cercyonis oetus pallescens*	NV		
61	Carson valley wood nymph	*Cercyonis pegala carsonensis*	NV		
62	Sand Mtn blue	*Euphilotes pallescens arenamontana*	NV	Ch	
63	Great Basin small blue	*Philotiella speciosa septentrionalis*	NV		
64					
65	Bodie Hills rockcress	*Arabis bodiensis*	NV	Mi	
66	Eastwood milkvetch	*Asclepias eastwoodiana*	NV	Es	
67	Lavin eggvetch	*Astragalus oophorus var. lavinii*	NV	Do,Ly,Mi	
68	Bodie hills draba	*Cusickiella quadricostata*	NV	Do,Ly,Mi	
69	Windloving buckwheat	*Eriogonum anemophilum*	NV	Ch,Wa	
70	Altered andesite buckwheat	*Eriogonum robustum*	NV	St,Wa	
71	Sierra valley ivesia	*Ivesia aperta var aperta*	NV	St,Wa	
72	PNM ivesia; mousetails	*Ivesia pityocharis*	NV	Do	
73	Oryctes	*Oryctes nevadensis*	NV	all	
74	Nevada dune beardtongue	*Penstemon arenarius*	NV	Ch,Mi	
75	Lahontan beardtongue	*Penstemon palmeri var macranthus*	NV	Ch,La	
76	Playa phacelia	*Phacelia inundata*	NV	Wa	
77	Mono phacelia	*Phacelia monoensis*	NV	Es,Ly,Mi	
78	Washoe pine	*Pinus washoensis*	NV	Wa	
79	Altered andesite popcornflower	*Plagiobothrys glomeratus*	NV	St,Wa	
80	Masonic Mtn jewelflower	*Strepthanthus oliganthus*	NV	Es,Ly,Mi	
81	Tiehm peppercress	*Stroganowia tiehmii*	NV	Ly	
82					
83					
84	**Columns =**				
85	D -Mi, Es, Do, Ly, Ch, Wa, St, Ch= Mineral, Esmeralda, Douglas, Lyons, Churchill, Washoe, Storey				

Luning Solar Energy Project (NVN-092243)
Solar Variance Area Right-of-way Application Review

Invenergy Solar Development, LLC, (Invenergy) is proposing the development and operation of a photovoltaic (PV) solar power plant with a planned generating capacity of up to 50 megawatts (MW) name-plate capacity.

The project would be located on approximately 560 acres of public land administered by the Bureau of Land Management (BLM), Carson City District Office (CCDO), Stillwater Field Office (SFO), in Mineral County, Nevada. The site is approximately 25 miles east of Hawthorne, Nevada and approximately 95 miles southeast of Carson City, Nevada. The project would require construction of a 1 mile high-voltage transmission line connecting the project to the Table Mountain substation. The facility would be expected to operate for 30+ years.

Invenergy filed a right-of-way (ROW) application (NVN-092243) with the SFO on July 31, 2013, for the Luning Solar Energy Project (LSEP). The SFO previously completed an EA and issued a ROW grant for a similar solar project in the same location in July 2009. The ROW for the previous project was voluntarily relinquished by the holder in January 2013. The new application from Invenergy is identical to the previous ROW application analyzed in the EA in terms of the project area acreage and the route of the power line to connect to the Table Mountain substation.

The preliminary meetings with the BLM, as required by the variance area policy, were held in early July 2013 and September 2013. The company filed a comprehensive plan of development (POD) for the proposed project and a cost recovery agreement was signed on December 17, 2013.

The public meeting required by the variance area policy was held on February 19, 2014 in Hawthorne, Nevada, including the opportunity for the public to comment. The SFO Field Manager decided to complete the public meeting requirement as a part of the monthly meeting of the Mineral County Board of Commissioners. Years of experience processing ROW applications and other land management activities have shown the Mineral County Board meetings to be the most effective way to deliver information to the residents of Mineral County.

As of the 2010 census, Mineral County, Nevada, had a population of 4,772 people, in five communities (Hawthorne, Luning, Mina, Schurz, and Walker Lake) spread over 3,752.84 square miles (1.3 people per square mile). Board members are in close contact with community leaders and maintain an extensive email contact list to notify concerned residents of upcoming agenda items. Over 130 private citizen, company, government, and tribal email addresses were included in the notification email sent by Mineral County on February 13, 2014. The agenda and meeting minutes are available on the Mineral County website; the agenda describes the other locations and media used to notify the public of the meeting.

