APPLICATION FOR A PERMIT TO CONDUCT A DESIGNATED ACTIVITY OF STATE INTEREST OR TO ENGAGE IN DEVELOPMENT IN A DESIGNATED AREA OF STATE INTEREST

To: Permit Authority, Alamosa County

Re: **Preliminary Application – Haynack Solar/BESS Project**

From: **John Lauer and Matt Press, Adapture Renewables**

Date Submitted: **4/30/24**

Date Received and Accepted as Complete:

1. Matter of State Interest.

   The applicant requests that a permit be issued for each of the items checked below:

   A permit to conduct one or more of the following matters of state interest:

   ( ) Efficient Utilization of Municipal and Industrial Water Projects

   ( ) Development in Areas Containing or Having a Significant Impact upon Natural Resources of Statewide Importance

   ( ) Major New Domestic Water Treatment System or Major Extension of Such Systems

   (X) Major Facilities of a Public Utility

2. Proposed Activity or Development.

   General description of the specific activity or development proposed:

   Please see <u>Exhibit A</u> for project description.

3. Project Location.

   Parcel #: **APN#s 500-921-100-163 and 500-916-300-040**

   A general, nonlegal description and the popular name, if any, of the tract of land upon which the activity or development is to be conducted: **See Exhibit A, 1.2**

   Latitude: **37.701803** Longitude: **105.988722**

4. Legal Description.

The legal description, including the acreage, of the tract of land upon which the development or the activity is to be conducted, by metes and bounds or by government survey description: (attach additional sheets if necessary):

Please see Exhibit B for Preliminary Title Report.

5. Owners and Interests.

Set out below the names of those persons holding recorded legal, equitable, contractual and option interests and any other person known to the applicant having an interest in the property described in paragraph 4, above, as well as the nature and extent of those interests for each person, provided that such recorded interests shall be limited to those which are recorded in the Alamosa County Clerk and Recorder's Office, the land office of the Bureau of Land Management for this State, the Office of the State Board of Land Commissioners of the Department of Natural Resources, or the Secretary of State's Office of this State (attach additional sheets if necessary):

Please see Exhibit B for Preliminary Title Report.

6. Additional Information Required.

Attach any additional information required by the Guidelines and Regulations.

Exhibit C: Permitting and Development Schedule
Exhibit D: 1041 Waiver Checklist
Exhibit E: Biological Resources Report
Exhibit F: Biological Field Visit and USFWS Endangered Species List
Exhibit G: Critical Issues Analysis
Exhibit H: Wetlands Summary
Exhibit I: Wetlands and Aquatic Resources Delineation Report
Exhibit J: Phase 1 Environmental Site Assessment

7. Duration of Permit.

The Applicant requests a permit for a period of **40** years.

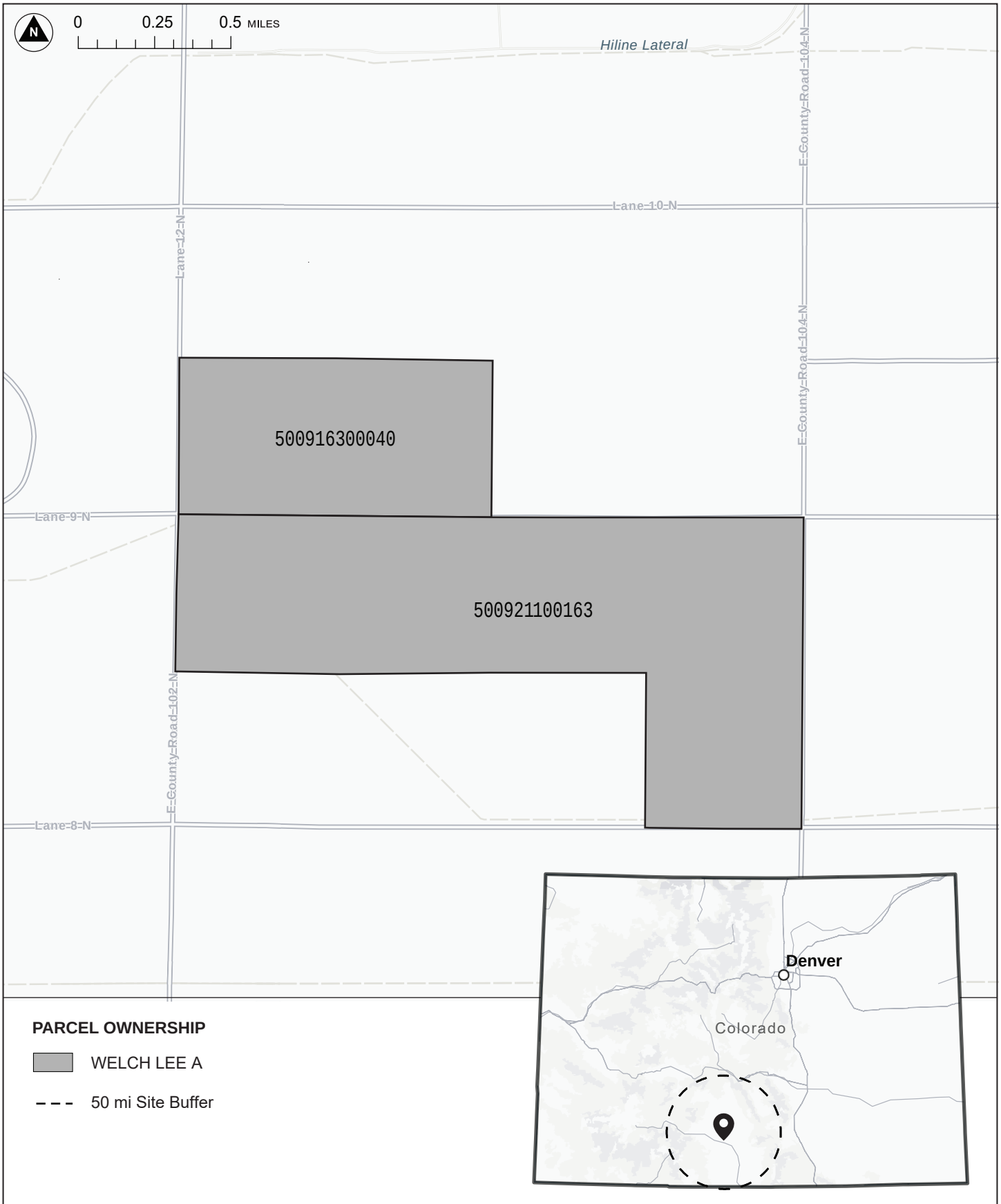
APPLICANT:

By: */s/ John Lauer*
/s/ Matt Press

Note: Within ten (10) days following receipt of a completed application for a permit, the Permit Authority shall determine and set a fee in an amount necessary to cover the costs

incurred in the review and approval of the permit application, including all hearings conducted therefor, and shall notify the applicant in writing of said fee and its amount. Not later than ten (10) days following receipt of such notice, the applicant shall present to the Permit Authority certified funds in the amount as set. Until the fee is paid to the Permit Authority, the application for a permit shall not be further processed.

SPATIAL REFERENCE: NAD 1983 State Plane - Colorado South



PARCEL OWNERSHIP

WELCH LEE A

50 mi Site Buffer

ADAPTURE RENEWABLES®
1901 HARRISON ST, STE 1630
Oakland, CA 94612, USA

PROJECT: HAYNACH

LOCATION: Alamosa County, CO

NOT FOR CONSTRUCTION

Adapture Renewables – Haynack Solar Project

Preliminary Application Exhibit List

Exhibit A: Haynack Project Description

Exhibit B: Preliminary Title Report

Exhibit C: Permitting and Development Schedule

Exhibit D: 1041 Waiver Checklist

Exhibit E: Biological Resources Report

Exhibit F: Biological Field Visit and USFWS Endangered Species List

Exhibit G: Critical Issues Analysis

Exhibit H: Wetlands Summary

Exhibit I: Wetlands and Aquatic Resources Delineation Report

Exhibit J: Phase 1 Environmental Site Assessment

Exhibit A: Haynack Project Description

HAYNACH SOLAR HYBRID PROJECT
PROPOSED BY ADAPTURE RENEWABLES, INC.

PROJECT DESCRIPTION
April 2024

1. Introduction

Adapture Renewables, Inc. (Adapture or Applicant) is proposing to construct and operate a 110 megawatt (MW) solar photovoltaic and 110 MW, 4-hour, battery energy storage system (BESS) and substation that would be installed on an approximately 1,109 acre site, known as the Haynach Solar Hybrid Project (Project). The proposed facility would be located north of the existing San Luis Valley Substation, jointly owned and operated by Tri-State Generation and Transmission Association (Tri-State) and Public Service Company of Colorado (PSCo). This substation is located on the northwest corner of Eightmile Lane and East County Road 102 N. There is an existing solar facility, Hooper Solar, that is south of the proposed project. This location is approximately 5.5 miles southwest of the community of Hooper, Colorado. The Project would produce approximately 330,039 megawatt hours (MWh) annually of emissions free electricity and store and provide approximately 440 megawatt hours (MWh) of energy storage capabilities to the grid. The facility would require construction of an onsite collector substation and a new 230 kilovolt (kV) generation-tie (gen-tie) line to connect with the existing Tri-State and PSCo San Luis Valley Substation, located on the north side of Eightmile Lane and approximately 0.35 miles west of East County Road 102 N.

1.1. Project Objectives

Solar, battery hybrid systems can produce emissions free electricity while assisting utility operators in more effectively integrating intermittent renewable resources into the electrical grid. That is, construction and operation of the hybrid facility will allow the operator to charge the BESS during times of solar energy generation (day) and shift output to the regional transmission system to peak (evening) hours when it is most valuable in deferring use of other non-renewable resources elsewhere. The objectives of the Haynach Solar Hybrid Project are to:

- Improve energy reliability for Alamosa County.
- Increase the reliability and flexibility of the electrical grid by storing energy.
- Locate a solar hybrid project nearby to an existing electrical substation to minimize the length of transmission interconnection.
- Help to integrate renewable generation on the electric grid and avoid unreliability from renewable generation that has plagued other parts of the country, by installing battery energy storage capacity that can be called upon in periods of peak demand or varying sunlight conditions.

1.2. Project Location and Surrounding Land Uses

The proposed Haynach Solar Hybrid Project would be located on two parcels (APN#s 500-921-100-163 and 500-916-300-040), north of Eightmile Lane and East of East County Road 102 N, approximately 17 miles north west of Alamosa, Colorado, in unincorporated Alamosa County, Colorado. The parcels' addresses are: 9481 N County Road 6 East, Center, CO 81125-0000

The two project parcels are zoned "Rural." The proposed project is located North/Northeast of the Hooper solar project. Immediately south of the proposed project is a substation jointly owned by the Public Service Company of Colorado and Tri-State Generation Services. The parcels surrounding the proposed project are also zoned rural.

2. Description of the Project

2.1. Overview

The proposed Haynach Solar Hybrid Project would be built and operated by Adapture to provide PSCo additional local area electrical generation and capacity for electrical system reliability and flexibility. The Project would have a rated power capacity of 110 MW for both the solar and BESS portions and the ability to discharge the battery over a 4-hour duration, for up to 440 MWh of energy. Photovoltaic electrical generators provide emissions free electrical generation and are not subject to varying fuel costs. Battery-based energy storage provides flexibility in the delivery of power to the electrical grid by storing energy during periods of oversupply and discharging it to the electrical grid during periods of high demand. A battery system can provide instantaneous response, as compared to a slower ramping rate of a traditional coal or gas-fired generation resource. Energy storage speed-of-response reduces the total amount of reserve power needed to manage the grid effectively, providing savings and reliability benefits. By building the proposed Project, a clean, reliable resource would be gained to help integrate renewables, reduce dependence on coal and gas-fired generation, and reduce GHG and criteria air pollutant emissions.

The approximately 1,109-acre Project site is located 0.4 miles north of the existing jointly owned Tri-State and PSCo San Luis Valley Substation. The Project would be interconnected to the San Luis Valley Substation via an approximately 0.4 mile long, 230 kV gen-tie transmission line. ,

The Applicant will contract with a Colorado electrical utility or other large electrical load customer for energy purchases and renewable energy credits from the solar generator and for energy charging and discharging from the battery. These may be utilities, such as PSCo, Tri-State or other local Co-operatives or large load customer operating large energy facility such as a datacenter operator who purchase wholesale electricity from the generator and has contractual arrangements to do so with the electrical utility. The contract will pay the facility a fixed energy and renewable energy credit amount at a per MWh rate and a fixed monthly kW-month rate for the ability to schedule and dispatch the battery. The energy, renewable energy credits and the battery capacity may be contracted with different entities. In general, the solar panels would generate electricity during daylight hours and the batteries would store electricity by charging during periods of excess supply or lower electricity demand and the batteries would discharge the stored energy to the electrical grid during periods of high electrical demand. The ability to store energy would improve the utilities ability to integrate renewable resources efficiently and reliably.

It is anticipated that construction would begin in October of 2028 and take approximately 14 months to complete.

2.1.1. Project Facilities

As discussed above, the project site consists of two parcels covering a total of approximately 1,109 acres. The project facilities would include the following components, each of which are described in greater detail thereafter:

- Photovoltaic (PV) modules and trackers
- Inverter and medium voltage transformers
- Electrical collection and distribution system
- Project substation

- Battery storage
- Generation-Tie
- Site access road(s)
- Operations and maintenance (O&M) facilities

2.1.1.1. Photovoltaic (PV) modules and trackers

The proposed project would utilize photovoltaic (PV) panels which may or may not use bi-facial technology on mounting frameworks to convert sunlight directly into electricity. Individual panels would be installed on tracker mount systems (single- or dual-axis, using galvanized steel or aluminum). The panels would rotate to follow the sun over the course of the day. Maximum panel height is anticipated to be up to 20 feet high, depending on the mounting system selected and on Alamosa County building codes.

The PV panels would be arranged in rows in a uniform grid pattern, with each row separated by 10 to 20 feet. The panels would be deployed in proximity to the power conditioning stations (PCS) where the DC produced by the panels is converted to alternating current (AC) and transferred to the on-site substation and eventual delivery to the electrical grid.

Each PV module would be placed on a tracker mounting structure. The foundations for the mounting structures may extend up to 10 feet below ground, depending on the structure, soil conditions, and wind loads, and may be encased in concrete or utilize small concrete footings. A light-colored ground cover or palliative may be used to increase electricity production. Final solar panel layout and spacing would be optimized for project area characteristics and the desired energy production profile.

2.1.1.2. Inverter and Medium Voltage Transformers

Photovoltaic energy generated by the panels would be delivered via cable to the PCS generally located within the solar array field. The PCS are comprised of inverters, transformers, and other electrical equipment to reach the needed collection level voltage. The footprint of each PCS, which is generally mounted on a concrete pad, would be approximately 12 feet by 30 feet. The proposed project would require approximately 30 PCS's, depending on final design details, but all would be located within the project footprint. The inverter converts the DC electricity to AC electricity, which then flows to a transformer where it is stepped up to the appropriate collection level voltage (34.5-kV). The proposed project would use Sungrow SG4400 Central inverters or equivalent and one medium voltage transformers per inverter. Each inverter and transformer would be installed as per manufacturer's requirements.

2.1.1.3. Electric Collection and Distribution System

The DC output of multiple rows of PV modules connected in series would be collected through one or more combiner boxes and associated electrical wiring located throughout the Project site. The power would be delivered via an underground cable network to the inverters in the electrical equipment enclosures at the PCS, described above. Multiple transformers electrically connected in parallel would deliver AC power to the Project Substation located on-site.

2.1.1.4. Project Substation

Output from the PCS would be transferred via electrical conduits and electrical conductor wires to an onsite substation in the southwest quadrant of the site. The proposed substation would include transformers, breakers, switches, meters, and related equipment. Interconnection equipment, including the control house, would be installed aboveground and underground within the footprint of the substation. The footprint of the substation would be approximately 200 by 200 feet and the maximum

height would be approximately 75 feet. The substation would also contain a control house building approximately 15 feet by 30 feet with a maximum anticipated height of 20 feet. The substation would be surrounded by a seven-foot-high barbed wire chain-link fence and would comply with electrical codes.

2.1.1.5. Battery Storage Component

The proposed Facility may include the installation of a battery storage component. Storage components are advantageous for renewable energy projects because they allow energy to be reliably fed to the grid from an otherwise intermittent energy production source. The battery system would consist of commercially available lithium-ion batteries housed in enclosures. The enclosures would be approximately 9.5 feet wide by 20 feet long by 8.5 feet high (2.9 meters wide by 6.1 meters long by 2.5 meters high). The battery storage component would have a footprint of approximately 2.5 acres and would be immediately adjacent to the Project's Substation. Site preparation required for the battery storage enclosures requires leveling the area for a flat concrete foundation.

The proposed lithium-ion batteries would principally comply with the UL 9450 standard for outdoor energy storage enclosures. The project will be subject to compliance with existing federal, state, and local regulations for health and safety, and local Fire Code. The Applicant would select Battery Energy Storage System (BESS) providers that comply with the application-specific codes, standards, and regulations for the siting, construction, and operation of lithium-ion stationary BESS.

The project would include current best practices for fire safety. The BESS would contain a safety system as required by NFPA 855 and tested under the UL 9540A Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems. The enclosure wall is designed to contain the fire and prevent propagation.

2.1.1.6. The Generation-Tie

The 230 kV gen-tie would interconnect the Project Substation to the existing jointly owned Tri-State and PSCo San Luis Valley Substation. The gen-tie is proposed to extend to the south from the Project Substation for approximately 0.4 miles. The gen-tie right-of way would be from 25 to 75-feet-wide.

2.1.1.7. Site Access and Roads

The project would be accessed directly from either East County Road 102 N or Eightmile Lane. The access road would be constructed as part of the proposed project. Additional access roads would be constructed between the rows of PV panels within the project site.Access roads would be approximately 20 feet wide and would be accessed via multiple gates to allow access to the internal access roads. The access points and interior driveways would be constructed in accordance with Alamosa County and Local Fire Protection requirements and maintained to ensure on-site circulation for emergency vehicles during all weather conditions.

The rows of PV panels would be enclosed within the project site fencing. Fencing would be a six- foot tall wire fence topped by one foot-tall three-strands of barbed wire.

2.1.1.8. Operations and Maintenance Facilities

The project would include the construction of an O&M building with associated on-site parking (unpaved) within the project site. The O&M building may be co-located with the substation. Roads, driveways, and parking lot entrances would be constructed in accordance with Alamosa County improvement standards. Parking spaces and walkways would be constructed in accordance with all relevant state and federal Regulations. The O&M building would be approximately 800 square feet. The unpaved parking lot would cover approximately two acres, and the O&M building would fit within that footprint.

2.1.2. Project Construction Activities

The construction period for the proposed project from site preparation through construction and testing is expected to commence in the fall of 2028 and would extend for approximately 14 months.

Construction of the proposed project would include the following activities:

- Site preparation
- Construction of access and internal circulation roads
- Grading and earthwork
- Dust control
- Panel installation
- Concrete foundations
- Structural steel work
- Electrical/instrumentation work
- Collector line installation
- Stormwater management facilities
- Architecture and landscaping Construction Schedule

2.1.2.1. Schedule and Workforce

Construction traffic would access the project site from either Eightmile Lane or East County Road 102 N. It is estimated that up to 500 workers per day (during peak construction periods) would be required during construction of the proposed project. Employees would have the option to drive their own automobiles to the project site however, employees would be encouraged to carpool. Employees would park within the project site. The proposed project requires the temporary construction of approximately 5 acres within the project site for all-weather parking spaces, temporary office facilities, and equipment staging area. This area could be expanded to accommodate increased worker needs.

The first phase of construction would include road construction from the access point to the staging areas. Construction activities are typically expected to occur between 6:00 am and 5:00 pm, Monday through Friday. Additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. Some activities may continue 24 hours per day, seven days per week. Low level noise activities may potentially occur between the hours of 10:00 pm and 7:00 am. Nighttime activities could potentially include, but are not limited to, refueling equipment, staging equipment and material for the following day's construction activities, quality assurance/control, and commissioning.