The following factors were considered in determining whether the LSEP should be approved for additional processing, as identified in the Solar PEIS ROD, Appendix B.5.3:

1. **The availability of lands in a SEZ that could meet the applicant's needs, including adequate access to available transmission.**

The Solar PEIS designated seven SEZs in Nevada. The Millers SEZ is the closest to the proposed LSEP. The Millers SEZ is approximately 45 miles to the southeast, near Tonopah, Nevada.

Invenergy selected the proposed location for the LSEP largely based on the minimal resource conflicts identified in the 2009 EA. The preliminary meetings with the BLM indicated the BLM would still be able to come to a Finding of No Significant Impact (FONSI) after completing a new EA for the LSEP. The project is designed to remain within the same footprint previously analyzed. Sierra Pacific Power Company (NV Energy), which owns the existing 120kV transmission line and Table Mountain substation near the proposed LSEP, completed a System Impact Study in October 2010 and a Facility Study in November 2011 which showed the previous project, also proposed to generate up to 50 MW of solar energy, would have no significant negative impacts from connecting at the Table Mountain substation. A Large Generator Interconnect Agreement was drafted for the previous ROW holder in 2012. NV Energy is currently completing the same studies for the Invenergy proposal.

2. **Documentation that the proposed project will be in conformance with decisions in current land use plans (e.g., visual resource management class designations and seasonal restrictions) or, if necessary, represents an acceptable proposal for a land use plan amendment.**

The Carson City Consolidated Resource Management Plan (CRMP) (2001) is the current land use plan (LUP) covering the location of the proposed LSEP. The proposal is in general conformance with the LUP, even though it is not specifically provided for, because it is clearly consistent with Administrative Actions listed on page ROW-4 of the Right-of-way Corridor section and would comply with the Standard Operating Procedures listed on pages ROW-4 through ROW-6.

The location of the proposed LSEP does not have any special designations, such as ACECs, under the CRMP. The CRMP showd the entirety of Mineral County, including the location of the proposed LSEP, as a desert mountain goat area on one of the GIS maps included in the document. The text of the CRMP does not provide an explanation of what a desert mountain goat area is. Both the BLM biologist for the SFO and the Nevada Department of Wildlife (NDOW) say there are no mountain goats in the area. No seasonal restrictions for wildlife species are listed in the document.

The CRMP did not designate a VRM class for the location of the proposed LSEP. The VRI inventory completed for the RMP revision, dated December 16, 2011, lists the area as VRI Class IV. The VRI designation is expected to be the same for the VRM class once the CRMP is revised.

3. **Documentation that the proposed project will be consistent with priority conservation, restoration, and/or adaptation objectives in best available landscape-scale information (e.g., landscape conservation cooperatives, rapid ecological assessments, and state-level crucial habitat assessment tools).**

The proposed location for the LSEP does not have any priority conservation, restoration, or adaptation objectives that would affect the proposal.

4. **Documentation that the proposed project can meet applicable programmatic design features adopted in the Solar PEIS.**

The applicant will be required to meet the design features in Appendix A, Section A.4 of the Solar PEIS, as necessary.

5. **Documentation that the applicant has coordinated with state and local (county and/or municipal) governments, including consideration of consistency with officially adopted plans and policies (e.g., comprehensive land use plans, open space plans, and conservation plans) and permit requirements (e.g., special use permits).**

The applicant has met with Mineral County officials on February 13, 2014 to present the project and determine which local permits would be required. The County is supportive of the project and has expressed their desire to issue a SUP based on the timing needs of the company. No other officially adopted plans or policies are known to affect the location of the proposed LSEP.

6. **Documentation of the financial and technical capability of the applicant, including but not limited to: (i) the international or domestic experience with solar projects on federal or nonfederal lands; and (ii) sufficient capitalization to carry out development, monitoring, and decommissioning, including the preliminary study phase of the project and the environmental review and clearance process.**

Invenergy Solar is a subsidiary of Invenergy LLC, an international power generation company with projects in North America and Europe, mainly utilizing wind and natural gas resources. Invenergy LLC currently has one 20 MW solar facility in operation in Illinois and two more 10 MW facilities being constructed in Ontario, Canada. Further evidence of financial capability would be demonstrated through the completion of baseline surveys, paying for the BLM to complete a NEPA document, and providing a bond to cover the project.

7. **Documentation that the proposed project is in an area with low or comparatively low resource conflicts and where conflicts can be resolved (as demonstrated through many of the factors that follow).**

The SFO completed an EA in July 2009 for a similar project in the same location. No major issues were identified and a Finding of No Significant Impact (FONSI) was reached. Current review of the proposal indicates the same outcome would be reached.