Construction materials and supplies would be delivered to the project site by truck. It is anticipated that all such materials and supplies would be stored in a staging area on-site within the project boundaries for each phase of. When possible, equipment and materials would be stored in proximity to the area where work would be undertaken. For work along the gen-tie routes, it is anticipated that adequate land areas within the affected easements or rights-of-way would be available to accommodate staging/laydown areas during the construction phase and that off-site lands would not be affected. Truck deliveries would normally occur during daylight hours. However, there would be offloading and/or transporting to the project site on weekends and during evening hours. The Project will apply for any required CDOT road impact permits, as deemed necessary by Alamosa County, as a required permit condition.

2.1.2.2. Site Preparation, Earthwork and Construction Control Measures

The project site would be cleared and graded as needed to allow for the installation of the access roads, solar arrays, BESS, related infrastructure, interior access roads, and temporary construction staging areas. Sediment and erosion controls would be installed in accordance with an approved Storm Water Pollution Prevention Plan (SWPPP). Stabilized construction entrances and exits would also be installed at the project entrance driveways to ensure that potential for tracking of sediment onto adjacent public roadways is minimized.

The project site is mostly flat and would require minimal grading to allow for installation of the PV panels. Minimal grading is expected for the construction of the PCS, substation, BESS and driveways and tracker installation. The roadway extension is anticipated to be constructed by clearing, leveling, and surfaced with decomposed granite/gravel and/or compacted road base. Access roads within the interior of the site would be constructed by placing two to four inches of decomposed granite gravel and/or compacted road base or comparable material directly on the existing soil. Soil compaction, soil strengthening agents, or geo fabric may be used for access driveways. Compaction may also be required for the construction of the PCS, substation, control rooms, and access roads to support construction and ensure access for emergency vehicles.

Project grading would be minimized to the extent feasible to reduce unnecessary soil disturbance and movement. Earthwork would require the use of scrapers, excavators, dozers, water trucks, paddlewheels, haul vehicles, and graders. On-site trenching also would be required to enable the placement of underground electrical and communication lines. Certain access roads and turn-arounds may also be surfaced with aggregate or decomposed granite in conformance with emergency access requirements.

Noise-generating construction activities would be limited to construction hours allowed by the County's noise ordinance. All stationary construction equipment that may result in excessive noise or vibration levels would be operated away from sensitive noise receptors to the extent feasible. Construction activities would occur such that maximum noise levels at affected sensitive noise receptors (i.e., rural residential uses) would not exceed any County adopted noise threshold levels.

Applicable local, State, and federal requirements and best management practices (BMPs) would be implemented during the construction phase. Consistent with the County zoning ordinance and with guidelines provided at the state and federal levels, BMPs would be implemented, including preparation of a SWPPP and a soil erosion and sedimentation control plan to reduce the potential for erosion and to minimize effects on stormwater quality. Stabilized construction entrances and exits would be installed at the entrances to each site to reduce the tracking of sediment onto adjacent public roadways. All site preparation would occur in conformance with Alamosa County and CDOT requirements. Dust Control

The project would implement standard fugitive dust control measures which would be implemented to construction contracts. These dust-minimizing techniques include:

- Watering active construction sites based on the type of operation, soil, and wind exposure.
- Stabilizing dust emissions at disturbed areas, including storage piles that are not actively utilized for construction purposes, using water or other approved substances.
- Prohibiting grading activities during periods of high wind (over 30 miles per hour).
- Limiting vehicle speed on-site to minimizes dust emissions on unpaved driveways (15 miles per hour).
- Covering trucks hauling dirt, sand, or loose materials.
- Posting a publicly visible sign with the telephone number and person to contact regarding dust complaints. The contact would respond and take corrective actions within 48 hours.

2.1.2.3. Non-Hazardous Wastes/Inert Solids

Inert solid wastes resulting from construction activities may include recyclable items such as paper, cardboard, solid concrete and block, metals, wire, glass, type 1-4 plastics, drywall, wood, and lubricating oils. Non-recyclable items include insulation, other plastics, food waste, vinyl flooring and base, carpeting, paint containers, packing materials, and other construction wastes. A Construction Waste Management Plan will be prepared for review by the County.

2.1.2.4. Spill Prevention and Containment

Spill prevention and containment for construction and operation of the proposed project will adhere to the Environmental Protection Agency's (EPA) guidance on Spill Prevention Control and Countermeasures (SPCC).

2.1.2.5. Wastewater/Septic System

As designed the project would not require connection to any septic systems or sewer infrastructure. Instead temporary, portable restroom facilities will be provided during construction, decommissioning and operations. Such restroom facilities would be onsite during the construction phase, and would accommodate the limited number of employees with access to the facility. All employees would have access to the portable toilets and portable hand washing facilities, which would be serviced by truck rather than utilizing septic system(s).

2.1.3. Operation and Maintenance Activities

Once the proposed project is constructed, maintenance would generally be limited to the following:

- Cleaning of PV panels
- Monitoring electricity generation
- Providing site security
- Facility maintenance – replacing or repairing inverters, wiring, and PV modules

2.1.3.1. Schedule and Workforce

During the operational phase, the project would employ up to 5 full-time equivalent (FTE) personnel (or personnel hours totaling 5 FTE positions (i.e., an average of 200 personnel hours per week) who would commute to the site. Additional operational staff of up to five full-time employees could be on-site at any time when urgent repairs or maintenance are required.

The facility would operate seven days a week, 24 hours a day, generating electricity during normal daylight hours when the solar energy is available. Maintenance activities may occur seven days a week, 24 hours a day to ensure PV panel output when solar energy is available.

2.1.3.2. Operational Water Usage

Water demand for panel washing is not expected to exceed 10 acre-feet per year. Water is anticipated to be obtained from on-site wells or delivered via truck from an off-site source(s) within the project vicinity. If water is trucked into the site, it is anticipated that an available local water source would be selected to minimize truck trips/lengths in transporting water to/from the site.

2.1.3.3. Electrical Supply

Power for plant auxiliaries would be provided by the project's electrical generation or supplied by the local power provider. The proposed project would require power for the O&M facilities, electrical enclosures, tracker motors, associated structures, and for lighting and security

2.1.3.4. Health and Safety

The proposed project would adhere to all Alamosa County Improvement Standards to ensure accessibility for emergency vehicles and safe operation during construction on project operation. The proposed project would implement measures for worker safety during construction in accordance with The department of Occupational Safety and Health (OSHA) regulations and guidance and other best management practices. The proposed project will have an Emergency Response Plan (ERP). The ERP will address potential emergencies including chemical releases, fires, and injuries. All employees will be provided with communication devices, cell phones, or walkie-talkies, to provide aid in the event of an emergency.

To help ensure safety procedures are followed, the proposed project would include safety training for construction workers and operational personnel. This would include both classroom and hands-on training in operating and maintenance procedures, general safety items, and the planned maintenance program. Training would include emergency procedures, fire prevention, and discussion of the location and proper use of emergency equipment. In addition, contact numbers for various local emergency response agencies, including fire, police, and medical services would be provided, and instruction for communication procedures to report potential health hazards and concerns would be a part of the training.

The proposed project also would include training on procedures to preventing electrical hazards that would reduce the potential for igniting combustible materials. The project also would limit areas where employee can smoke and parking areas for both personal, heavy equipment, and for project operations would be provided over mineral soil, asphalt, or concrete and at a safe distance from dry vegetation. In addition, heavy equipment also would also be equipped with other mechanisms such spark arresters or turbo-charging (which eliminates sparks in exhaust). Lastly, all project vehicles would be equipped with fire extinguishers, and training on their maintenance and how to extinguish small fires would be provided

As discussed above, these safety precautions and emergency systems would be implemented as part of, design, construction, operation, and maintenance of the proposed project to ensure safe and reliable operation.

2.1.4. Decommissioning

Solar equipment has a typical lifespan of over 30 years. The proposed project expects to sell the renewable energy produced by the project under the terms of a long-term Power Purchase Agreement (PPA) with a utility or other power off taker. Upon completion of the PPA term, the project operator may, at its discretion, choose to enter into a subsequent PPA or decommission and remove the system and its components. Upon decommissioning, the solar facility could be converted to other uses in accordance with applicable land use regulations in effect at that time.

It is anticipated that, during project decommissioning, project structures that would not be needed for subsequent use would be removed from the project site. The site would revert to undeveloped land that supports agricultural production and wildlife habitat. The decommissioning and restoration process involves removing aboveground and belowground structures, restoring topsoil, revegetation, and seeding. Temporary erosion and sedimentation control BMPs would be used during the decommissioning phase.

Equipment would be de-energized prior to removal, salvaged (where possible), and shipped off-site to be recycled or disposed of at an appropriately licensed disposal facility. Once the solar modules are removed,

the racks would be disassembled, and the structures supporting the racks would be removed. Site infrastructure would be removed, including fences, and concrete pads that may support the inverters, transformers and related equipment. The demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried by standard construction equipment. The fencing and gates would be removed, and all materials would be recycled to the extent practical. Project roads would be restored to their pre-construction condition unless they may be used for subsequent land use. The area would be thoroughly cleaned and all debris removed. Materials would be recycled to the extent feasible, with the remainder disposed of in landfills in compliance with all applicable laws.

2.1.5. Fire Safety

2.1.5.1. Fire Safety During Construction

Fire protection provided during construction would limit risk of personnel injury, property loss, and potential disruption to the adjacent San Luis Valley Substation.

Fire extinguishers and other portable fire-fighting equipment would be available onsite. These fire extinguishers would be maintained in accordance with local and federal Occupational Safety and Health Administration (OSHA) requirements. Locations of portable fire extinguishers would include, but not be limited to, office spaces, hot work areas, flammable storage areas, and mobile equipment such as work trucks and other vehicles. Fire-fighting equipment would be marked conspicuously and be accessible. Portable equipment would be routinely inspected, as required by local and federal laws, ordinances, regulations, and standards, and replaced immediately if defective or needing charge. Fire protection would include minimizing flammable materials in the BESS yard, such as vegetation.

2.1.5.2. Fire Safety During Operations

The Project would comply with the current international fire code (IFC), which governs requirements to minimize the risk of fire and life safety hazards specific to battery energy storage systems used for load shedding, load sharing, and other grid services IFC). In accordance with the CFC, the battery enclosures and the site installation design are required to be approved by the State Fire Marshal. If applicable, the BESS would be certified to UL 9540, the standard associated with control, protection, power conversion, communication, controlling the system environment, air, fire detection and suppression system related to the functioning of the energy storage system. The battery would be tested to UL 9540A, a test method intended to document the fire characteristics associated with a thermal event or fire and would confirm that the system will self-extinguish without active fire-fighting measures. The system would be designed such that, during a fire event, the results of the UL 9540A test would show that any internal fire is contained within the enclosure and not spread to the other parts of the facility. The results of this test are used to inform facility safety system design and emergency response plans, which would be shared with first responders.

The BESS system would be equipped with a dry agent fire suppression system. If smoke or heat were detected, or if the system were manually triggered, an alarm would sound, horn strobes would flash, and the system would release suppressant, typically FM-200, NOVEC 1230 or a similar clean agent from pressurized storage cylinders. However, final safety design would follow applicable standards and would be specific to the battery technology chosen, including, but not limited to, National Fire Protection Association 855 (standard for the Installation of Stationary Energy Storage Systems).

During O&M activities, standard defensible space requirements would be maintained surrounding any welding or digging operations.

Exhibit B: Preliminary Title Report

51Fidelity National Title Insurance Company
TITLE REPORT

SCHEDULE A

Title Report No: N0034530-010-TO2-ES , Amendment No. 1

1. **Effective Date:** March 7, 2023 at 8:00 A.M.

2. The estate or interest in the land described or referred to in this Title Report is:

   A Fee Simple

3. Title to the estate or interest in the land is at the Effective Date vested in:

   Lee A. Welch

4. The land referred to in this Title Report is described as follows:

   See Attached Legal Description

(for informational purposes only) Vacant Land, Alamosa, CO

Attached Legal Description

Township 40 North, Range 9 East, N.M.P.M.:

Section 16: South ½, LESS and EXCEPT the South 30 feet thereof previously conveyed to the Board of County Commissioners, Alamosa County, Colorado, in Book 208 Page 383;

Section 21: Northeast ¼, LESS and EXCEPT the North 30 feet thereof previously conveyed to the Board of County Commissioners, Alamosa County, Colorado, in Book 208 Page 382;

Section 22: North ½ and the Southeast ¼, LESS and EXCEPT the North 30 feet thereof previously conveyed to the Board of County Commissioners, Alamosa County, Colorado, in Book 208 Page 383;

County of Alamosa, State of Colorado.

For Informational Purposes Only

Tax ID .: 500-921-100-163 500-916-300-040

SCHEDULE B

Exceptions

1. Any facts, rights, interests or claims that are not shown by the Public Records but which could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

2. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.

3. Any encroachments, encumbrances, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by Public Records.

4. Any lien or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the Public Records.

5. Water rights, claims of title to water, whether or not these matters are shown by the Public Records.

6. All taxes and assessments, now or heretofore assessed, due or payable.

7. Any existing leases or tenancies, and any and all parties claiming by, through or under said leases.

8. Right of way and tights of others to North County Road 102, North County Road 104, Lane 8 North and Lane 9 North.

9. Reservations contained in the Patent:

From:	The United States of America
To:	Burt B. Bloom, Dennis D. Bloom, Basil Creighton, Charles C. Kingsolver,
Recording Date:	January 6, 1881, January 17, 1890, March 31, 1891, June 11, 1891, March 26, 1900
Recording No.:	Patent Nos. CO0130-219, CO1390-008, CO0140-140, CO0120-148 and COCOAA No. 0000014

Which among other things recites as follows:

A right of way thereon for ditches, canals or reservoirs constructed by the authority of the United States of America.

The right of the proprietor of a vein or lode to extract and remove his ore therefrom should the same be found to penetrate or intersect the premises hereby granted as provided by law.

10. Terms, conditions, provisions, agreements and obligations contained in the Warranty Deed as set forth below:

Recording Date:	April 30, 1964
Recording No.:	Reception No. 147420

11. Terms, conditions, provisions, agreements and obligations contained in the Agreement for Electric Service to Irrigation Pump as set forth below:

Recording Date: July 8, 1966
Recording No.: Reception No. 154924

12. Terms, conditions, provisions, agreements and obligations contained in the Warranty Deed as set forth below:

Recording Date: February 5, 1971
Recording No.: Reception No. 167034

13. Terms, conditions, provisions, agreements and obligations contained in the Agreement for Electric Service as set forth below:

Recording Date: June 28, 1971
Recording No.: Reception No. 168265

14. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: San Luis Valley Rural Electric Cooperative, Inc.
Purpose: Electric Transmission/Distribution Line or System and Appurtenances
Recording Date: November 14, 1974
Recording No.: Reception No. 181036

15. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: San Luis Valley Rural Electric Cooperative, Inc.
Purpose: Electric Transmission/Distribution Line or System and Appurtenances
Recording Date: January 7, 1975
Recording No.: Reception No. 181558

16. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: Colorado – Ute Electric Association, Inc., a Colorado corporation
Purpose: Location Easement for Anchors and Guys
Recording Date: November 9, 1979
Recording No.: Reception No. 205653

Correction Easement:
Recording Date: February 28, 1980
Recording No.: Reception No. 206908

17. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: San Luis Valley Rural Electric Cooperative, Inc.
Purpose: Location Easement for Anchors and Guys
Recording Date: April 5, 1984
Recording No.: Reception No. 227588

18. A deed of trust to secure an indebtedness in the amount shown below:

Amount:	$1,180,000.00
Dated:	June 9, 2005
Trustor/Grantor	Lee A. Welch
Trustee:	Alamosa
Beneficiary:	Myron L. Smith and Jayne M. Smith
Recording Date:	June 10, 2005
Recording No.:	Reception No. 321973

19. A deed of trust to secure an indebtedness in the amount shown below:

Amount:	$700,000.00
Dated:	September 30, 2010
Trustor/Grantor	Lee A. Welch
Trustee:	Alamosa
Beneficiary:	Sunflower Bank, N.A.
Recording Date:	October 4, 2010
Recording No.:	Reception No. 343506

Modification of Deed of Trust:

Recording Date:	December 17, 2010
Recording No.:	Reception No. 344216

Modification of Deed of Trust:

Recording Date:	February 8, 2011
Recording No.:	Reception No. 344738

Modification of Deed of Trust:

Recording Date:	April 8, 2011
Recording No.:	Reception No. 3454236

20. ~~A deed of trust to secure an indebtedness in the amount shown below:~~

~~Amount:~~	~~$100,000.00~~
~~Dated:~~	~~November 27, 2019~~
~~Trustor/Grantor~~	~~Lee A. Welch~~
~~Trustee:~~	~~Alamosa~~
~~Beneficiary:~~	~~First Southwest Bank~~
~~Recording Date:~~	~~December 2, 2019~~
~~Recording No.:~~	~~Reception No. 375187~~

Note released January 4, 2022 at Reception No. 383638

21. ~~A deed of trust to secure an indebtedness in the amount shown below:~~

~~Amount:~~	~~$850,000.00~~
~~Dated:~~	~~November 27, 2019~~
~~Trustor/Grantor~~	~~Lee A. Welch~~
~~Trustee:~~	~~Alamosa~~
~~Beneficiary:~~	~~First Southwest Bank~~
~~Recording Date:~~	~~December 2, 2019~~
~~Recording No.:~~	~~Reception No. 375188~~

Note released February 3, 2023 at Reception No. 387747

22. Memorandum of Option Agreement for the benefit of Haynach Solar LLC dated November 10, 2021 and Recorded December 9, 2021 at Reception No. 383377

END OF EXCEPTIONS

THIS IS A TITLE REPORT ONLY. **This is not a commitment to insure.**

The information set forth herein is based on information supplied to Fidelity National Title, National Commercial Services by sources believed to be reliable and is provided for accommodation purposes only. Fidelity National Title, National Commercial Services assumes no liability hereunder unless a policy or policies of title insurance are issued by Fidelity National Title, National Commercial Services and fully paid for and the insured under said policy or policies and party to whom this report was issued have no knowledge of any defect in title not disclosed. Reliance on the information set forth herein is subject to the issuance of a mortgage and/or owner's policy of title insurance by Fidelity National Title, National Commercial Services within six (6) months from the effective date hereof. If a title insurance policy is not issued insuring the property within such time, this title report shall be null and void as of its effective date and shall be deemed to have been furnished for informational purposes only.

LIMITATIONS OF LIABILITY

APPLICANT EXPRESSLY AGREES AND ACKNOWLEDGES THAT IT IS EXTREMELY DIFFICULT, IF NOT IMPOSSIBLE, TO DETERMINE THE EXTENT OF LOSS WHICH COULD ARISE FROM ERRORS OR OMISSIONS IN, OR THE COMPANY'S NEGLIGENCE IN PRODUCING, THE REPORT. APPLICANT RECOGNIZES THAT THE FEE CHARGED IS NOMINAL IN RELATION TO THE POTENTIAL LIABILITY WHICH COULD ARISE FROM SUCH ERRORS OR OMISSIONS OR NEGLIGENCE. THEREFORE, APPLICANT UNDERSTANDS THAT THE COMPANY IS NOT WILLING TO PROCEED IN THE PREPARATION AND ISSUANCE OF THE REQUESTED REPORT UNLESS THE COMPANY'S LIABILITY IS STRICTLY LIMITED. APPLICANT AGREES WITH THE PROPRIETY OF SUCH LIMITATION AND AGREES TO BE BOUND BY ITS TERMS.

THE LIMITATIONS ARE AS FOLLOWS AND THE LIMITATIONS WILL SURVIVE THE CONTRACT:

MATTERS AFFECTING TITLE BUT WHICH DO NOT APPEAR AS A LIEN OR ENCUMBRANCE, AS DEFINED ABOVE, AMONG THE TITLE INSTRUMENTS ARE OUTSIDE THE SCOPE OF THE REPORT.

APPLICANT AGREES, AS PART OF THE CONSIDERATION FOR THE ISSUANCE OF THE REPORT AND TO THE FULLEST EXTENT PERMITTED BY LAW, TO LIMIT THE LIABILITY OF THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS, OR ANY OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS FOR ANY AND ALL CLAIMS, LIABILITIES, CAUSES OF ACTION, LOSSES, COSTS, DAMAGES AND EXPENSES OF ANY NATURE WHATSOEVER, INCLUDING ATTORNEY'S FEES, HOWEVER ALLEGED OR ARISING INCLUDING BUT NOT LIMITED TO THOSE ARISING FROM BREACH OF CONTRACT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF WARRANTY, EQUITY, THE COMMON LAW, STATUTE, OR ANY OTHER THEORY OF RECOVERY, OR FROM ANY PERSON'S USE, MISUSE, OR INABILITY TO USE THE REPORT OR ANY OF THE MATERIALS CONTAINED THEREIN OR PRODUCED, SO THAT THE TOTAL AGGREGATE LIABILITY OF THE COMPANY AND ITS, AGENTS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS SHALL NOT IN ANY EVENT EXCEED THE COMPANY'S TOTAL FEE FOR THE REPORT.

APPLICANT AGREES THAT THE FOREGOING LIMITATION ON LIABILITY IS A TERM MATERIAL TO THE PRICE THE APPLICANT IS PAYING WHICH PRICE IS LOWER THAN WOULD OTHERWISE BE OFFERED TO THE APPLICANT WITHOUT SAID TERM. APPLICANT RECOGNIZES THAT THE COMPANY WOULD NOT ISSUE THE REPORT, BUT FOR THIS CUSTOMER AGREEMENT, AS PART OF THE CONSIDERATION GIVEN FOR THE REPORT, TO THE FOREGOING LIMITATION OF LIABILITY AND THAT ANY SUCH LIABILITY IS CONDITIONED AND PREDICATED UPON THE FULL AND TIMELY PAYMENT OF THE COMPANY'S INVOICE FOR THE REPORT.

THE REPORT IS LIMITED IN SCOPE AND IS NOT AN ABSTRACT OF TITLE, TITLE OPINION, PRELIMINARY TITLE REPORT, TITLE REPORT, COMMITMENT TO ISSUE TITLE INSURANCE, OR A TITLE POLICY, AND SHOULD NOT BE RELIED UPON AS SUCH. THE REPORT DOES NOT PROVIDE OR OFFER ANY TITLE INSURANCE, LIABILITY COVERAGE OR ERRORS AND OMISSIONS COVERAGE. THE REPORT IS NOT TO BE RELIED UPON AS A REPRESENTATION OF THE STATUS OF TITLE TO THE PROPERTY. THE COMPANY MAKES NO REPRESENTATIONS AS TO THE REPORT'S ACCURACY, DISCLAIMS ANY WARRANTIES AS TO THE REPORT, ASSUMES NO DUTIES TO APPLICANT, DOES NOT INTEND FOR APPLICANT TO RELY ON THE REPORT, AND ASSUMES NO LIABILITY FOR ANY LOSS OCCURRING BY REASON OF RELIANCE ON THE REPORT OR OTHERWISE.

IF APPLICANT DOES NOT WISH TO LIMIT LIABILITY AS STATED HEREIN AND APPLICANT DESIRES THAT ADDITIONAL LIABILITY BE ASSUMED BY THE COMPANY, APPLICANT MAY REQUEST AND PURCHASE A POLICY OF TITLE INSURANCE, A BINDER, OR A COMMITMENT TO ISSUE A POLICY OF TITLE INSURANCE. NO ASSURANCE IS GIVEN AS TO THE INSURABILITY OF THE TITLE OR STATUS OF TITLE. APPLICANT EXPRESSLY AGREES AND ACKNOWLEDGES IT HAS AN INDEPENDENT DUTY TO ENSURE AND/OR RESEARCH THE ACCURACY OF ANY INFORMATION OBTAINED FROM THE COMPANY OR ANY PRODUCTS OR SERVICES PURCHASED.

NO THIRD PARTY IS PERMITTED TO USE OR RELY UPON THE INFORMATION SET FORTH IN THE REPORT, AND NO LIABILITY TO ANY THIRD PARTY IS UNDERTAKEN BY THE COMPANY.

APPLICANT AGREES THAT, TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT WILL THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS, OR ANY OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT, PUNITIVE, EXEMPLARY, OR SPECIAL DAMAGES, OR LOSS OF PROFITS, REVENUE, INCOME, SAVINGS, DATA, BUSINESS, OPPORTUNITY, OR GOODWILL, PAIN AND SUFFERING, EMOTIONAL DISTRESS, NON-OPERATION OR INCREASED EXPENSE OF OPERATION, BUSINESS INTERRUPTION OR DELAY, COST OF CAPITAL, OR COST OF REPLACEMENT PRODUCTS OR SERVICES, REGARDLESS OF WHETHER SUCH LIABILITY IS BASED ON BREACH OF CONTRACT, TORT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTIES, FAILURE OF ESSENTIAL PURPOSE, OR OTHERWISE AND WHETHER CAUSED BY NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF CONTRACT, BREACH OF WARRANTY, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE OR ANY OTHER CAUSES WHATSOEVER, AND EVEN IF THE COMPANY HAS BEEN ADVISED OF THE LIKELIHOOD OF SUCH DAMAGES OR KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY FOR SUCH DAMAGE

Exhibit C: Permitting and Development Schedule

Haynack Permitting and Development Schedule -Adapture Renewables

2024		
2024 Q2	Preliminary 1041 Application Submitted PSCO Interconnection Application Submitted Preliminary Application meeting w/ County	
2024 Q3	County Final Application Meeting – finalize study methodology. Confirm prior study sufficiency Biological Assessment 1041 Waiver Determination PSCO Scoping Meeting. Economic Impact Study – to include jobs, wages, government revenues, housing inventory, housing requirements, 603(2)(a) (v),(vi) ,(ix) USACE Wetlands Consultation /Delineation Visual Impact Study Noise Impact Study (viii) (Seeking waiver) Geotechnical Study (seeking partial waiver of bedrock sections) State survey of archaeological inventory - Colorado State Historical Preservation Office 603(2)(a)(ix)(F) Topographic Drone Survey Analysis of impacts and alternatives analysis 603(2)(e) Transportation/ Traffic Study 603(2)(a)(ix)(E)	
2024 Q4	PSCO Initial Interconnection Study Results (Phase 1)	
2025		
2025 Q1	Community Outreach County Partners Agency Outreach – fire, police, county agencies Community Meeting (noticed in Newspaper and mailers to local property owners)	
2025 Q2	Submit Final Application	
2025 Q3	Public Hearing for Permit Phase 2 interconnection results from PSCO	
2025 Q4	Initiate CDOT permitting if conditioned by 1041 Permit Transportation/ Traffic Study 603(2)(a)(ix)(E) Initiate CDPHE Permitting pursuant to County direction Phase 3 interconnection study results from PSCO	

Haynack Permitting and Development Schedule -Adapture Renewables

2026		
2026 Q1		
2026 Q2		
2026 Q3	Sign Generator interconnection agreement with PSCO	
2026 Q4	PPA Awarded	
2027		
2027 Q1		
2027 Q2	Follow on surveys for Raptors, Eagles and Migratory Birds Paleontological Field Survey	
2027 Q3	Follow on surveys for Raptors, Eagles and Migratory Birds Paleontological Field Survey	
2027 Q4	Financial and Tax Equity Close	
2028		
2028 Q1	Notice to Proceed to Construction Post decommissioning security (as determined by 1041 Permit Conditions)	
2028 Q2	Construction Begins	
2028 Q3	Construction	
2028 Q4	Construction	
2029		
2029 Q1	Construction	
2029 Q2	Commercial Operations Date	

Exhibit D: 1041 Waiver Checklist

Permitting Process and Requirements the a Solar PV Project

HB1041 Regulations Chapter 6: Regulations for Site Selection and Construction of Major Facilities of a Public Utility

SUBMISSION REQUIREMENT WAIVER CHECKLIST FOR SOLAR PV GENERATING FACILITIES.

Note to Applicant	For your Solar PV Generating Facility, the submission requirements marked as YES in Column A will be waived by the Board of County Commissioners on a consent agenda at a regular meeting. Your attendance at this meeting is not required.			
	If you wish to request that other submission requirements be waived, note those requirements in Column B. The Board of County Commissioners will rule on your request at a regular meeting and your attendance is required.	A	B	C

Code Citation					Submission Requirement	WAIVER TO BE APPROVED (by County)	Waiver Requested (by Applicant)	Waiver Granted (by County)	Notes
(1)					STEP 1: Preliminary Application				
	(a)				Application Form				
		(i)			A completed application form				
		(ii)			Description of proposed facility and site				
		(iii)			Description of present use and zoning				
			A		Location Map showing proposed site and clearly indicating the relationship of the site to the surrounding area within 50 miles from site				
			B		Type of facility: - specify where applicable				
				1	approximate floor space of office building				
				2	voltage and length of transmission line				
				3	power source and generating capacity				
				4	function and size of substation				
				5	diameter and length of pipeline	YES			
				6	capacity of storage tanks, and type of petroleum derivative to be storyed	YES			
				7	service area				
				8	resource area (e.g. source of power being generated or transmitted, source of petroleum derivative being transported)	YES			
			C		Proposed Development Schedule				
				1	Estimate max number of employees, number of shifts and employees per shift during the following phases: construction, operation and maintenance				
				2	Specify any future phases or extensions of the facility and relationship of the factility to larger programs and plans.				
				3	Specify timetable for planning (e.g. federal permits, state permits, local zoning, etc.)				
				4	Estimate beginning and completion of construction and beginning of operation of facility.				
				5	Describe support facilities (eg pollution control, parking areas, landscaping, etc.) to be provided				
				6	Describe any feasible "non-structural" alternatives to meet the objectives of the proposed site selection and construction				
			D		Hazards and emergency procedures				
				1	describe hazards, if any, of fire, explosion and other dangers to the health, safety and welfare of employees and the general public				
				2	describe hazards, if any, of environmental damage and contamination due to materials used at or activities taking place at the proposed facility.				
				3	Describe emergency procedures to be used in the event of fire, explosion or other event which may endanger the public health, safety and welfare				
				4	Describe any prevalent natural hazards that will affect or be affected by development, and describe mitigating measures to be taken to reduce danger due to such natural hazards				
(2)					STEP 2: Final Application				
	(a)				At the time of making final application, all applicants shall submit 5 copies of the following documents and information:				
		(i)			Delineation of Base Area (that area likely to be subject to land use changes as a result of the project)				
			A		Map of Base Area; describe how the determination was made.				
			B		Map of Special Districts (schools, fire, water sanitation, etc.) affected by the proposal.				

		(ii)			Delineation of impact area (that areas whose physical and socio-economic environment is likely to be impacted, beneficially and adversely, by the site selection and construction of the proposed facility)				
		(iii)			Objectives of the proposed site selection and facility				
			A		Describe the relationship of project to local land use policies and comprehensive plans and to policies and plans adopted or under preparation by federal, state and other affected local government agencies.				
			B		Describe the relationship of the project to other existing and planned utility facilities of similar nature, other communication or energy generation and transmission facilities, local government capital improvement programs, and special district expansion programs.				
		(iv)			Description of need for project				
			A		briefly describe why the public convenience and necessity require the facility of the size and nature proposed be constructed on the site proposed.				
			B		sources of demographic and economic data and method of anlysis				
			C		market function (ie. What user needs and patterns will project fulfill.)				
		(v)			Description of support facilities needed				
			A		Type of water quality control				
				1	Describe proposed sewage treatment facilities and nonpoint source controls.				
				2	describe pollutant loads (point and non-point sources) expected directly from development. Specify seasonal variations.				
			B		Public services and facilities				
				1	Estimate police and fire protection requirements				
				2	Estimate public road maintenance requirements				
				3	Estimate educational and health services requirements				
				4	Estimate facilities and service required to provide adequate water supply and sewage treatment				
		(vi)			Description of employment and economic opportunities				
			A		Describe Capital Investment in facility				
			B		Estimate anticipated revenues to local, state and federal governments, special districts				
			C		Describe employment opportunities				
				1	Types of jobs and number of positions, wage, salary schedule				
				2	Opportunities for employment of local citizens				
				3	Employment opportunities for low income and minority populations				
		(vii)			Description of visual conditions (base area)				
			A		Map area within view of project				
			B		Map access and travel routes, public areas, residential areas that will have a view of the project				
		(viii)			Description of noise conditions(base area)				
			A		Desribe and map possible expected noise levels by immediate and future facility operations	YES			
		(ix)			Description of socio-economic environment (impact area)				
			A		Characteristics of the existing population				
				1	Age, income level and distribution, education, social background, family size, etc				
				2	Neighborhood and distinct socio-economic groups				
				3	Migrational trends and seasonal fluctuations				
				4	Anticipated population changes				
			B		Current employment				
				1	Principal employers, type, number of employees				
				2	Unemployment and under employment				
				3	Characteristics of local labor pool				
				4	Manpower training and retraining potential				
			C		Inventory local governments and special districts providing services in base area				
				1	Map jurisdiction and type of service				
				2	Capacity and utilization of services				
				3	Operating revenue and expenditures				
				4	Tax Base				
				5	Current level of taxation				
				6	Estimate revenue generating capacity and identify potential new sources of revenue				
			D		Housing				

				1	Current housing inventory					
				2	Projected housing requirements					
			E		Existing Transportation Network					
				1	Access to site					
				2	Circulation within base area and commuting patterns in impact area					
				3	Capacities of arterial streets within impact area					
				4	Maintenance provisions and costs					
			F		Description of historical and archaeological resources					
				1	Describe historical and archeological sites by means of completing state inventory forms and sumbit these to the State Historical Society for Evaluation					
				2	Describe resources individually and as the relate to the community, include photos wherever possible					
		(x)			Description of atmospheric conditions (impact area)	YES				
			A		Meteorology (based on worst-case winter conditions)	YES				
				1	Wind speed and direction	YES				
				2	Inversion height	YES				
				3	Atmospheric stability	YES				
			B		Topography	YES				
				1	Desribe general and outstanding topographic feature in project area (maps and aerials)	YES				
			C		Background ambient air quality (TSP, SO2, HC, CO, Nox, O3, etc.)	YES				
	(b)				At the time of final application, applicants seeking a permit for the site selection and construction of transmission lines or substations shall submit, in addition to those requirements set forth in Subsection (a) of this Section, 5 copies of the following documents and information:					
		(i)			Description of geologic and pedologic conditions of base area					
			A		Map of Bedrock and surficial geology	YES				
			B		Map and describe areas of:					
				1	Avalanches	YES				
				2	Mud flows and debris fans	YES				
				3	All types of unstable or potentially unstable slope	YES				
				4	Special seismic considerations	YES				
				5	Areas of high radioactivity	YES				
				6	Ground subsidence	YES				
				7	Expansive soil and rock	YES				
				8	Other geologic conditions which are pertinent	YES				
			C		Map extent of 100-year flood plain if present					
			D		Map topography in adequate detail to determine adequacy of design					
			E		Map and evaluate mineral and energy resources					
			F		Map and evaluate agricultural resources					
		(ii)			Description of biotic conditions (impact area)					
			A		Map plant communities					
				1	Characteristics, quantity, productivity of plant types					
				2	Endangered or threatened plant species					
				3	Evidence of past disturbances and current indications of stages in ecological succession					
			B		Wildlife (terrestial)					
				1	Determine species present, seasonal occurrence, status and relative importance					
				2	Map distribution of species					
				3	Map biological features (migration routes, breeding grounds, etc.)					
				4	Identify species included on official federal or state list of endangered or threatened species					
				5	Identify species that are unique in their Colorado distribution					
			C		Wildlife (acquatic)					
				1	Identify species present					
				2	Map streams, lakes and reservoirs which provide or have potential for habitat					
				3	Map biological features (spawning runs, spawning beds, etc.)					
				4	Identify any endangered species (federal or state) or any which are unique in their Colorado distribution.					
	c				At the time of final application, applicants seeking a permit for pipelines or storage areas shall submit, in addition to those requirements set forth in subsection (a) and (b) of this Section, 5 copies of the following documents and information:	YES				

		(i)			Description of hydrologic conditions - surface (impact area)	YES			
			A		Provide map of all surface water	YES			
			B		Describe expected monthly streamflows for typical year, wet year, dry year (include 7 day-10 year low flows where sufficient data exists)	YES			
			C		Describe physical stream features (gradiant, velocity, depth, etc.)	YES			
			D		Provide data on chemical and biological quality, including BOD, dissoved O2, free CO2, PH, TDS, ph-th alkalinity, MO alkalinity, NH4, heavy metals and other toxic or deleterious substances.	YES			
		(ii)			Description of hydrologic conditions - subsurface (impact area)	YES			
			A		Map all aquifers that may be affected by project	YES			
			B		Provide tables, graphs, map showing permeability, transmissibility, thickness, volume, depth of aquifers.	YES			
			C		Describe geology of strata overlying aquifers including percolation rates, travel time to groundwater surface.	YES			
			D		Map of all wells using aquifers including diameter, flow rates.	YES			
	(d)				At the time of final application, applicants seeking a permit for the site selection and construction of a power plant shall submit, in addition to those requirements set forth in subsections (a), (b), and c of this Section, 5 copies of the following documents and information:				
		(i)			map locating and describing resource areas to be utilized as sources of energy	YES			
		(ii)			description of water system proposed:				
			A		Source of supply, volume and rate of flow at full development				
			B		Water rights owned or utilized				
			C		Proposed points of diversion and changes of points of diversion				
			D		Volume of stream flow to remain unused between points of diversion				
			E		Dependability of supply (physical and legal)				
			F		Effects on downstream users				
		(iii)			Description of air pollution control measures				
	(e)				At the time of final application, all applicants shall submit an analysis of impacts as follows:				
		(i)			Summarize the major natural and socio-economic environmental constraints as they affect the site selection and construction of the facility as proposed.				
		(ii)			Describe present utilization of land, water, air, biotic, geologic and socio-economic resources within impact area as applicable to submission requirements.				
		(iii)			describe alternative uses for these resources				
		(iv)			Analyze effects of proposed site selection and construction upon the natural and socio-economic environment of the impact area as applicable to submission requirements.				
			A		Provided analysis of hydrologic, atmospheric, geologic, pedologic, biotic, visual and noise impacts				
			B		Provide surface and subsurface drainage analyis				
			C		Provide socio-economic impact analysis				
			D		Provide transportation impact anlysis				
			E		Provide analysis of impacts upon agricultureal productivity and ag resources				
		(v)			Analyze long-term effects of the proposed site selection and construction upon the physical and socio-economic development of the impact area				
		(vi)			Justify the proposed site selection and construction against the present and alternative uses of the resources in the impact area				
		(vii)			Describe a program to minimize and mitigate adverse impacts and to maximize the positive impacts of the proposed site selection and construction.				
			A		Analyze alternatives				
				1	Alternative locations and routes				
				2	Alternative types of facilities				
				3	Use of existing rights-of-way				
				4	Joint use of rights of way with other utilities				
				5	Upgrading of existing facilities				

			B		Analyze non-structural alternatives as applicable				
				1	Conservation of energy use				
				2	No development				
			C		Analyze management alternatives (ie development scheduling, training programs, facility design, land trades, etc.)				
			D		Analyze air and water pollution control alternatives				
			E		Analyze design alternatives (access, landscaping, architectural controls)				
			F		Submit a program to meet "front end" costs of providing necessary services and facilities				
					Other Requirements or Permits prior to Construction				
				1	National Pollutant Disharge Elimination System (NPDES) Permit for storm water management from the CO. Dept. of Health and Environment				
				2	Alamosa County Culvert and Access Permit				
				3	Alamosa County Building Permit				
				4	Alamosa County ROW License for Transmission Lines				

Exhibit E: Biological Resources Report

Biological Resources Review

Haynach Hybrid Solar

Alamosa County, Colorado

April 26, 2023

Prepared For:

Samsung Solar Energy 2, LLC
5601 E. Slauson Ave, Suite 101
Commerce, CA 90040

Prepared By:

Kimley»Horn
Denver, Colorado

TABLE OF CONTENTS

APPENDICES

Biological Resources Review
Haynach Hybrid Solar
Approximately 1,105 Acres
Alamosa County, Colorado
April 26, 2023

1.0 INTRODUCTION

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained by Samsung Solar Energy 2 LLC. (Client) to perform a Biological Resources review for the proposed Haynach Hybrid Solar located on approximately 1,105 acres of undeveloped agricultural land located southwest of Hooper in Alamosa County, Colorado (study area). The site is generally located east of County Rd 102 N and north of Eightmile LN. A map of the general vicinity of the project is shown in **Figure 1, Appendix A**. The existing 320-acre, 49.5 mega-watt (MW) Hooper Solar project is located immediately adjacent to the south of the Project. The study area appears to consist mainly of disturbed rangeland and fallow agriculture. The study area can be seen in Figures 1-7 in Appendix A.