The LSEP would be located in foraging habitat for golden eagles and other raptors. The nest survey data available to the SFO during the initial review of the LSEP proposal did not show a large concentration of golden eagles or other raptors in nearby nesting habitat. The survey data was several years old, therefore new surveys for golden eagles and raptors would be required so effects to current populations can be analyzed during processing of the ROW application.

In addition, some neo-tropical migratory bird and bat species could forage and/or fly by the LSEP location. The BLM would suggest a Bird and Bat Conservation Strategy (BBCS) be developed to address potential impacts to neo-tropical birds and bats; a BBCS is not currently required for projects such as the LSEP.

8. Documentation that the proposed project will minimize the need to build new roads.

Nevada State Highway 361 runs through the proposed location of the LSEP. The Table Mountain substation has existing road access. Any new roads would be strictly for installing and maintaining solar panel arrays and related infrastructures.

9. Documentation that the proposed project will meet one or more of the following transmission sub-criteria: (1) transmission with existing capacity and substations is already available; (2) lands are adjacent to designated transmission corridors; (3) only incremental transmission is needed (e.g.,re-conductoring or network upgrades and development of substations); or (4) new transmission upgrades or additions to serve the area have been permitted or are reasonably expected to be permitted in time to serve the generation project.

The proposed LSEP will meet the first two transmission subcriteria:

- Transmission with existing capacity and a substation is already available;
- The project site is adjacent to a designated transmission corridor and within 1 mile of the Table Mountain substation.

The energy generated by the proposed solar project would be delivered to the Table Mountain substation through a new one mile, 120 kV overhead gen-tie power line. The gen-tie line would be within the route analyzed in the 2009 EA and approved in the previous ROW grant.

10. Documentation that the proposed project will make efficient use of the land considering the solar resource, the technology to be used, and the proposed project layout.

40-km resolution GIS information from NREL (updated 4/22/2009) shows the proposed location of the LSEP has a solar radiation rating of 6.43 kWh/m2/day. The solar radiation rating varies from a high of 7.30 in September to a low of 4.69 in December. The LSEP would generate up to 50-MW of electricity.

The LSEP would use ground-mounted PV technology. The planned footprint of the proposed LSEP is approximately 435 acres (out of 560 acres identified in the application). This footprint translates to 8.7 acres per megawatt capacity, compared with 9 acres per megawatt for PV projects assumed by Chapter 8 of the Solar PEIS. The final project development layout will be designed based on issues identified in the project's scoping phase.

11. If applicable, documentation that the LSEP will be located in an area identified as suitable for solar energy development in an applicable BLM land use plan and/or by another the related process such as the California DRECP (e.g. Development Focus Area) or Arizona RDEP (e.g., REDAs).

The proposed location of the LSEP was designated as a variance area in the Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Solar PEIS). The proposed project location is characterized by the presence of few natural resource and management conflicts and proximity to a transmission line.

The LSEP would be located in foraging habitat for golden eagles and other raptors. The nest survey data available to the SFO during the initial review of the LSEP proposal did not show a large concentration of golden eagles or other raptors in nearby nesting habitat. The survey data was several years old, therefore new surveys for golden eagles and raptors would be required so effects to current populations can be analyzed during processing of the ROW application.

In addition, some neo-tropical migratory bird and bat species could forage and/or fly by the LSEP location. The BLM would suggest a Bird and Bat Conservation Strategy (BBCS) be developed to address potential impacts to neo-tropical birds and bats; a BBCS is not currently required for projects such as the LSEP.

12. If applicable, special circumstances associated with an application such as an expansion or repowering of an existing project or unique interagency partnership.

Not applicable to the LSEP.

13. If applicable, opportunities to combine federal and nonfederal lands for optimum siting (e.g., combining BLM-administered land with adjacent previously disturbed private lands).

Not applicable to the LSEP.

14. If applicable, documentation that the proposed project will be located in, or adjacent to, previously contaminated or disturbed lands such as brownfields identified by the EPA's RE-Powering America's Land Initiative (http://www.epa.gov/renewableenergyland); mechanically altered lands such as mine-scarred lands and fallowed agricultural lands; idle or underutilized industrial areas; lands adjacent to urbanized areas and/or load centers; or areas repeatedly burned and invaded by fire-promoting non-native grasses where the probability of restoration is determined to be limited.

Not applicable to the LSEP.

15. Documentation that the proposed project will minimize adverse impacts on access and recreational opportunities on public lands (including hunting, fishing, and other fish- and wildlife-related activities).