The proposed project consists of the development of a solar hybrid energy facility. The purpose of performing the biological resources was to characterize the existing site conditions and observe for the presence of potential biological resources of concern at the study area. An initial site observation to assess preliminary conditions was conducted on November 29 and 30, 2022. Kimley-Horn subsequently conducted a site visit at the study area on April 17 and 18, 2023 with the objective of delineating biological resources.

2.0 REGULATORY BACKGROUND

Federally Listed Threatened and Endangered Species

The purpose of the federal Endangered Species Act (ESA) is to protect and recover imperiled species and the ecosystems upon which they depend. The United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) administer the ESA. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife. Under the ESA, species may be listed as threatened or endangered. “Threatened” means a species is likely to become endangered within the foreseeable future. “Endangered” means a species is in danger of extinction throughout all or a significant portion of its range. Under the ESA, individual species and their habitats are protected.

USFWS current policy makes it incumbent on the project proponent to ascertain the potential for impact to a T&E species for each project and then notify the USFWS for formal consultation if a proposed project “may affect” a listed species. The USFWS notes that “a qualified biologist should use the USFWS website and other current information to make this determination”. For non-federally funded projects that “may affect” or are likely to adversely affect T&E species or their habitat, a Section 10(a)(1)(B) permit would be required. The USFWS also notes that for those projects with a federal (government) nexus, it is the responsibility of the federal action agency [under Section (7)(a)] to determine if a proposed project “may affect” T&E species or their habitat. Under Section 7, proposed endangered or threatened species must be considered in the effects analysis. This would apply if a federal nexus is identified for the project. Section 9 of the ESA prohibits the “take” of endangered species of fish or wildlife. Take is defined as, “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or an attempt to do the same”. Under Section 9 of the ESA, proposed endangered or threatened species on private land without a federal nexus, are not required to be considered in the effects analysis.

State-Listed Threatened and Endangered Species

As directed by Colorado State Statute 33 (State Statute 33; CRS Ann. §§33-2 to 102-106), the Colorado Wildlife Commission issues regulations and develops management programs implemented by Colorado Parks and Wildlife (CPW) for wildlife species not federally listed as threatened or endangered. This includes maintaining a list of state threatened and endangered species. CPW also maintains a list of species of concern, but these species are not protected under State Statute 33. Although State Statute 33 prohibits the take, possession, and sale of a state-listed species, it does not include protection of their habitat.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) makes it illegal for anyone to "take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations by the USFWS." Typically, if active nests of bird species protected by the MBTA are identified, the USFWS recommends avoiding tree clearing or nest removal until at least the peak of the nesting season (generally March through August) has passed or until the nest is abandoned.

The U.S. Department of the Interior, Office of the Solicitor, published a memorandum (M-37050) dated December 22, 2017 regarding the MBTA and how "incidental take" is viewed by the Department. The memorandum analyzes whether the MBTA prohibits the accidental or "incidental" taking or killing of migratory birds. "Incidental take" is take that results from an activity, but is not the purpose of that activity. In this memorandum, the Department of the Interior concluded that "*the MBTA's prohibition on pursuing, hunting, taking, capturing, killing, or attempting to do the same applies only to direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control*". Therefore, according to the Department of the Interior, the MBTA does not prohibit "incidental take". Courts have disagreed with respect to including or excluding "incidental take" when considering the prohibitions under the MBTA. In 2015, the Fifth Circuit in *United States v. Citgo Petroleum Corp.* issued an opinion that agreed with the Eighth and Ninth circuits that a taking is limited to deliberate acts done directly and intentionally to migratory birds. Therefore, the Fifth Circuit decided that the MBTA only prohibits intentional take and does not prohibit incidental take. This decision by the Fifth Circuit set precedent within the Fifth Circuit's jurisdiction, including Colorado.

On January 7, 2021, the USFWS published a final rule ("MBTA rule") defining the scope of the MBTA which excluded incidental take of migratory birds from being unlawful. This interpretation of the MBTA was effective as of March 8, 2021. On May 7, 2021, the USFWS proposed to revoke the January 7, 2021 final regulation and opened a public comment period which closed on June 7, 2021.

On September 29, 2021, the U.S. Department of Interior announced a series of actions to unwind the most recent rulemaking in an effort "to ensure that the MBTA conserves birds today and into the future." On October 4, 2021, the USFWS published a final rule revoking the most recent rule enacted by the Trump Administration that limited the scope of the MBTA. According to the Federal Register, the final MBTA revocation rule went into effect on December 3, 2021. It is our understanding that as of December 3, 2021, incidental take is enforceable under the MBTA.

In addition, on October 4, 2021, the USFWS published an Advanced Notice of Proposed Rulemaking announcing the intent to solicit public comments and information to help develop proposed regulations that would establish a permitting system to authorize the incidental take of migratory birds in certain circumstances. The USFWS issued a Director's Order establishing criteria for the types of conduct that will be a priority for enforcement activities with respect to incidental take of migratory birds.

It should be noted that the regulatory climate with respect to the MBTA is changing; however, it is our understanding that as of December 3, 2021, incidental take of migratory birds is enforceable under the MBTA.

Bald and Golden Eagles

According to the USFWS, the Bald and Golden Eagle Protection Act (BGEPA) prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. In addition to immediate impacts, this definition also covers “impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.”

Noxious Weeds

Noxious weeds are a major threat to the natural and agricultural resources of Colorado. In an effort to curb the spread of noxious weeds, the State of Colorado has included The Colorado Noxious Weed Act in Title 35 of the Colorado Revised Statues. The Colorado Noxious Weed Act states that the management of noxious weeds is the responsibility of local governing agencies, which has jurisdiction over both public and private lands.

The State of Colorado has developed a State Designated Noxious Weed list by rule of the Colorado Department of Agriculture (CDA). The state has identified 79 plants as Designated Noxious Weeds, effective as of 2020.

To meet the requirements of the Colorado Noxious Weed Act weed management goals, management techniques for noxious weeds will be implemented for species listed on the CDA Designated Noxious List:

- List A – designated for statewide eradication
- List B – managed to prevent further spread and, for selected species, designated for eradication in large areas
- List C – of more localized concern, but for which the State will provide education, research, and biological control assistance to jurisdictions that choose to manage the species

3.0 RESOURCE REVIEW AND FIELD ASSESSMENT

Kimley-Horn personnel conducted a site visit on April 17 and 18, 2023 with the objective of identifying potential biological resources. Field reconnaissance was conducted via windshield and pedestrian surveys within the project limits. In addition, representative photographs to document general conditions were also taken. During the field visit, the approximate temperature was 63° to 68° Fahrenheit, with partly sunny skies and winds 15 – 20 miles per hour. Vehicle access to the site was provided via Lane 8 North, Lane 9 North, North County Road 102, and North County Road 104. Access within the site was provided via unpaved dirt roads and driving overland with a 4x4 vehicle. Existing conditions as determined by field reconnaissance is provided in **Appendix A, Figure 7**.

3.1 BACKGROUND INFORMATION

The biological resources assessment was completed using a combination of existing information obtained from public readily available sources including reports, published literature, online databases, GIS data, and site reconnaissance.

The following data sources were used to complete this study:

- Colorado Conservation Data Center (CODEX)
    - CODEX database includes information from:

  - Bird Conservancy of the Rockies
  - Colorado Natural Heritage Program
  - CPW
  - National Land Cover Database (NLCD)
  - NatureServe
  - USFWS
- CPW Mapped Raptor Nest Database (Public Access Restricted)
- CPW Species Activity Mapping (SAM)
- USFWS Information for Planning and Consultation (IPaC)

3.2 MAPPING INFORMATION

Prior to performing the site visit, selected maps and background information were obtained and reviewed to assist with identifying potential biological resources in the study area. The selected resources are described below.

Topographic Map

Based on a review of the United States Geological Survey topographic map (Hooper West quadrangle), the study area is predominantly depicted as undeveloped, vacant land, as indicated by the lack of red shading, with areas of woodlands and shrublands, as indicated by green shading. Zero “blue-line” features and zero apparent ponds are depicted throughout the study area. The topographic map depicts the generally flat area with elevation ranging between 7566 and 7592 feet above mean sea level. The topographic map for the site can be seen as Figure 2 in Appendix A.

Aerial Photographs

Figures 3 in Appendix A provides current aerial photographs of the study area. Conditions within the study area appear to be generally consistent with the selected aerial photograph. The study area is generally depicted as largely agricultural with pockets of disturbed rangeland. Recent aerial photography (2023) is used as base data for many figures in Appendix A. **Figure 1 in Appendix B** provides the general location of site visit photographs. Ground level photographs are provided in **Appendix B, Figure 2.**

National Wetlands Inventory (NWI) Map

Based on review of NWI data, five potential wetland and/or waterbody features were identified within the study area, including three riverine features, one freshwater pond, and one freshwater emergent wetland feature. NWI data is published by the USFWS and depicts suspected wetland areas and waterbodies based on stereoscopic analysis of high-altitude aerial photographs. The published data is not regularly updated and has not been validated in the field. NWI data generally overlaps the riverine features. Figure 3 in Appendix A delineates the boundaries of potential wetlands and waters within the study area as recorded by the NWI data. These features can be utilized by species for habitat purposes.

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM)

Figure 5 in Appendix A depicts the FEMA floodplain zone across the study area. According to the FEMA FIRM (Panel Number 0800090005A and 08105C0200C 1), there is minimal Flood Zone information for this project. The majority of the study area is located within Zone X: Area of Minimal Flood Hazard, which is outside of the FEMA designated 100-year and 500-year flood zones.

4.0 SUMMARY OF RESULTS

4.1 SOIL SURVEY

Alamosa County lies within the San Luis Alluvial Flats and Wetlands (22b) Sub-Region of the Arizona/New Mexico Plateau Ecoregion. There are six different Soil Map Units identified within the study area by the

National Resources Conservation Service (NRCS) Web Soil Survey. These soils are listed in **Table 1** and mapped in **Figure 4, Appendix A.**

Table 1. Soil Map Units within the Study Area

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	Hydric Soil Components	Farmland
Gn	Gunbarrel loamy sand, 0 to 1 percent slopes	387.0	35.0	No	Farmland of unique importance
Gs	Gunbarrel loamy sand, saline	285.1	25.8	Yes	Not prime farmland
Mc	McGinty sandy loam	38.7	3.5	No	Not prime farmland
Mo	Mosca loamy sand	147.8	13.4	No	Farmland of unique importance
Ms	Mosca loamy sand, wet	87.9	8.0	Yes	Not prime farmland
Se	San Luis sandy loam, 0 to 1 percent slopes	158.6	14.4	No	Not prime farmland

4.2 VEGETATION

The field survey documented plant community types within the study area. Vegetation on the property was dominated by both native and invasive species commonly observed in the arid West. Community types on the property are as follows:

- 66% (736 acres) - fallow agriculture dominated by Russian thistle, kochia (*Bassia scoparia*), and bareground areas.
- 21% (235 acres) -disturbed rangeland dominated by big sagebrush (*Artemisia tridentata*), Russian thistle (*Salsola tragus*), and bareground areas
- 11% (126 acres) - active agriculture dominated by common wheat (*Triticum aestivum*).

Based on the NLCD, the study area consists of mostly cultivated crops lands with small portions of shrub/scrug and hay/pasture land cover types (Figure 6, Appendix 1). The site visit determined that NLCD land cover type locations were generally accurate to field observations.

CDA-listed noxious weed species and other invasive plant species were observed on-site and are included in **Table 2**. Noxious weeds and invasive plants, which are found primarily within the disturbed rangeland and fallow agriculture communities, account for approximately 52% (579 acres) of vegetation surface cover.

Table 2. CDA Noxious Weed and Other Invasive Plants within the Study Area

Species	CDA/Alamosa County Designation	Eradication Requirements
Kochia (*Bassia scoparia*)	Unlisted – Nuisance Species	None
Russian Thistle (*Salsola tragus*)	Unlisted – Nuisance Species	None

Control of invasive species is a difficult task and requires on-going control measures. Care must be taken to avoid negatively impacting desirable plant communities and inviting infestation by other pioneer invaders.

Weed management is best achieved by employing aggressive control early on, and persistent control efforts over several growing seasons, including direct treatments, prevention through best management practices, monitoring of treatment efficacy, and subsequent detection efforts. Weed management is often limited to controlling existing infestations and prevention of further infestations, rather than total eradication.

4.3 FEDERALLY LISTED SPECIES

Kimley-Horn obtained an official species list from the USFWS IPaC system on April 12, 2023. The list includes nine (9) threatened, endangered or candidate species. A qualified biologist reviewed the list to determine species that may occur in the study area. Species included in the USFWS list but excluded from further evaluation are addressed in **Table 3**. This project will have no effect on the species listed in **Table 3**. Additionally, there is no federally designated Critical Habitat within the project vicinity.

Table 3. Endangered Species Act Species Review

Species	Status	Habitat Requirements	Exclusion Justification	Likelihood of Presence
Mammals				
Gray Wolf (*Canis lupus*)	ESA LE	Habitat generalist adapted to a variety of landscapes (USFWS 2022a).	The project does not include a predator management program component which automatically excludes this species as a potential constraint to development.	LOW
Birds				
Mexican Spotted Owl (*Strix occidentalis lucida*)	ESA LT	Old growth and mature forests with complex structural components such as riparian or conifer communities (USFWS 2022b).	This species is not known to or is not believed to occur in Alamosa County, Colorado. Suitable habitat for this species is not present in the project area and this species is not a potential constraint to development.	LOW
Southwestern Willow Flycatcher (*Empidonax traillii extimus*)	ESA LE	Dense riparian areas with cottonwood, willow, and/or tamarisk. Saturated soils, standing water, or nearby streams, or pools, are important components of nesting habitat (USFWS 2022c).	This species is known to or is believed to occur in Alamosa County, Colorado. Suitable habitat for this species is not present in the project area and this species is not a potential constraint to development.	LOW
Insects				
Monarch Butterfly (*Danaus plexippus*)	ESA C	Requires milkweed for survival. Adult monarchs feed on the nectar of flowering	Suitable habitat for this species is not present in the study area and this species is	LOW

Table 3. Endangered Species Act Species Review				
Species	**Status**	**Habitat Requirements**	**Exclusion Justification**	**Likelihood of Presence**
		milkweed, and larvae require milkweed as a host plant (USFWS 2022d).	currently not a potential constraint to development.	
Silverspot Great Basin *(Speyeria nokomis nokomis)*	ESA C	Requires permanent spring-fed meadows, seeps, marshes, and boggy streamside meadows associated with flowing water in arid country (USDA 2007).	Suitable habitat for this species is not present in the study area and this species is currently not a potential constraint to development.	LOW
Status Definitions: ESA = Endangered Species Act; LE = Listed Endangered, LT = Listed Threatened, C = Candidate				

4.4 STATE LISTED THREATENED AND ENDANGERED SPECIES

Kimley-Horn consulted the CPW SAM database on April 17, 2023. The list includes 19 species as potentially intersecting the study area. Of the 19 species listed as intersecting the study area, there are no species with a CPW recommendation for avoidance and minimization. A full list of CPW SAM species intersecting the project is available below in **Table 4.**

Table 4. CPW SAM Species Seasonal Use and Restrictions		
Species	**Seasonal Use**	**CPW Seasonal Restriction**
Bald Eagle *(Haliaeetus leucocephalus)*	Winter Forage	No
Big Brown Bat (*Eptesicus fuscus*)	Overall Range	No
Big Free-tailed Bat (*Nyctinomops macrotis*)	Overall Range	No
Brazilian Free-tailed Bat (*Taderia brasiliensis*)	Overall Range	No
Black Bear (*Ursus americanus*)	Overall Range	No
Elk (*Cervus canedensis*)	Overall Range	No
Greater Sandhill Crane (*Antigone canadensis*)	Foraging Area	No
Gunnison's Prairie Dog (*Cynomys gunnisoni*)	Overall Range	No
Bull Snake (*Pituphis catenifer sayi*)	Overall Range	No
Canada Geese (*Branta canadensis*)	Foraging Area Winter Range	No

Table 4. CPW SAM Species Seasonal Use and Restrictions		
Species	**Seasonal Use**	**CPW Seasonal Restriction**
Hernandez's Short-horned Lizard (*Phrynosoma hernadesi*)	Overall Range	No
Little Brown Myotis (*Myotis lucifungus*)	Overall Range	No
Mountain Lion (*Puma concolor*)	Overall Range	No
Mule Deer (*Odocoileus hemionus*)	Overall Range	No
Plateau Fence Lizard (*Sceloporus tristichus*)	Overall Range	No
Prairie Lizard (*Sceloporus undulatus*)	Overall Range	No
Prairie Rattlesnake (*Crotalus viridi*)	Overall Range	No
Southern Red-backed Vole (*Myodes califonius*)	Overall Range	No
Terrestrial Garter Snake (*Thamnophis elegans*)	Overall Range	No
White-tailed Jackrabbit (*Lepus townsendii*)	Overall Range	No

4.5 MIGRATORY BIRDS

Kimley-Horn conducted a site visit to observe potential suitable migratory bird habitat on April 17 and 18, 2023. It was determined that the entirety of the site can be classified as suitable migratory bird nesting habitat. Bird surveys focused primarily on trees, shrubs, grassland vegetation, and structures suitable for nesting birds. Kimley-Horn also referenced the IPaC online planning tool (see IPaC Resource List in **Appendix C**). According to the IPaC, there are no USFWS birds of concern within the vicinity oif the study area. No migratory bird nests were observed. Since birds can build new nests from year to year, a pre-construction migratory bird nest survey is recommended to occur prior to, but no more than one week (7 days), before disturbance activities.

Kimley-Horn Recommendations:

- A pre-construction avian nest survey is recommended if disturbance activities are to occur during the nesting season (April 1 - August 31).

4.6 RAPTORS

All raptor species are protected in Colorado under the MBTA. There are various CPW development buffers for raptor nests depending on the type of raptor species and disturbance activity. CPW also publishes a mapped raptor nest geospatial database. There were no raptor nests observed within the study area or within a 1.0-mile radius. Since raptors can build new nests from year to year, a pre-construction raptor nest survey is recommended to occur prior to, but within the same nesting year as disturbance activities.

Kimley-Horn Recommendations:

- A pre-construction raptor nest survey is recommended if disturbance activities are to occur during the nesting season (November 15 – October 31).

4.7 BALD AND GOLDEN EAGLES

Kimley-Horn conducted a site visit to observe suitable eagle nesting and roosting habitat within the proposed study area or to be affected by the proposed project for the purposes of due diligence in complying with the BGEPA. No suitable nesting, winter night roosting, or communal roosting sites were observed. No bald eagle nests, bald eagle winter night roosts, or communal roosts were mapped within a 1.0-mile radius of the study area. In addition, no golden eagle nests are mapped within a 1.0-mile radius of the study area. Since eagles can build new nests from year to year, a pre-construction eagle survey is still recommended to occur prior to, but within the same nesting year as disturbance activities.

Kimley-Horn Recommendations:

- A pre-construction bald eagle survey is recommended if disturbance activities are to occur during the nesting season (November 15 - July 31).

4.8 WILDLIFE UTILIZATION

Direct observation of wildlife utilization or signs of wildlife (sightings, burrows, tracks, scat, etc.) included horned larks (*Eremophila alprestris*), western meadowlark (*Sturnella neglecta*), red-tailed hawk (*Buteo jamaicensis*), ground squirrel burrows *(Urocitellus sp.* or *Ictidomys sp*.), and coyote (*Canis latrans*) scat.

5.0 CONCLUSIONS

According to our site visit for biological resources within the study area for the Haynach Hybrid Solar resulted in the following key findings:

- The site does not have suitable habitat for USFWS ESA-listed species. These species are not a constraint to development.
- There are no federally designated critical habitats for ESA listed species within the study area.
- There are no CPW recommended avoidance or minimization measures required for SAM data species.
- No raptor nests were observed within 1.0-mile of the study area; however, pre-construction raptor nest surveys are still recommended if disturbance activities are to occur during the nesting season (November 15 – October 31) since raptors can build new nests from one year to the other.
- There is suitable habitat for migratory birds protected under the MBTA. Pre-construction migratory bird nest surveys are recommended if disturbance activities are to occur during the nesting season (April 1 – August 31).
- No CDA-listed or Alamosa County-listed noxious weed species were observed within the project area and there are no eradication requirements for invasive plants found within the study area.
- There are no conservation easements of areas of special biological concern on site.

This report has been prepared by:
KIMLEY-HORN AND ASSOCIATES, INC.
Please contact me at (720) 295-6923 or jesse.carlson@kimley-horn.com should you have any questions.

Sincerely,

Jesse Carlson
Senior Environmental Scientist

7.0 References

United States Depart of Agriculture. 2007. Great Basin Silverspot Butterfly (*Speyeria nokomis nokomis* [W.H. Edwards]): A Technical Conservation Assessment. Accessed at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5206805.pdf

United States Fish and Wildlife (USFWS). 2020. List of Bird Species to Which the Migratory Bird Treaty Act Does Not Apply. Accessed at: https://www.federalregister.gov/documents/2020/04/16/2020-06782/list-of-bird-species-to-which-the-migratory-bird-treaty-act-does-not-apply

USFWS. 2022a. Gray Wolf (*Canis lupus*). Accessed at: https://ecos.fws.gov/ecp/species/4488

USFWS. 2022b. Mexican Spotted Owl (*Strix occidentalis lucida*). Accessed at: https://ecos.fws.gov/ecp/species/8196

USFWS. 2022c. Southwestern Willow Flycatcher (*Empidonax traillii extimus*). Accessed at: https://ecos.fws.gov/ecp/species/6749

USFWS. 2022d. Monarch Butterfly (*Danaus plexippus*). Accessed at: https://ecos.fws.gov/ecp/species/9743

Appendix A: Figures

Aerial Source/Date: ESRI, 2022: Ownership Source/Date: BLM 2022

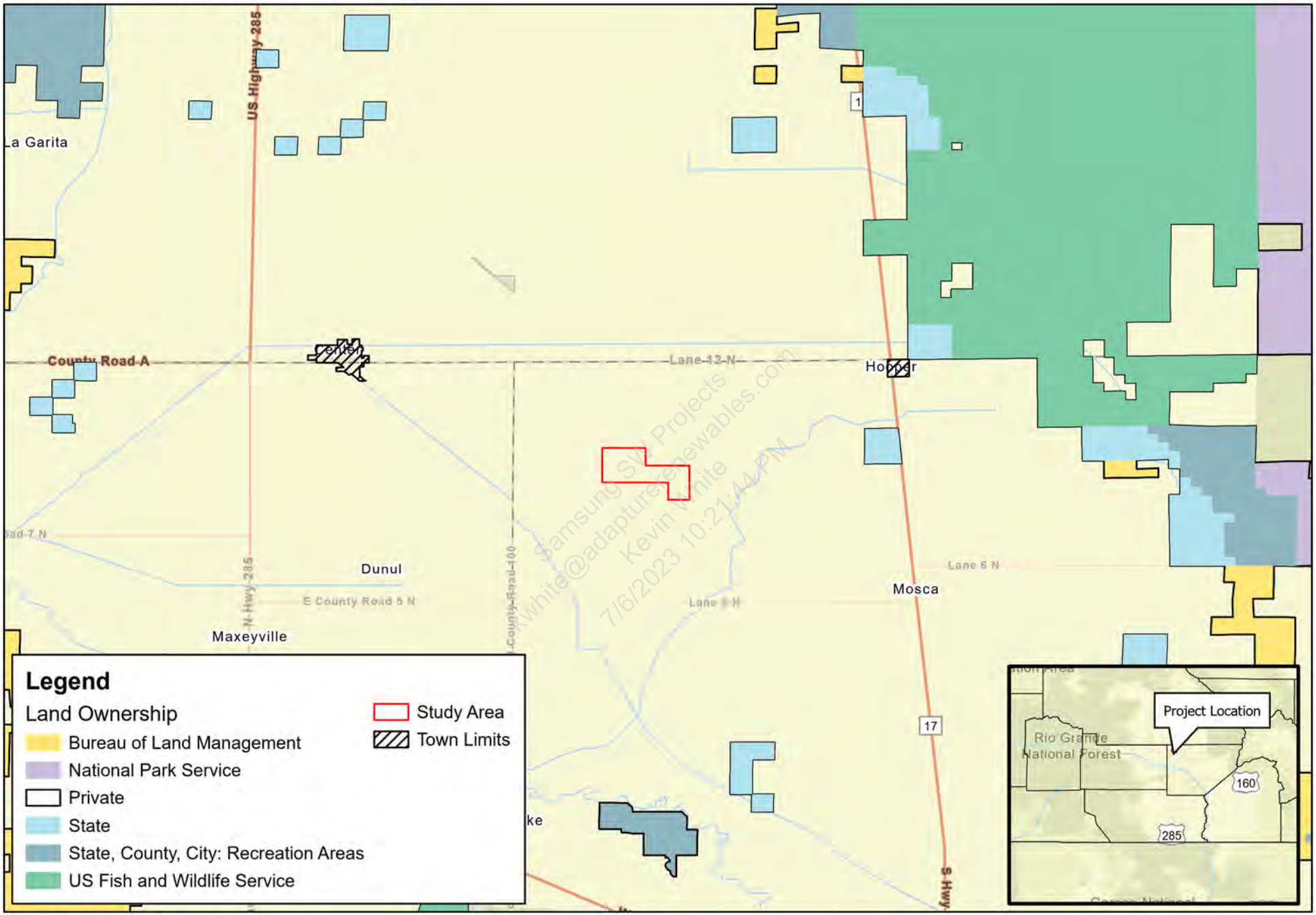


Figure 1: Vicinity Map
Biological Resources Report
Haynach Solar Project
Alamosa County, CO

TOPO Source/Date: ESRI, 2022:

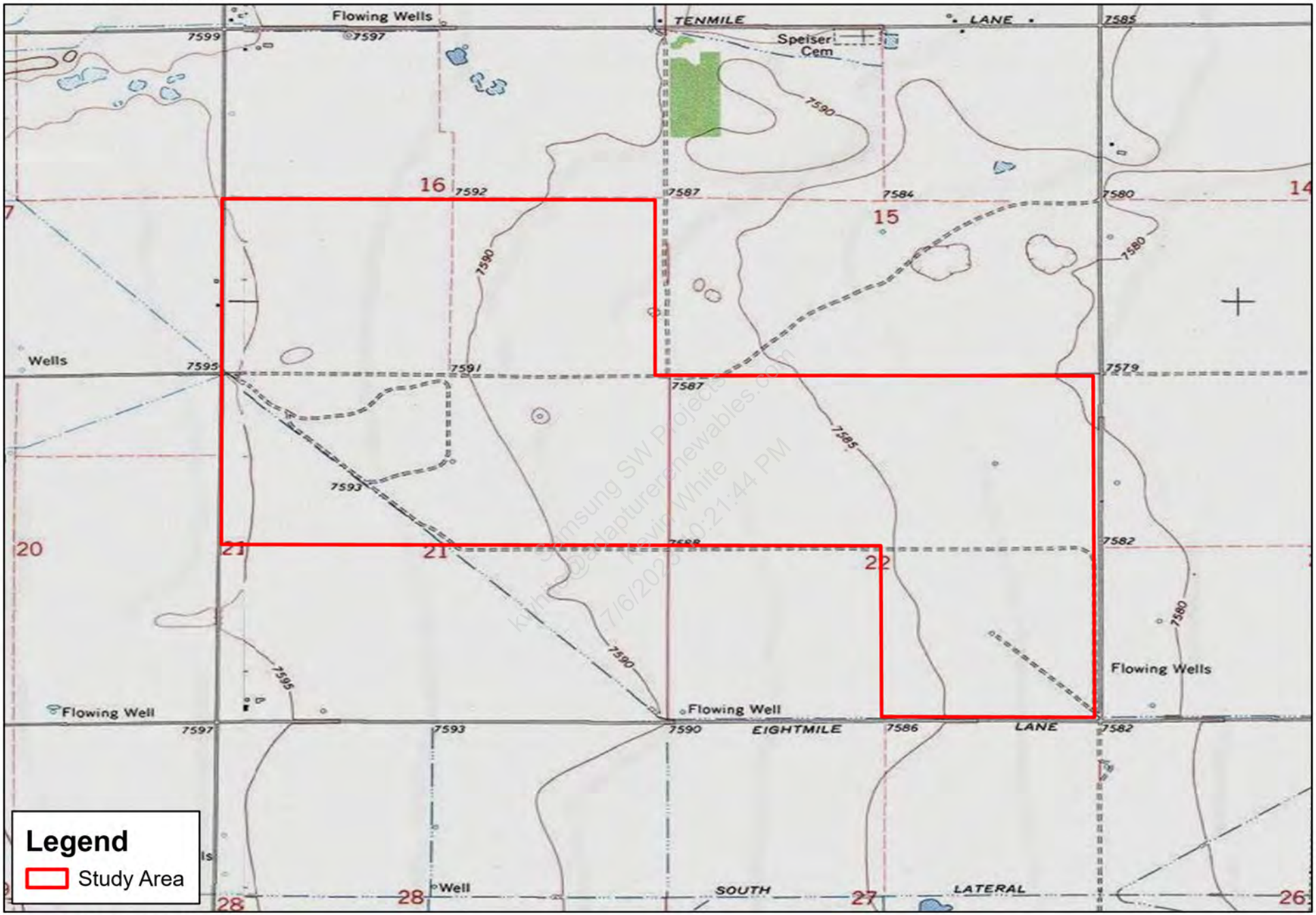


Figure 2: USGS Topo Map
Biological Resources Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn

0 1,000 2,000 4,000 Feet

0 405 810 1,620 Meters

N W E S

Aerial Source/Date: ESRI, 2023: Hydrology/ NWI Source/Date: USFWS, 2023

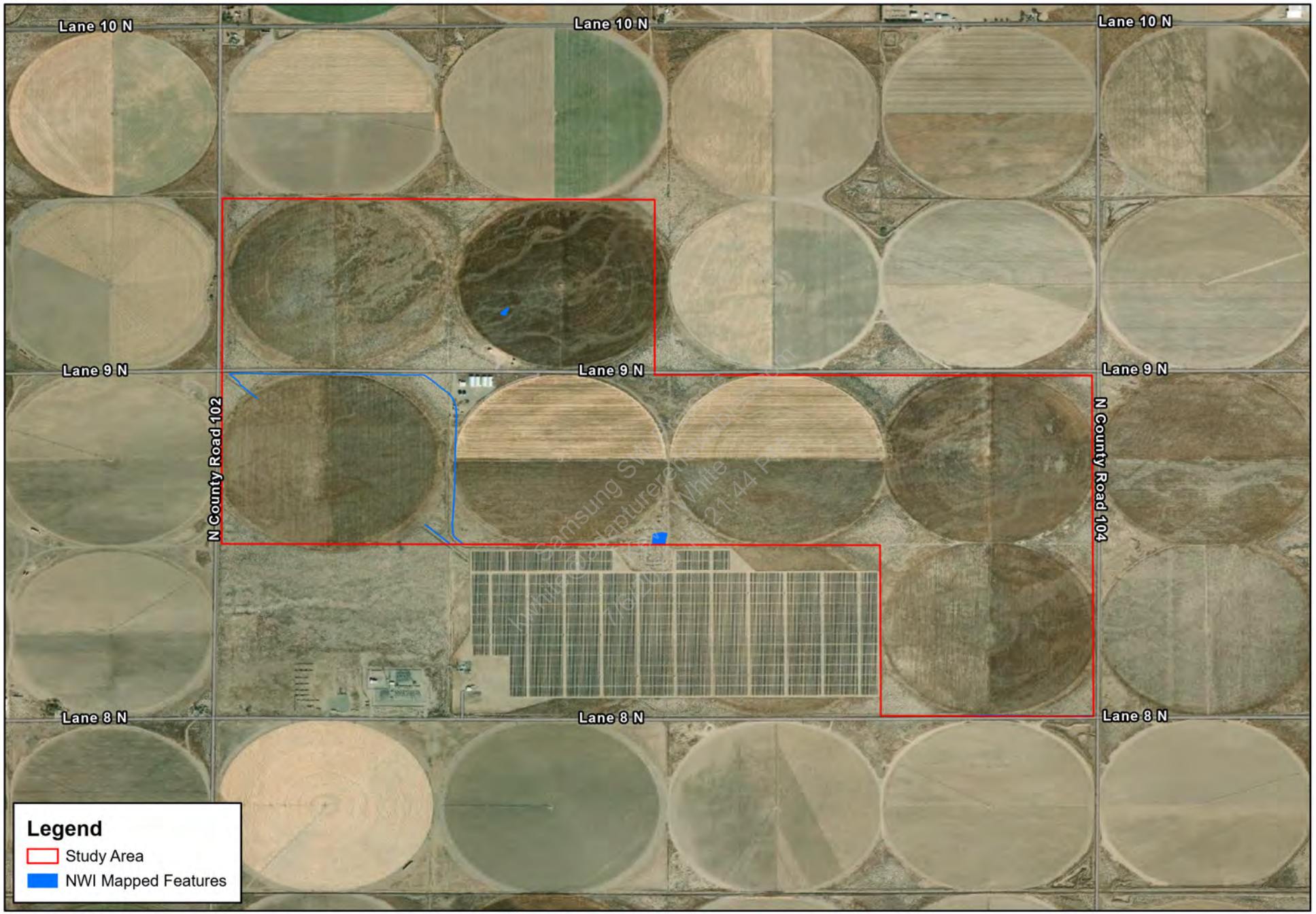


Figure 3: Aerial Map with NWI Hydrology Map
Biological Resources Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn Expect More. Experience Better.

0 1,000 2,000 4,000 Feet

0 405 810 1,620 Meters

N W E S

Aerial Source/Date: ESRI, 2023: Soils Data Source/Date: NRCS 2023

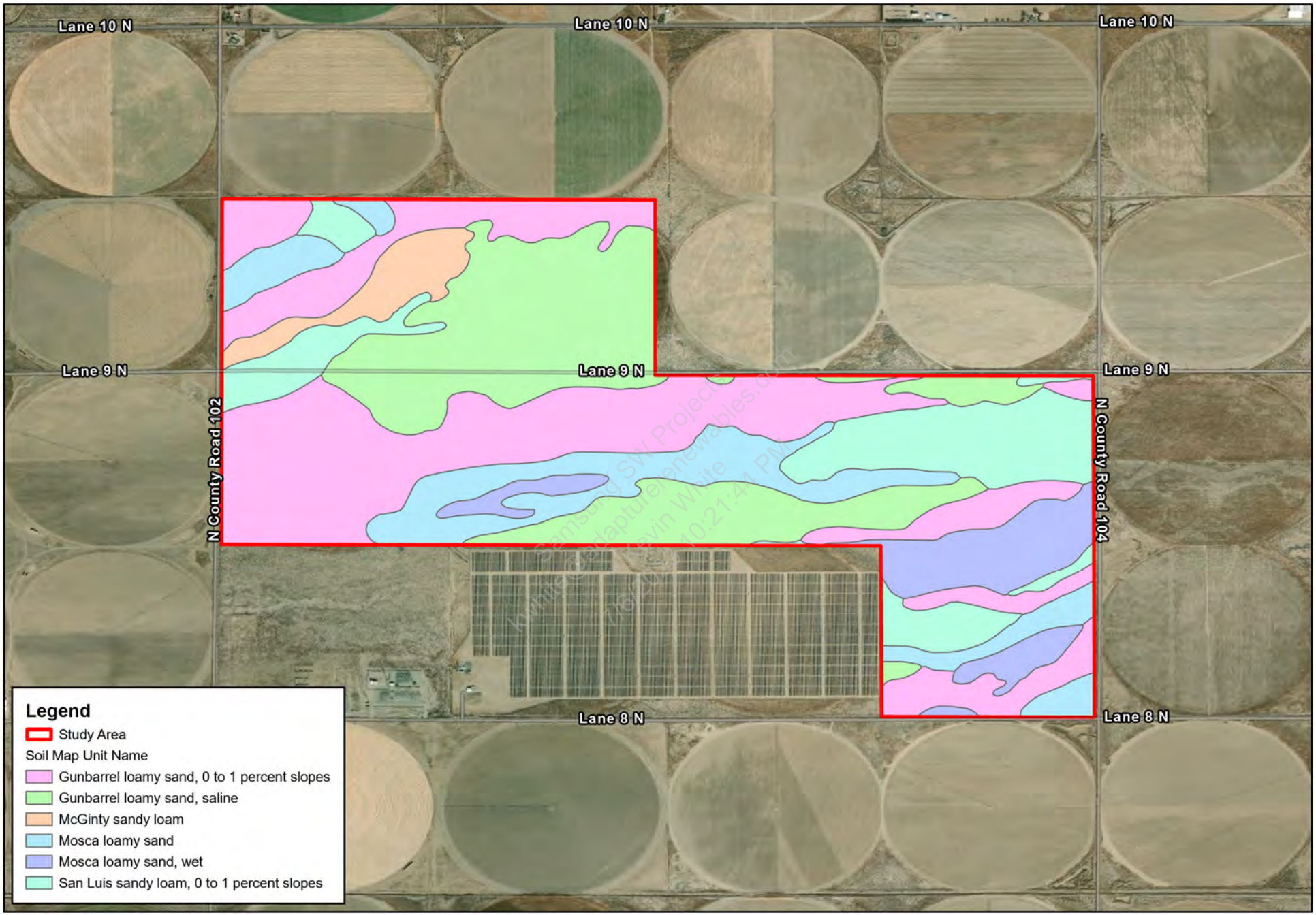


Figure 4: Soils Map
Biological Resources Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn Expect More. Experience Better.