The proposed LSEP is surrounded on all sides by public lands. Other than State Highway 361, no roads are located in the project area. There are very limited opportunities for hunting and other wildlife-related activities. Public access would not be affected by the LSEP.

16. Documentation that the proposed project will minimize adverse impacts on important fish and wildlife habitats and migration/movement corridors (e.g., utilizing the Western Wildlife CHAT, administered by the Western Governor's Wildlife Council [http://www.westgov.org/wildlife/380- chat] and coordinating with state fish and wildlife agencies).

The proposed location is not within important fish and wildlife habitat, other than being shown as a desert mountain goat area in the Carson City CRMP. Current review cannot determine why the designation was shown. Mountain goats are not present in Mineral County.

The LSEP would be located in foraging habitat for golden eagles and other raptors. The nest survey data available to the SFO during the initial review of the LSEP proposal did not show a large concentration of golden eagles or other raptors in nearby nesting habitat. The survey data was several years old, therefore new surveys for golden eagles and raptors would be required so effects to current populations can be analyzed during processing of the ROW application.

In addition, some neo-tropical migratory bird and bat species could forage and/or fly by the LSEP location. The BLM would suggest a Bird and Bat Conservation Strategy (BBCS) be developed to address potential impacts to neo-tropical birds and bats; a BBCS is not currently required for projects such as the LSEP.

17. Documentation that the proposed project will be designed, constructed, and operated to use the best available technology for limiting water use that is applicable to the specific generation technology.

The choice of PV technology for the proposed project will minimize the amount of water required to support the project. Any use of water for the project will be coordinated with and permitted through the appropriate State and local authorities, including Mineral County and the State of Nevada.

During the construction phase of the project, the overall water consumption is estimated be less than three million gallons, or approximately 9.2 acre-feet. During the operational phase, approximately one quarter million gallons (.75 acre-feet) of water would be needed to wash the solar panels each time. The frequency of washings would be dictated by the performance of the PV solar panels. All water would be purchased from commercial sources and trucked to the project area.

18. Documentation that any groundwater withdrawal associated with a proposed project will not cause or contribute to withdrawals over the perennial yield of the basin, or cause an adverse effect on ESA-listed or other special status species or their habitats over the long term. However, where groundwater extraction may affect groundwater-dependent ecosystems, and especially within groundwater basins that have been over appropriated by state water resource agencies, an application may be acceptable if commitments are made to provide mitigation measures that will provide a net benefit to that specific groundwater resource over the duration of the project. Determination of impacts on groundwater will likely require applicants to undertake hydrological studies using available data and accepted models.

No groundwater withdrawal is anticipated for construction or operation of the project.

19. **Documentation that the proposed project will not adversely affect lands donated or acquired for conservation purposes or mitigation lands identified in previously approved projects such as translocation areas for desert tortoise.**

Not applicable to the LSEP. The project area is not adjacent to or otherwise near any donated or acquired conservation or mitigation lands.

20. Documentation that significant cumulative impacts on resources of concern should not occur as a result of the proposed project (i.e., exceedance of an established threshold such as air quality standards).

No significant cumulative impacts on resources of concern are known or anticipated as a result of construction or operation of the proposed project.

21. Desert Tortoise concerns.

The proposed location for the LSEP is not in desert tortoise habitat.

22. Greater Sage-Grouse concerns.

The proposed location for the LSEP is not in greater sage-grouse habitat.

23. Protecting Resources and Values of Units of the National Park System and Other Special Status Areas under National Park Service Administration.

There are no units of the National Park Service near the proposed LSEP.

Board of
MINERAL COUNTY COMMISSIONERS

JERRIE TIPTON, Chairman
CLIFFORD CICHOWLAZ, Vice Chairman
PAUL MACBETH, Member

CHERRIE GEORGE, Clerk of the Board

Telephone: 775-945-2446
Fax: 775-945-0706
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Hawthorne, NV 89415
mincommissioner@mineralcountynv.org

GOVERNING BOARD FOR THE TOWNS OF HAWTHORNE, WALKER LAKE, LUNING AND MINA
LIQUOR BOARD AND GAMING BOARD
COUNTY HIGHWAY COMMISSION

February 12, 2014

Agenda for the Meeting of the Board of Mineral County Commissioners, the Town Governing Boards for the Towns of Hawthorne, Luning, Mina and Walker Lake, County Liquor Board, County Gaming Board, County Highway Commission, County Health Board, County Licensing Board and the Licensing and Control Board for Houses of Prostitution.

PLACE OF MEETING: County Commissioner's Meeting Room, Mineral County Courthouse, First and "A" Street, Hawthorne, Nevada.