0 1,000 2,000 4,000 Feet

0 405 810 1,620 Meters

N W E S

Aerial Source/Date: ESRI, 2022: Flood Hazard Layer Source/Date: FEMA 2023

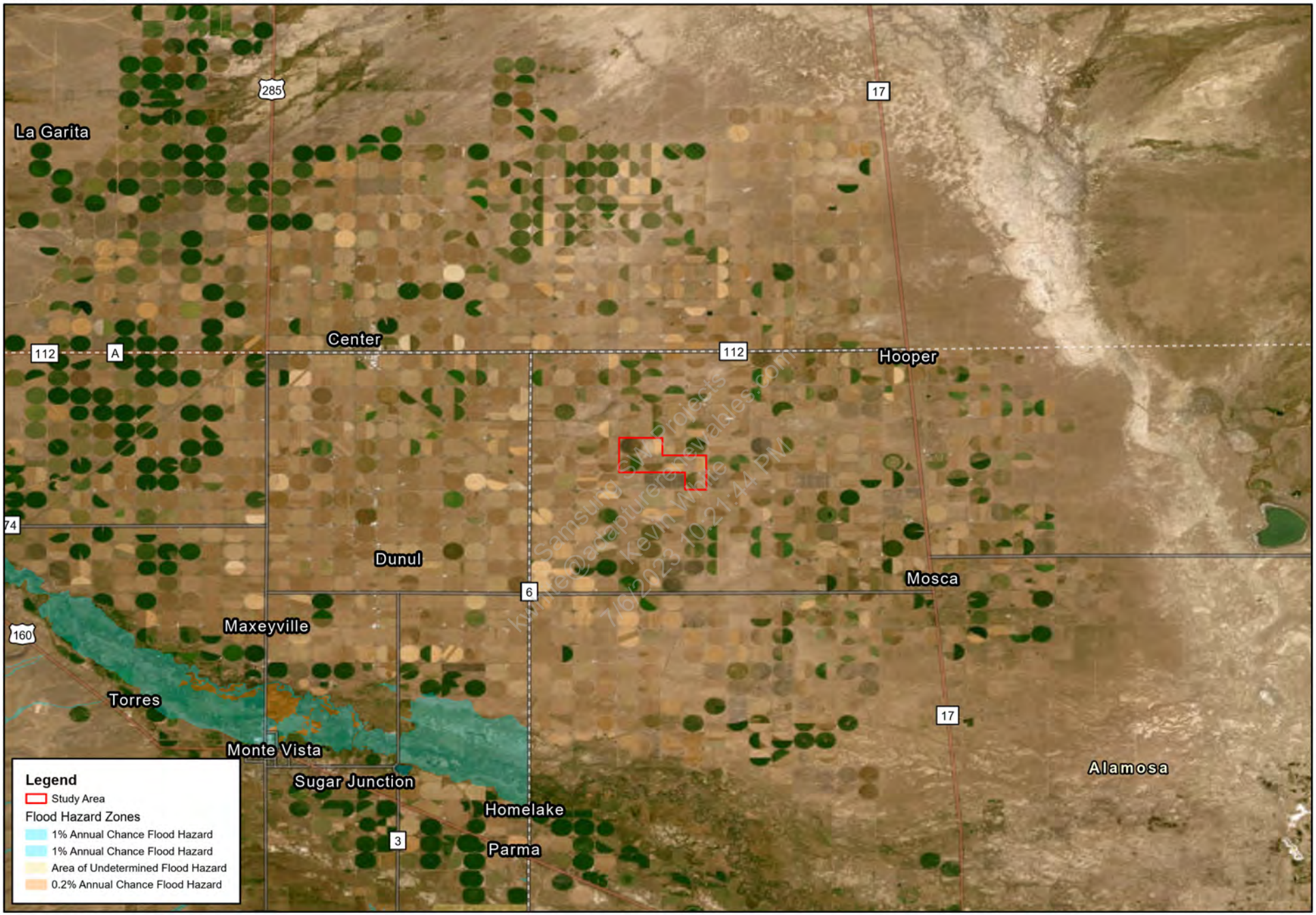


Figure 5: FEMA Flood Hazard Map
Biological Resources Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn Expect More. Experience Better.

0 10,000 20,000 40,000 Feet

0 4,000 8,000 16,000 Meters

N W E S

Aerial Source/Date: ESRI, 2022:

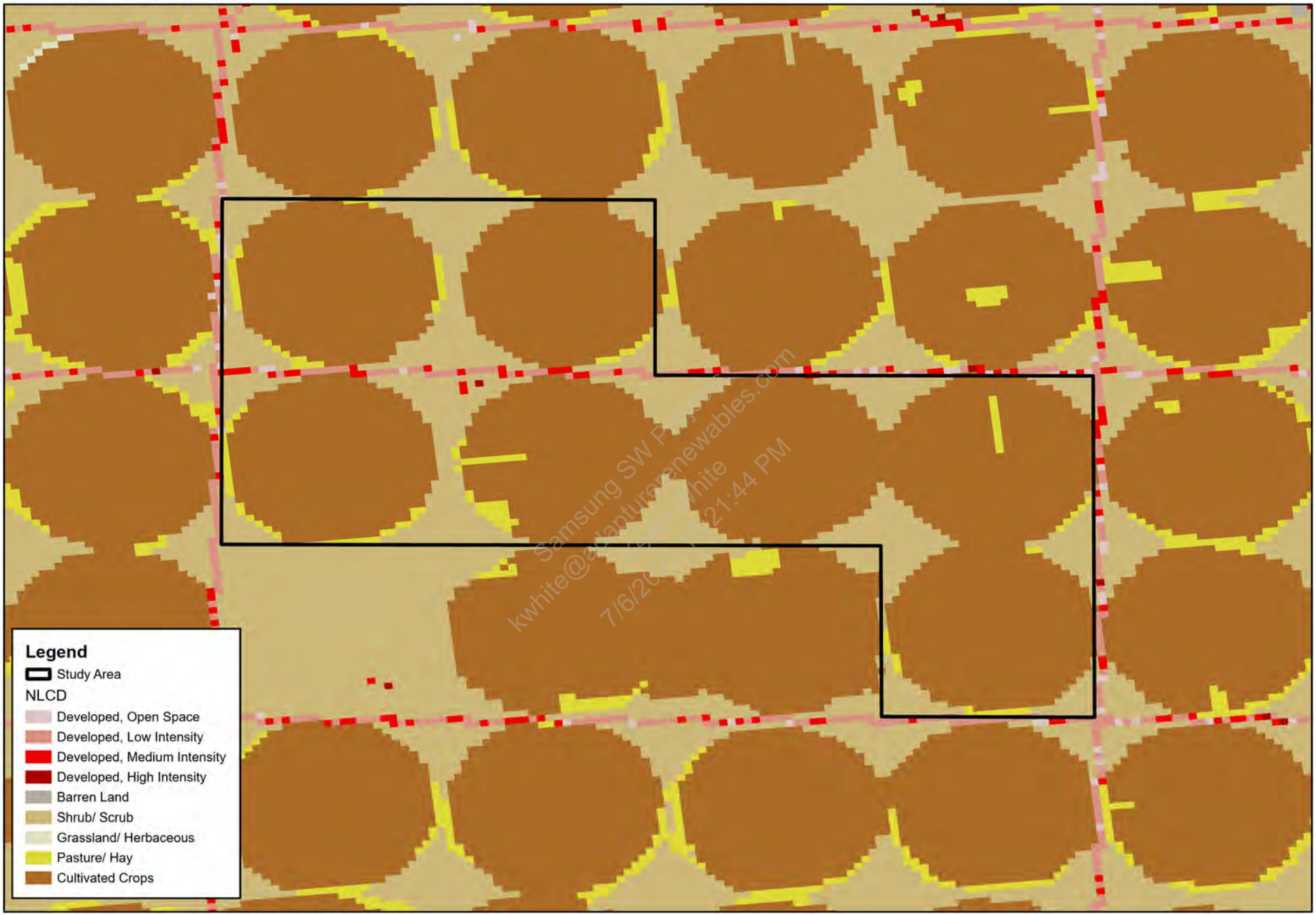


Figure 6: National Land Cover Dataset (NLCD) Map
Biological Resources Report
Haynach Solar Project
Alamosa County, CO

Aerial Source/Date: ESRI, 2023

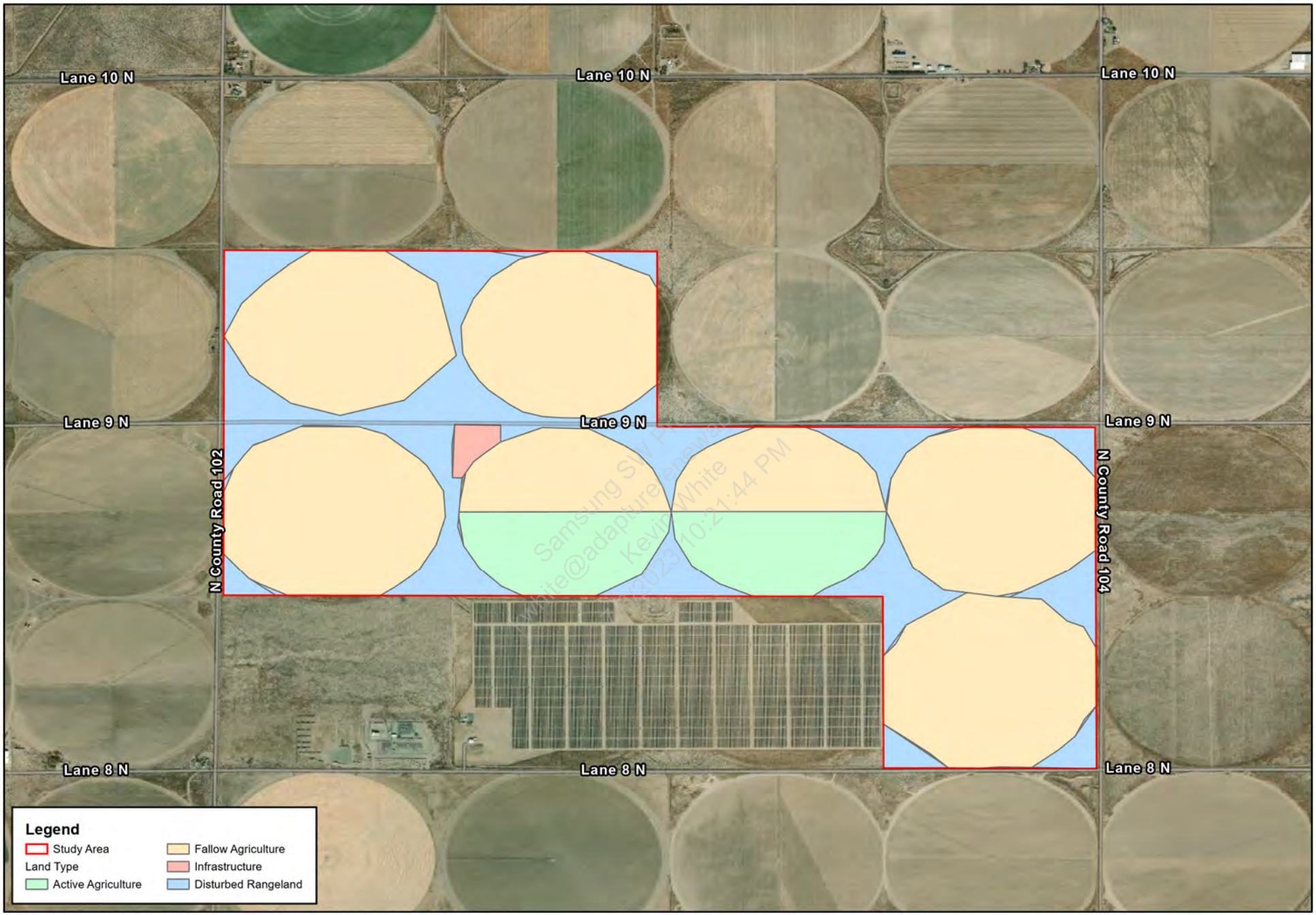


Figure 7: Field Resources Map
Biological Resources Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn Expect More. Experience Better.

0 1,000 2,000 4,000 Feet

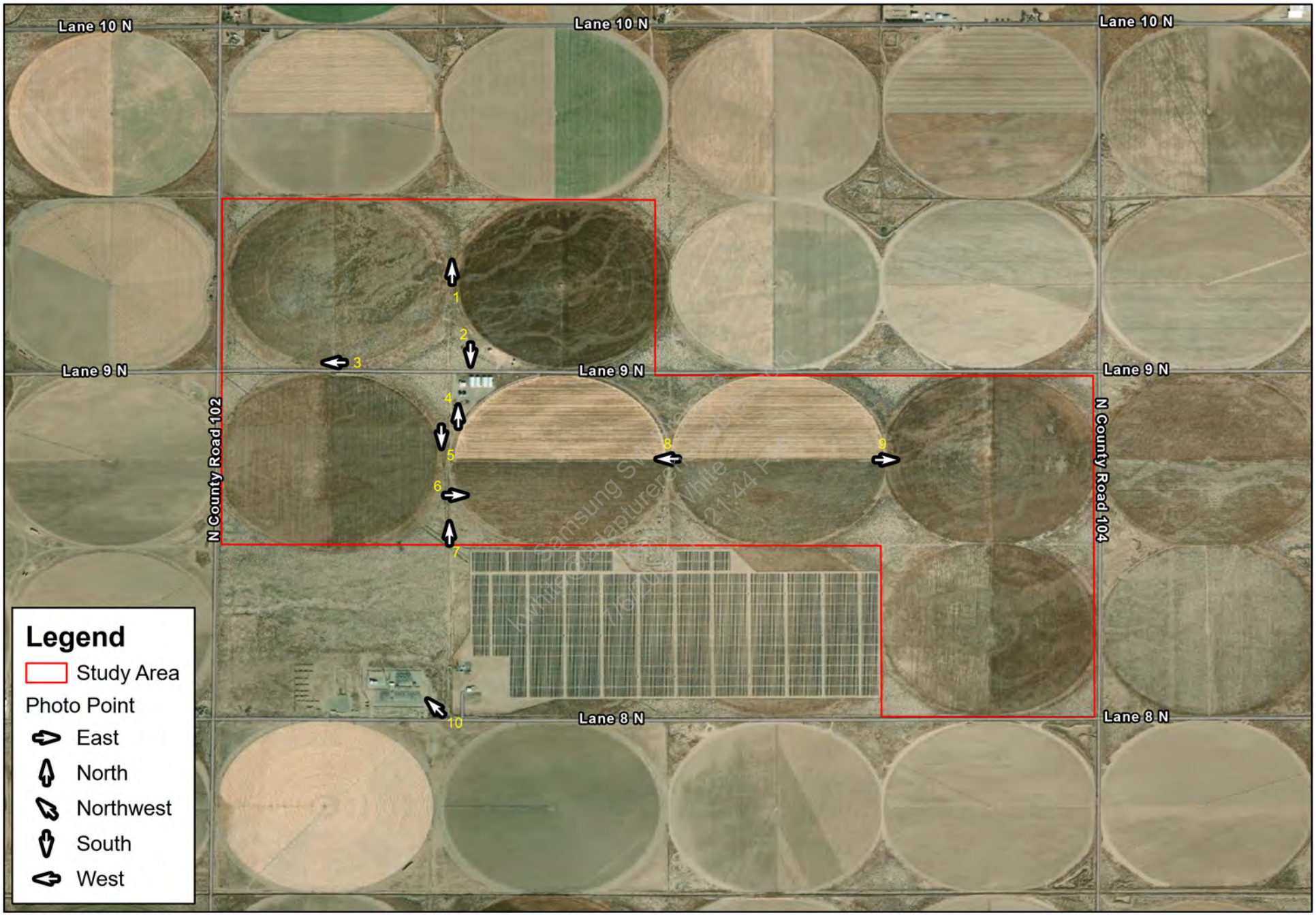
0 405 810 1,620 Meters

N W E S

Appendix B: Photo Location Map and Site Visit Photographs

Kimley»Horn

Aerial Source/Date: ESRI, 2023



Biological Photo Location Map
Biological Resources Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn

0 1,000 2,000 4,000 Feet

0 405 810 1,620 Meters

N W E S

Photo No. 1

View from the north-central portion of the study area looking north along 230kV TriState – PSCo Transmission Line (Hooper Solar Substation). Note disturbed rangeland (area between agriculture plots) in the foreground.

Photo No. 2

View from the north-central portion of the study area looking south at typical disturbed rangeland (area between agriculture plots).

Photo No. 3

View from the northwestern portion of the study area looking west at typical fallow agriculture.

Photo No. 4

View from the western portion of the study area looking north at Lee Welch Farm structures.

Photo No. 5

View from the central portion of the study area looking south along 230kV TriState – PSCo Transmission Line (Hooper Solar Substation).

Photo No. 6

View from the central portion of the study area looking east towards typical active agriculture (wheat) field.

Photo No. 7

View from the south-central portion of the study area looking north at typical disturbed rangeland (area between agriculture plots).

Photo No. 8

View from the central portion of the study area looking west at typical active agriculture field (south) and typical fallow agriculture (north).

Photo No. 9

View from east-central portion of the study area looking east at typical fallow agriculture.

Photo No. 10

View from outside the study area looking northwest at Haynach point of interconnection (Hooper Solar Substation).

Appendix C: USFWS IPAC Official Species List

Kimley»Horn

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Western Colorado Ecological Services Field Office
445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711
Phone: (970) 628-7180 Fax: (970) 245-6933

In Reply Refer To:
Project Code: 2023-0016156
Project Name: Haynach

April 12, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Western Colorado Ecological Services Field Office
445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711
(970) 628-7180

PROJECT SUMMARY

Project Code: 2023-0016156
Project Name: Haynach
Project Type: New Constr - Above Ground
Project Description: Site Analysis
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.7016107,-105.9831691014503,14z

Counties: Alamosa County, Colorado

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Wolf *Canis lupus* Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is **final** critical habitat for this species. This species only needs to be considered under the following conditions: ▪ Lone, dispersing gray wolves may be present throughout the state of Colorado. If your activity includes a predator management program, please consider this species in your environmental review. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered

BIRDS

NAME	STATUS
Mexican Spotted Owl *Strix occidentalis lucida* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Silverspot *Speyeria nokomis nokomis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2813	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list

of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical

Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- Riverine

FRESHWATER EMERGENT WETLAND

- Palustrine

IPAC USER CONTACT INFORMATION

Agency: Kimley-Horn
Name: Jesse Carlson
Address: 380 Interlocken Crescent Suite 100
City: Broomfield
State: CO
Zip: 80021
Email jesse.carlson@kimley-horn.com
Phone: 2532982432

Exhibit F: Biological Field Visit and USFWS Endangered Species List

December 21, 2022

MK Kim
Project Manager
US Solar Group
Samsung Energy Division
mkmk.kim@samsung.com

Re: Site Visit Memorandum
Haynach Solar Project (1,105 acres)
Alamosa County, Colorado

Dear Ms. Kim:

Samsung Energy Division is proposing a solar generation project located along North County Road 104 in Alamosa County, Colorado. The 1,105-acre site consists of a majority agriculture land, as well as disturbed rangeland. The surrounding lands consist of agriculture lands, solar generation facilities (Hooper Solar), and disturbed rangeland.

On November 29 and 30, 2022, Kimley-Horn environmental scientist, Jesse Carlson, conducted site visits to document onsite conditions. Constraints observed during field reconnaissance include the right-of-way (ROW) for a transmission line (230kV TriState – PSCo Transmission Line) running north to south and bisecting the western portion of the project, as well as suitable avian nesting habitat for protected migratory species. The transmission line ROW will need to be avoided. Impacts to potential migratory bird nesting habitat could be readily mitigated by completion of pre-construction clearance surveys and potential subsequent monitoring.

Field reconnaissance was conducted via windshield and pedestrian surveys within the project limits. In addition, representative photographs to document general conditions were also taken. During the field visit, the approximate temperature was 20 degrees Fahrenheit with sunny skies and winds were light and variable. Vehicle access to the site was provided via Lane 8 North, Lane 9 North, North County Road 102, and North County Road 104. Access within the site was provided via unpaved dirt roads and driving overland with a 4x4 vehicle.

SITE CONDITIONS

The project area was dominated by both active and fallow agriculture areas with isolated pockets of disturbed rangeland. Active agriculture areas were dominated by wheat (*Triticum aestivum*) cultivation; however, no wheat was actively growing at the time of the site visit. Fallow agriculture areas were dominated by species typical of unmanaged areas such as Russian thistle (*Salsola tragus*) and kochia (*Bassia scoparia*). Both of these species are considered invasive plants in Colorado but are not Colorado Department of Agriculture (CDA) listed species. Disturbed rangeland areas in between agriculture fields were dominated by big sagebrush (*Artemisia tridentata*), a plant commonly found in arid and semi-arid regions of the Intermountain West. Transmission utility poles, buildings and structures, agriculture

production equipment, an excavated gravel pit, upland swales, and unpaved dirt roads were also present within the site.

HYDROLOGY

Site conditions were generally dry, and no standing water was observed during the site visit. Inundation and erosion issues are of minimal concern. Although soils will drain quickly, they are also more susceptible to scour in dry conditions. More precipitation may be converted to runoff and will result in higher ponding depths than if the soil received regular rainfall. If a larger storm event were to occur, it is possible that ponding depths in low lying areas would initially be severe before water absorption into the soil. A hydraulic model of existing conditions would be needed to fully understand inundation and erosion concerns.

No potential wetlands, as defined by the U.S. Army Corp of Engineers (USACE), or other Waters of the U.S. (WOTUS) features of concern were observed during field reconnaissance. A full wetland delineation, completed during the vegetative growing season (May – September), will be completed under a subsequent task order to help refine wetland boundaries, if any.

National Wetlands Inventory (NWI) mapped freshwater ponds features were not observed within the project limits. Instead, the landscape features in the locations of NWI mapped freshwater ponds were isolated depressional features lacking standing water or wetland plants or were entirely absent altogether. The landscape features in the location of NWI mapped riverine features were upland swales with no ordinary-high water mark (OHWM) or were entirely absent altogether.

SENSITIVE SPECIES

Kimley-Horn obtained an official species list from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system on November 16, 2022. The list includes four (4) threatened, endangered or candidate species. No migratory bird species were listed in the IPaC. A qualified biologist reviewed the list to determine species that may occur in the project vicinity. Species included in the USFWS list but excluded from further evaluation are addressed in **Table 1**. This project will have no effect on the species listed in **Table 1**. Additionally, there is no federally designated Critical Habitat within the project vicinity.

Table 1 – Endangered Species Act Species Exclusion Table

Species	Status	Habitat Requirements	Exclusion Justification
Mammals			
Gray Wolf (*Canis lupus*)	ESA LE	Habitat generalist adapted to a variety of landscapes.	The project does not include a predator management program component which automatically excludes this species as a potential constraint to development.
Birds			

Species	Status	Habitat Requirements	Exclusion Justification
Mexican Spotted Owl (*Strix occidentalis lucida*)	ESA LT	Old growth and mature forests with complex structural components such as riparian or conifer communities.	This species is not known to or is not believed to occur in Alamosa County, Colorado. Suitable habitat for this species is not present in the project area and this species is not a potential constraint to development.
Southwestern Willow Flycatcher (*Empidonax traillii extimus*)	ESA LE	Dense riparian areas with cottonwood, willow, and/or tamarisk. Saturated soils, standing water, or nearby streams, or pools, are important components of nesting habitat.	This species is known to or is believed to occur in Alamosa County, Colorado. Suitable habitat for this species is not present in the project area and this species is not a potential constraint to development.
Insects			
Monarch Butterfly (*Danaus plexippus*)	ESA C	Requires milkweed for survival. Adult monarchs feed on the nectar of flowering milkweed, and larvae require milkweed as a host plant.	Suitable habitat for this species is not present in the project area and this species is currently not a potential constraint to development.
Status Definitions: ESA = Endangered Species Act; LE = Listed Endangered, LT = Listed Threatened, C = Candidate			

During field reconnaissance, suitable habitat for additional species of concern were observed within the project limits. Habitat requirements and inclusion justification are listed **Table 2**. This project may have effect on the species listed in **Table 2**. A more detailed description of habitat requirements for listed plant and wildlife species are included in **Appendix 1**. A full biological site survey will be completed under a subsequent task order to identify potential presence of species of concern on site.

Table 2 – Species of Concern Inclusion Table

Species	Status	Habitat Requirements	Inclusion Justification
Birds			
Migratory Birds	MBTA	Ground, on structures, or in trees, shrubs, or other vegetation.	The project limits contain suitable habitat for migratory birds.
Status Definitions: MBTA = Migratory Bird Treaty Act protected species			

SUMMARY OF FINDINGS

A transmission line (230kV TriState – PSCo Transmission Line) running north to south was observed bisecting the western portion of the project. The ROW for this transmission line will need to be avoided. There was no suitable habitat for federally listed species within the project limits. Potential nesting habitat

for migratory birds was observed on site. Impacts to these habitats could be readily mitigated by completion of pre-construction clearance surveys and potential subsequent monitoring. NWI mapped features were incorrectly mapped and were not present. No other potential constraints to development were identified during the field visit.

Attachments

- Photograph Locations Map
- Ground Photographs
- Hydrologic Map
- Appendix 1. Habitat Requirements for Listed Species
- USFWS IPaC

Aerial Source/Date: ESRI, 2022

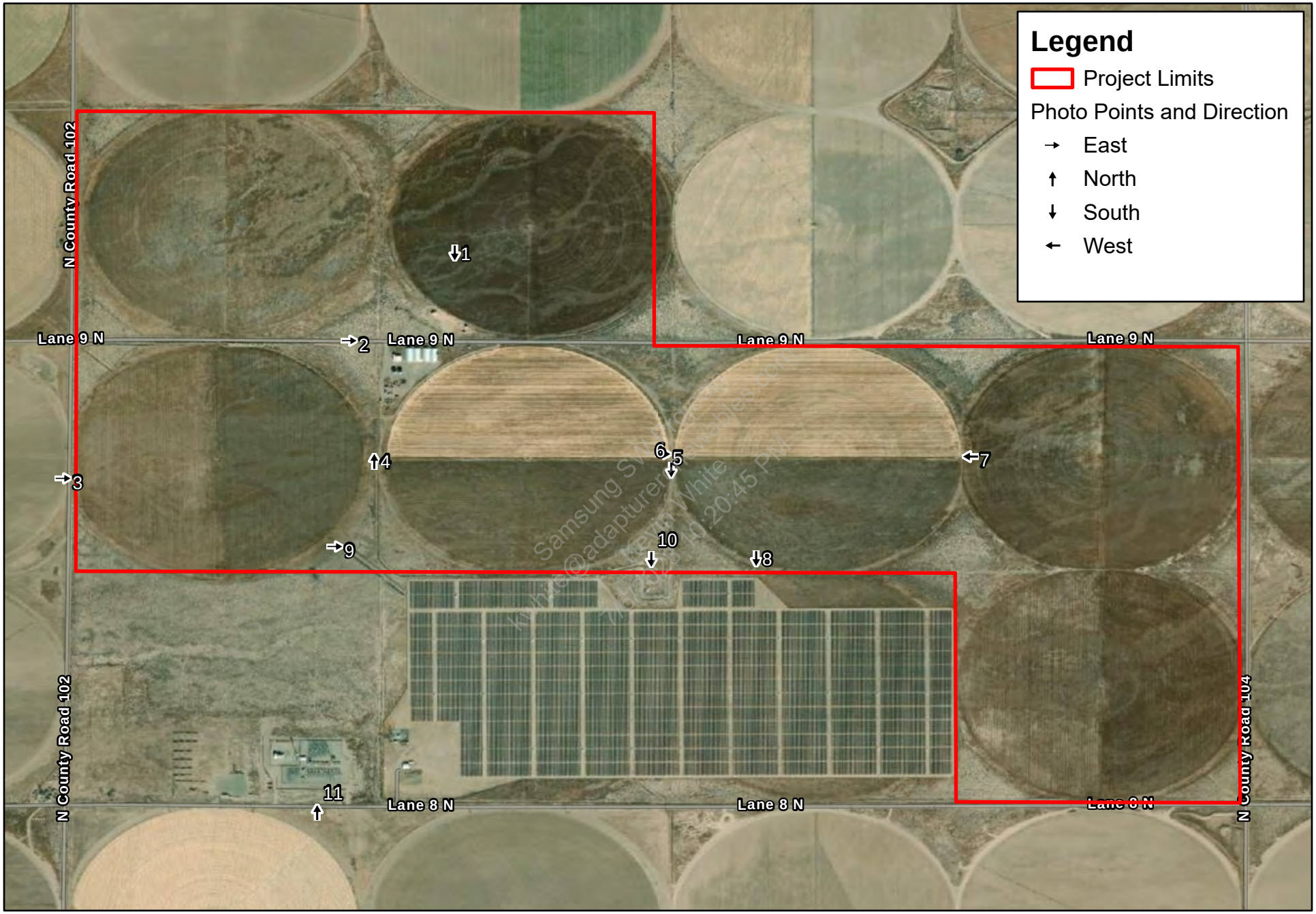


Photo Location Map
Fatal Flaw Analysis
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn Expect More. Experience Better.

0 1,250 2,500 5,000 Feet

0 500 1,000 2,000 Meters

N W E S

Photo No. 1

View from the northwestern portion of the project area looking south towards typical fallow agriculture.

Photo No. 2

View from the western portion of the project limits looking east towards Lee Welch Farm structures and 230kV TriState – PSCo Transmission Line.

Photo No. 3

View from the western portion of the project area looking east towards typical fallow agriculture.

Photo No. 4

View from the western portion of the project area looking north towards agriculture equipment and 230kV TriState – PSCo Transmission Line.

Photo No. 5

View from the central portion of the project area looking east towards typical fallow (north) and active agriculture (south).

Photo No. 6

View from the central portion of the project area looking south along an unpaved agriculture road.

Photo No. 7

View from the eastern portion of the project area looking west towards typical fallow (north) and active agriculture (south).

Photo No. 8

View from the south-central portion of the project area looking south at solar panels on adjacent property (Hooper Solar).

Photo No. 9

View from the southwestern portion of the project area looking east at an upland swale.

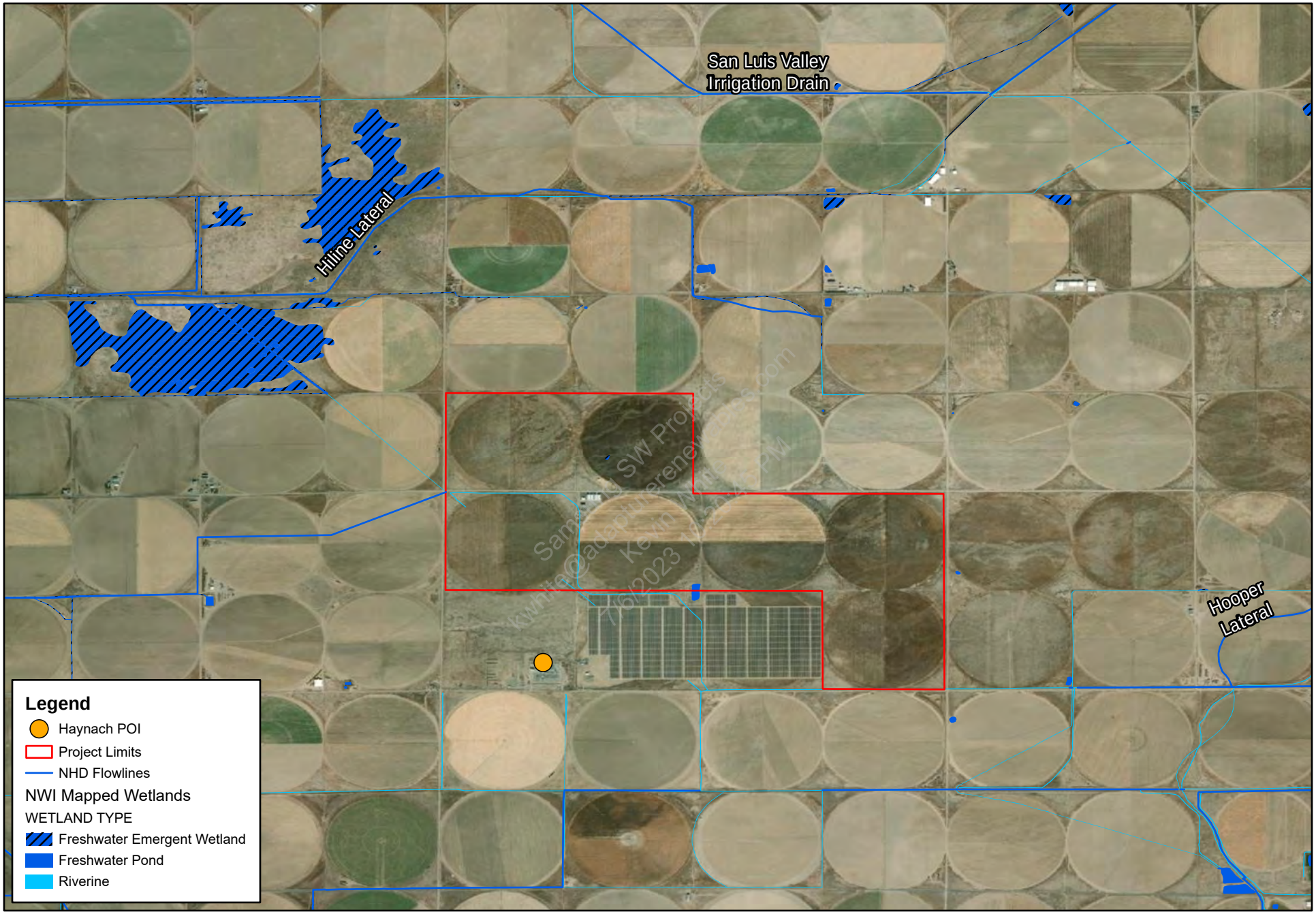
Photo No. 10

View from the south-central portion of the project area looking south at an excavated gravel pit.

Photo No. 11

Photo of the point of interconnection (POI) looking north. Taken from outside of and to the south of the project area.

Aerial Source/Date: ESRI, 2022



Hydrology Map
Fatal Flaw Analysis
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T

Kimley»Horn
Expect More. Experience Better.

0 3,000 6,000 12,000 Feet

0 1,000 2,000 4,000 Meters

N
W E
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APPENDIX 1

HABITAT REQUIREMENTS FOR LISTED SPEICES

Gray Wolf (*Canis lupus*)

Gray wolf, an endangered mammal species, is a habitat generalist and can inhabit a variety of landscapes. The historic range for this species covered much of the continental United States, including Colorado (USFWS 2022). However, this species was eradicated from Colorado in the 1940's due to shooting, trapping, and poisoning. The USFWS has restored gray wolf populations in Colorado's neighboring states over the past decade and there have been occasional wolf migrants observed in Colorado. The current range is limited to a few individual animals located in north-central Colorado counties that share a border with Wyoming (CPW 2022). Gray wolves should be considered in the effect analysis only if the project in question has a predator management program. This project does not include a predator management program; therefore, this species is not a potential species of concern as the proposed actions would not affect the gray wolf or its habitat.

Mexican Spotted Owl (*Strix occidentalis lucida*)

Mexican spotted owl, a threatened bird species, has historic and current range in Colorado, Utah, Arizona, New Mexico and Texas; however, this species is not known to or is not believed to occur in Alamosa County, Colorado. This species inhabits old growth and mature forests with complex structural components such as riparian or conifer communities (USFWS 2022). The project area is not included in historic or current range for this species. The project area lacks the characteristics for suitable habitat and Mexican spotted owl is not expected to be a constraint to development.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

Southwestern willow flycatcher, an endangered bird species, has historic range in Colorado, Arizona, California, New Mexico, Texas, and Utah. Its current range includes all the states listed in the historic range, as well as Nevada. This species is known to or is believed to occur in Alamosa County, Colorado. Habitat for the southwestern willow flycatcher consists of dense riparian areas with cottonwood (*Populus sp.*), willow (*Salix sp.*), and/or tamarisk (*Tamarix sp.*). Saturated soils, standing water, or nearby streams, or pools, are important components of nesting habitat (USFWS 2022). The project area exists in disturbed uplands and lacks the wetland characteristics for suitable habitat. Southwestern willow flycatcher is not expected to be a constraint to development.

Monarch Butterfly (*Danaus plexippus*)

Monarch butterfly, a candidate insect species, is a migratory species that breeds throughout most of the United States and southern Canada and overwinters in central Mexico. This species is known to or is believed to occur in Alamosa County, Colorado. The monarch butterfly requires milkweed (*Asclepias sp.*) for survival. Adult monarchs feed on the nectar of flowering milkweed, and larvae require milkweed as a host plant (USFWS 2022). Consultation with USFWS under Section 7 of the Endangered Species Act (ESA) is not required for candidate species, like the monarch butterfly. A site evaluation for suitable monarch habitat is recommended if the ESA status changes from candidate to threatened or endangered.

Migratory Birds

All migratory birds in Colorado are protected under the Migratory Bird Treaty Act (MBTA), except for non-native species such as European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), and house sparrow (*Passer domesticus*) (USFWS 2020). Migratory birds may nest on the ground, natural or artificial structures, trees, shrubs, or other vegetation within the project site. No migratory bird species were listed

by the IPaC as occurring within the project area; however, suitable avian nesting habitat was observed during field reconnaissance.

REFERENCES

Colorado Parks and Wildlife (CPW). 2022. Wolf Management. Accessed at: https://cpw.state.co.us/learn/Pages/CON-Wolf-Management.aspx

United States Fish and Wildlife Service (USFWS). 2020. List of Bird Species to Which the Migratory Bird Treaty Act Does Not Apply. Accessed at: https://www.federalregister.gov/documents/2020/04/16/2020-06782/list-of-bird-species-to-which-the-migratory-bird-treaty-act-does-not-apply

United States Fish and Wildlife Service (USFWS). 2022. Gray Wolf (*Canis lupus*). Accessed at: https://ecos.fws.gov/ecp/species/4488

United States Fish and Wildlife Service (USFWS). 2022. Mexican Spotted Owl (*Strix occidentalis lucida*). Accessed at: https://ecos.fws.gov/ecp/species/8196

United States Fish and Wildlife Service (USFWS). 2022. Monarch Butterfly (*Danaus plexippus*). Accessed at: https://ecos.fws.gov/ecp/species/9743

United States Fish and Wildlife Service (USFWS). 2022. Southwestern Willow Flycatcher (*Empidonax traillii extimus*). Accessed at: https://ecos.fws.gov/ecp/species/6749

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Western Colorado Ecological Services Field Office
445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711
Phone: (970) 628-7180 Fax: (970) 245-6933

In Reply Refer To:
Project Code: 2023-0016156
Project Name: Haynach

November 16, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Western Colorado Ecological Services Field Office
445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711
(970) 628-7180

Project Summary

Project Code: 2023-0016156
Project Name: Haynach
Project Type: New Constr - Above Ground
Project Description: Site Analysis
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.7016724,-105.98316916557218,14z

Counties: Alamosa County, Colorado

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Gray Wolf *Canis lupus*	Endangered

Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico.
There is **final** critical habitat for this species.
This species only needs to be considered under the following conditions:

- Lone, dispersing gray wolves may be present throughout the state of Colorado. If your activity includes a predator management program, please consider this species in your environmental review.

Species profile: https://ecos.fws.gov/ecp/species/4488

Birds

NAME	STATUS
Mexican Spotted Owl *Strix occidentalis lucida*	Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/8196

Southwestern Willow Flycatcher *Empidonax traillii extimus*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/6749

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list

of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical

Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- Riverine

FRESHWATER EMERGENT WETLAND

- Palustrine

IPaC User Contact Information

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State: CO
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Exhibit G: Critical Issues Analysis

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ENCINITAS, CALIFORNIA 92024
T 760.942.5147 F 760.632.0164

MEMORANDUM

To:	Kyung Min, Senior Manager – Samsung Solar Energy 2, LLC
From:	Keith Carwana and Michelle Leis, Dudek
Subject:	Critical Issues Analysis for the Haynach Solar Project
Date:	August 25, 2021
Attachments:	Figures 1–7 Attachment A: USFWS IPaC Search Results

Dudek is pleased to present our Critical Issues Analysis (CIA) for the Haynach Solar Project (herein referred to as the "Project") in Alamosa County, Colorado. It is Dudek's understanding that Samsung Solar Energy 2, LLC is considering development of a photovoltaic solar and energy storage project on approximately 1,150 acres of privately owned lands located within Alamosa County, Colorado (see Figure 1). At this time, the route for the interconnection is unknown and as a result the interconnection facilities is not included as part of this CIA.

Purpose

The purpose of this CIA is to provide an overview of the potential environmental resources present at the Project site and potential feasibility issues/concerns with licensing a solar energy project, as well as associated environmental constraints that should be considered. This CIA also includes a summary of permits required, timeframe anticipated to obtain the permits, and estimated costs.

Methodology

This CIA provides a desktop-level review based on the publicly available data obtained from federal, state, and local electronic repositories to identify environmental resources, federal, state, and local planning decisions, and potential site constraints. No field work was performed as part of this effort.

Project Setting Overview

The Project site is located south of Highway (HWY) 112 E, east of Rd N 100, west of HWY 17 in Alamosa County, Colorado. Existing infrastructure that crosses the Project site includes: several existing unpaved access roads to support ongoing agricultural uses and overhead transmission lines that traverse the Project site in a north/south direction. In addition, the existing approximately 320-acre, 49.5 mega-watt (MW) Hopper Solar project is located immediately adjacent to the south of the Project. The existing 255-acre, 30 MW San Luis Valley Solar Ranch is located approximately two miles to the east of the Project. The existing San Luis Valley substation is located approximately 0.5-mile to the south of the Project.