DATE AND TIME OF MEETING: **Wednesday, February 19, 2014** commencing at **9:00 AM** If a mid-day recess is necessary the meeting will reconvene at 1:30 PM for completion of the day's agenda.

NOTIFICATIONS: (1) Unless otherwise stated or scheduled for a specific time, items may be taken out of the order listed. (2) The Board may combine any two or more items for consideration and/or action. (3) The Board may remove any item or delay discussion relating to any item at any time. (4) The Board may take action on any item scheduled for review or consideration immediately following such review or consideration. (5) Comments from the public will be limited to three (3) minutes per person.

1. **Pledge of Allegiance and Safety Message**

2. **Reports and Correspondence**

3. **Minutes of February 5 and 6, 2014** for review and possible action. (Public comment following.)

4. **Business License Applications** – The following applications will be presented for discussion and possible action with public comment following each application:

   A. **Donald C. Weaver**; **Alterations Boutique**; 121 English Street, Hawthorne; New Applicant
   B. **Merlin J. Hall**; **Barley's**, 822 Sierra Way, Hawthorne, Change in Ownership/Entity
   C. **Lonnie E. Fixel**; **Coit Services of Reno, LLC**; Countywide; New Applicant

5. **Liquor License Applications** – The following applications will be presented for discussion and possible action with public comment following each application:

   A. **Darlene Doyle**; **Buffalo Stop**; 847 Frontage Road, Walker Lake; New Applicant (Adding liquor to existing business)

6. **Honorable Stewart Handte, Sheriff** – For consideration and possible action relative to internet access to websites. (Public comment following.)

7. For consideration and possible action relative to solution to the recent loss of communication with the north part of the County/Schurz tower. (Public comment following.)

8. **Courtney Oberhansli, Librarian** – For consideration and possible action relative to appointment of three members to serve on the Library Board of Trustees for a term of 4 years; letters of interest received from Sandra Essenpreis, Sue Banks, Thomas Castagnola and Lynda Miller. (Public comment following.)

9. **Terri Knutson** – For consideration and possible action relative to BLM program updates, including an update on the Luning Solar Project. (Public comment following.)

10. **Honorable Cherrie George, Clerk-Treasurer** – For consideration and possible action relative to opportunity for volume purchase discount for computer and/or software upgrades necessary due to Microsoft's non-support of XP expected early April 2014. (Public comment following.)

11. **Honorable Jerrie Tipton, Commissioner** – for consideration and possible action relative to potential economic impacts to Mineral County on critical habitat designation of the Bi-state Great Sage-grouse to assist Industrial Economics in their analysis of areas proposed as critical but unoccupied areas. (Public comment following.)

12. **Honorable Paul MacBeth, Commissioner** – For consideration and possible action relative to update on the Mineral County Renewable Energy Program. (Public comment following.)

TIME SPECIFIC ITEMS:

1:30 PM **Keith Neville** – For consideration and possible action relative to dumping fees at landfill. (Public comment following.)

Board of Highway Commissioners

Public Comment

Commissioner Recognition

NOTE: Persons attending the meeting who are disabled and require special accommodations or assistance are requested to notify the County Clerk's Office, PO Box 1450, Hawthorne, NV 89415 or by calling 945-2446 no later than three (3) days prior to the meeting.

In accordance with Federal law and U.S. Department of Agriculture policy, Mineral County is prohibited from discriminating on the basis of race, color, national origin, sex, religion, age, disability (not all prohibited bases apply to all programs). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington DC 20250-9410 or call 800-795-3272 (voice) or 202-720-6382 (TDD). USDA is an equal opportunity provider, employer and lender.

February 12, 2014

Agenda for the Meeting of the Board of Mineral County Commissioners, the Town Governing Boards for the Towns of Hawthorne, Luning, Mina and Walker Lake, County Liquor Board, County Gaming Board, County Highway Commission, County Health Board, County Licensing Board and the Licensing and Control Board for Houses of Prostitution to be held on **Wednesday, February 19, 2014.**

A COPY OF THE AGENDA WILL BE POSTED AT THE FOLLOWING LOCATIONS:

- Mineral County Independent-News, 420 3rd Street, Hawthorne, Nevada
- Mineral County Clerk & Treasurer's Office, Mineral County Courthouse Hawthorne, Nevada
- County Commissioner's Meeting Room, Mineral County Courthouse, Hawthorne, Nevada
- Lobby of the Mineral County Courthouse, Hawthorne, Nevada
- Bulletin Board at the Hawthorne Post Office, Hawthorne, Nevada