The Project encompass approximately 1,150 acres and consists of 2 parcels of private land (see Figure 2).

Table 1. Summary of Assessor's Parcels and Acreages Composing the Project Site

Assessor Parcel Number	Total Area (acres)
500916300040	324.57
500921100163	825.43
Total	**1,150.00**

Environmental Information

The following is a brief summary of environmental considerations for project permitting.

Aesthetics and Visual Resources

From an initial desktop review, the Project area includes a mix of undeveloped land, existing agricultural operations, overhead transmission lines, existing photovoltaic solar energy uses, and the San Luis Valley substation. The Project site consists primarily of cultivated crop land with small portions of the site composed of a combination of inner-mountain basins greasewood flat, inter-mountain basins semi-desert shrub steppe, and developed areas (Figure 3). The Alamosa code of ordinances section 21-4-511. – Renewable Energy provides some specifics regarding aesthetics and visual resources:

Sec. 21-4-511. - Renewable energy.

(a) Generally. Renewable energy systems include solar collectors (photovoltaic arrays or water heaters), geothermal heating and cooling systems, and small wind energy conversion systems. They do not include the manufacture of renewable combustible fuels (e.g., ethanol or biodiesel).

(b) Photovoltaic arrays. Photovoltaic arrays convert sunlight into electricity. The following standards apply to photovoltaic arrays:

(1) Roof-mounts. Photovoltaic arrays may be roof-mounted on principal and accessory buildings and structures (e.g., covered walkways or covered parking spaces) in all residential districts.

(2) Ground-mounts or structure-mounts. Ground or structure-mounted photovoltaic arrays (not mounted on buildings or roofed structures) shall be set back as if they were detached accessory buildings if the highest point on the panels is more than eight (8) feet above grade.

(c) Geothermal heating and cooling systems. Geothermal heating and cooling systems use buried pipes to exchange heat with the ground, cooling buildings in the summer and warming them in the winter. Closed loop systems (horizontal and vertical loop systems) are permitted, provided that the loops are set back two (2) feet from property lines and do not encroach into utility easements.

Following the above requirements as well as incorporation design elements that would minimize potential visual impacts (i.e., landscape screening or buffer areas) would proactively address potential aesthetic/visual concerns with the project.

Recommendations: Consultation with County planning staff is recommended to determine if additional design requirements would be requested for visual project design features (such as additional setbacks or vegetative screening for locations where facilities would be visible to existing residences).

Agriculture

A desktop review of the soils present on the Project area shows the Project area is composed entirely of QTsa-alluvium (Figure 4). Alluvium is a deposit of clay, silt, sand, and gravel left by flowing streams in a reiver valley or delta. The presence of alluvium typically means the soil is fertile and could be classified as farmland of unique importance.

The Alamosa County Comprehensive Plan (Plan) outlines a series of guiding policies to maintain a stable and successful future while preserving the character and agricultural heritage/economy of the county. This includes "promoting the expansion of the renewable energy industry, preserving the agriculture industry, promoting tourism, and expanding businesses and services for local residents".

The presence of active agricultural production and prime or potentially prime farmland within the project area necessitates consultation with County planning staff to determine options for potentially mitigating loss of farmland production or whether the use would be considered temporary in nature. The presence of the existing Hooper Solar project to the south and San Luis Valley Solar Ranch to the east demonstrates that the expansion of the renewable energy industry in this area has previously been approved by the County through the County's 1041 Permit Process (further described below) and that agricultural land in the County can be converted to renewable energy uses; however, the economic implications thru potential mitigation requirements needs to be further evaluated.

Recommendations: Due to the presence of active agricultural production and prime or potentially prime farmland, consultation with County planning staff is recommended to determine the economic impacts of conversion to solar uses at the project site.

Biological Resources

Dudek reviewed the Colorado Parks and Wildlife (CPW) website, Colorado Natural Heritage Program (CNHP) Data, and the US Fish and Wildlife Service (USFWS) information for planning and consulting (IPAC) database for the proposed project area to determine the potential for special-status wildlife and plant species to occur in the study area region.

- **Suitable Habitat** – Based on data from CNHP, the project area is not defined as having any areas of biodiversity significance or interest (Figure 5). A discussion of suitable habitat in relation to listed species is discussed in detail below.
- **Listed Species** – According to the USFWS IPaC database search (Attachment A), there is potential for Canada lynx (*Lynx canadensis;* Federally Threatened [FT]*)*, Mexican spotted owl (*Strix occidentalis lucida*, FT), and Southwestern willow flycatcher (*Empidonax traillii extimus*; Federally Endangered [FE]), to occur onsite. No mature forests, dense canopies, coniferous forest stands, willows or other shrubs near water are present on the Project site to support the presence of the Canada lynx or nesting of the Mexican spotted owl or the Southwestern willow flycatcher. The CNHP website also has survey data for Alamosa County that has identified six birds, one fish, and one plant species from CNHP's Tracking List that are known to occur in, or associated with, wetlands in southern Alamosa County. However, only one potential

wetland is documented on the project site (Figure 6) making it unlikely that those species would occur within the project site.

- **Critical Habitat** –No critical habitat is designated within the Project boundary.
- **USFWS Migratory Birds** – No trees or shrubs appear to be present on site limiting the potential for nesting birds to be present on the project site. However, there is potential for ground nesting migratory birds to occur on site and standard protections for nesting species would need to be incorporated into the Project.
- **USFWS National Wetlands Inventory** – Potentially jurisdictional waters were mapped on the site (see Figure 6) and additional ones may occur depending on the results of ground-truthing/field surveys if required.

Recommendations: Dudek recommends scheduling meetings with the Wildlife Agencies (USFWS and CPW) to discuss potential surveys and mitigation that may be required for the project. An initial biological habitat assessment survey would be helpful in determining if any special-status species occur in the proposed project area, which would also aid the discussions with the Wildlife Agencies. Dudek also recommends completing a jurisdictional delineation to determine whether waters on site would be potentially regulated by the US Army Corp of Engineers (USACE) and the Colorado Department of Public Health and Environment (CDPHE). A determination as to what water permits will be required based on a preliminary design will guide the project licensing schedule.

Cultural and Paleontological Resources

Cultural Resources

At this time, Dudek has not performed a cultural resource record search and literature review through the Colorado State Historic Preservation Office (SHPO) to determine whether prehistoric or historic sites occur within or near to the Project site. There are no specific goals or policies present in the Alamosa County Master Plan or the Alamosa County Land Use & Development Code directly governing cultural resources. However, maps depicting archaeological, cultural, and historical resources may be required in support of a Special Use Permit (SUP) application in accordance with Section 8.8.5(D)(1) of the Alamosa County Land Use & Development Code (Alamosa County 2009). Additionally, Chapter 7 of the Alamosa County Master Plan broadly discusses conservation of open spaces, including areas containing important archaeological or historic resources (Alamosa County 2008).

Recommendations: It is recommended that Samsung Solar Energy 2, LLC conduct a record search and literature review through the Colorado State Historic Preservation Office (SHPO) to determine whether prehistoric or historic sites occur within the study area (Project site and a one-mile buffer), the scope of previous investigations, and to determine the likelihood of unknown archaeological resources within the Project area that could pose constraints.

Paleontological Resources

To determine the paleontological sensitivity of the proposed project in Alamosa County, Colorado, Dudek reviewed available geological mapping and paleontological literature. According to the published geological mapping of Johnson (1969) at a scale of 1:250,000, the project site is underlain by the Pliocene and Pleistocene (approximately 5 million to 11,700 years old) Alamosa Formation and the Miocene and Pliocene (approximately 23-2.6 million years old) Santa Fe Formation. Depositional environments represented by these formations include alluvial fan, pediment gravels, and fluvial (stream-laid) deposits.

Fossils representative of the Irvingtonian North American Land Mammal age have been recovered from the Alamosa Formation in south-central Colorado (Rogers, 1984; Machette et al., 2007). The Santa Fe Formation or Group (originally referred to as the Santa Fe marl) is possibly correlative with the much thinner Ogallala Formation, from which fossils have been recovered (Northrop, 1962; Lozinsky and Tedford, 1991).

Recommendations: It is recommended that a paleontological field investigation and a paleontological record search through the Denver Museum of Nature and Science be completed as part of the SUP application submittal.

Hydrology and Water Quality

The proposed Project site is within the Western flats-short creek subarea within the San Luis Hydrologic Region (Figure 6). Based on a review of the United States Geological Survey (USGS) National Hydrography Dataset (NHD), NWI a freshwater pond, freshwater emergent wetland and a riverine feature were mapped within the proposed Project area (see Figure 6).

Data for this project site is not available on the National Flood Hazard Layer. However, surrounding data indicates the project area would most likely be within an Area of Minimal Flood for the 100-year FEMA flood zone (FEMA 2021).

The Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division (WQCD) is responsible for ensuring compliance with the national pollution discharge elimination system (NPDES). General permit number COG080000 is a new general permit developed to authorize short-term discharges of source water that comes in contact with short-term construction activities to waters of the state and is expected to be required for this project. This permit authorizes direct discharges to surface water and discharges to surface water via hydrologically connected groundwater during construction activities. Preparation of a Stormwater Management Plan (SWMP) is also expected to be required.

Recommendations: A Stormwater Management Plan may be required to protect identified drainage systems and ensure runoff from the project meets CDPHE WQCD standards. It is recommended that Samsung Solar Energy 2, LLC discuss the potential need for a Stormwater Management Plan and General permit number COG080000 with the CDPHE Division of Water Quality during the permit application process. Plans such as grading and revegetation plans would likely need to be prepared to address mitigation for and prevention water erosion and would be included in the site plan review submittal.

Land Use and Zoning

Alamosa County Land Use and Development Code

The Proposed project area is zoned as "R-Rural" which is defined by the Alamosa County Land Use and Development Code (Code) as a "district primarily intended to provide for the protection and continuation of agriculture and forestry operations and the preservation of environmentally sensitive lands. This district is established for the vast majority of the County. It allows for the uses, services, and industry that are compatible with agricultural practices and that do not cause adverse impacts to agricultural and/or ranching operations." A solar facility should not cause adverse impacts to agriculture and/or ranching operations in the area and be considered compatible with agricultural practices and a temporary use. Confirmation from the County would be needed to confirm that assumption.

Section 2.4.3 of the Code classifies solar farms as "Utility, major." Major utility and appurtenant facilities shall be reviewed and approved in accordance with the requirements contained in the Alamosa County Guidelines and Regulations for Areas and Activities of State Interest, whether such use is proposed by a regulated public utility or by a commercial developer. Developments classified as "Utility, major" require a SUP approved by the board of county commissioners.

Section 3.3.1 of the Code states that power plants or any electrical energy generation facility with a generating capacity of greater than two (2) megawatts or more, regardless of how much acreage is utilized, and any facilities appurtenant thereto, or any addition thereto increasing the existing design capacity of the facility by a combined two (2) megawatts or more shall be subject to the county's 1041 regulations. The 1041 Permit process for a major utility facility requires a more robust permitting process and a full environmental review. The County's 1041 Permit process is further described on the County's website at the links below:

https://alamosacounty.colorado.gov/departments/land-use-and-building/land-use-development

https://drive.google.com/file/d/1HIGaA_ynkH6f8yLvb5HL-8SSpAtumMbc/view

Recommendations: It is recommended that Samsung Solar Energy 2, LLC engages with Alamosa County planning staff early in the permitting phase to confirm that the project would be classified as a "Utility, major" and that a SUP and a 1041 Permit will be required.

Agency Outreach Plan

The County will mostly likely require various plans that are usually prepared as a part of the site plan review application to satisfy the need to "mitigate any harmful effects" from the project (i.e., SWMP, security/fire protection, maintenance plan, lighting plan, dust control, etc.). Further coordination with the County and the resource agencies will be necessary in order to confirm the requirements, details, and schedules for the various permitting processes. Note that the sooner this outreach occurs, the more likely the entitlement process, compliance with the State and federal Endangered Species Acts, and the regulated waters permitting processes can begin. The following includes a preliminary list of recommendations and next steps based on Dudek's desktop-level review of the Project:

Alamosa County Outreach:

- Formally determine the project will be allowed on lands zoned as "rural" and will be classified as a "Utility, major." Confirming the project's classification will determine scope of supplemental technical studies to support required permits and schedule for County permits and licensing.

US Army Corps of Engineers & Colorado Department of Public Health and Environment (Water Quality Division):

- Determination of mitigation requirements for potential impacts in the event avoidance is not feasible.
- Preparation of permitting applications (404 Permit and General Construction Permit) and review would generally range from 12–16 months, depending on the extent of impacts and if waters of the United States can be avoided (Individual Permit vs. Nationwide Permit).
- Note that the efforts and timing for jurisdictional regulated waters permitting processes may be reduced if resources can be avoided.

US Fish and Wildlife Service & Colorado Parks and Wildlife Outreach:

- Formally determine wildlife permitting needs.
- Obtain concurrence from the Wildlife Agencies, including pre-construction survey requirements.

Permitting Approach and Processing Schedule

In accordance with the County Land Use & Development Code, Alamosa County requires developers constructing a solar energy facility to obtain a SUP from the County. Based on this process it is recommended that Samsung Solar Energy 2, LLC complete the following steps: (1) complete the project description; (2) complete environmental technical studies; and (3) file an official application with the County.

It is anticipated the following permits will need to be obtained for construction and operation of the proposed Project.

- Alamosa County - SUP application
- Alamosa County HB 1041 Permit application
- Colorado Department of Public Health & Environment (CDPHE) – Air Pollutant Emission Notice (APEN)
- CDPHE - Clean Water Act Section 401 Water Quality Certification
- CDPHE Water Quality Control Division (WQCD) Construction General Permit
- Colorado Department of Transportation (CDOT) Encroachment Permit and Oversize and/or Overweight Permit
- US Army Corps of Engineers Section 404 Water Quality Certification (if USACE jurisdictional waters are onsite and cannot be avoided)

Critical Issues Analysis Summary of Recommendations

No fatal flaws were identified that would prevent approval of the Project at this time with the exception of the potential conflict of developing prime agricultural lands (see recommendation below). Recommendations are as follows:

- **Aesthetics and Visual Recommendations:** Consultation with County planning staff to determine if additional design requirements would be requested for potential visual impacts (such as additional setbacks or vegetative screening for locations where facilities would be visible to existing residences).
- **Agriculture Recommendations:** Due to the presence of active agricultural production and prime or potentially prime farmland, consultation with County planning staff is recommended to determine the economic impacts to converting agricultural uses to solar uses.
- **Biological Resources Recommendations**: Schedule meetings with the Wildlife Agencies (USFWS and CPW) to discuss potential surveys that may be required for the project. An initial biological habitat assessment would be helpful in determining if any special-status species occur in the proposed project area, which would also aid the discussions with the Wildlife Agencies. Dudek also recommends completing a jurisdictional delineation to determine whether waters on site would be potentially regulated by the US Army Corp of Engineers (USACE) and the Colorado Department of Public Health and Environment (CDPHE). A determination as to what water permits will be required based on a preliminary design will guide the project licensing schedule.
- **Cultural Resources Recommendations:** It is recommended that Samsung Solar energy 2, LLC conduct a record search and literature review through the Colorado Cultural Resources Database established by the Colorado SHPO Office of Archaeology & Historic Preservation (OAHP) to determine whether prehistoric or historic sites occur within the study area (Project site and a one-mile buffer), the scope of previous investigations, and to determine the likelihood of unknown archaeological resources within the Project area that could pose constraints to Project implementation.
- **Paleontological Resources Recommendations:** It is recommended that a paleontological field investigation and a paleontological record search through the Denver Museum of Nature and Science be completed as part of the site plan review application submittal.
- **Hydrology and Water Quality Recommendations:** A Stormwater Management Plan may be required to protect identified drainage systems and ensure runoff from the project meets CDPHE WQCD standards. It is recommended that Samsung Solar Energy 2, LLC discuss the potential need for a Stormwater Management Plan and General permit number COG080000 with the CDPHE Division of Water Quality during the permit application process. Plans such as grading and revegetation plans would likely need to be prepared to address mitigation for and prevention water erosion and would be included in the site plan review submittal.
- **Land Use and Zoning Recommendations:** It is recommended that Samsung Solar Energy 2, LLC engages with Alamosa County planning staff early in the permitting phase to confirm that the project would be classified as a "Utility, major" and that a SUP and a HB 1041 Permit will be required.

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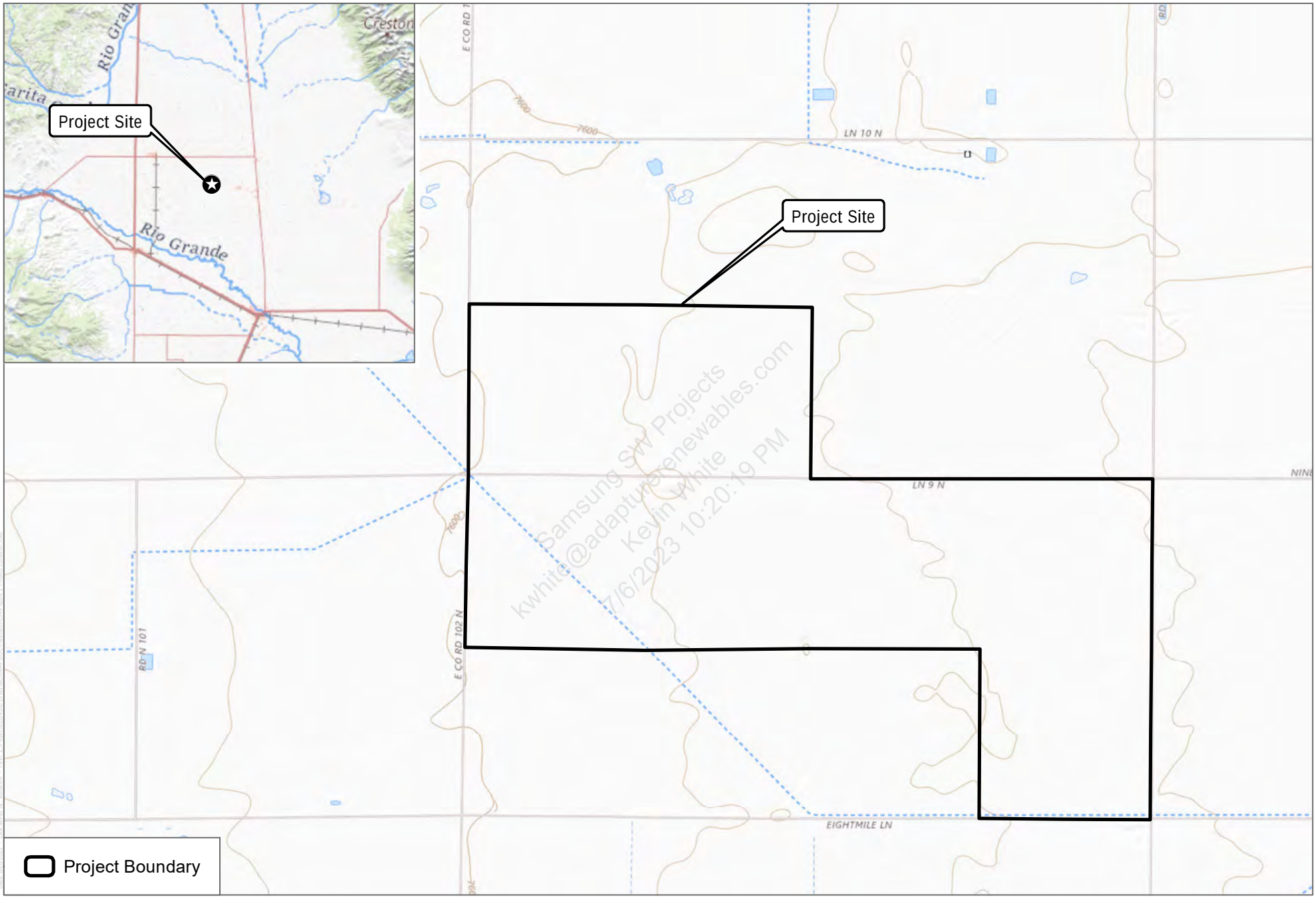


SOURCE: USGS National Map 2021 Central South & Hooper West Quadrangles

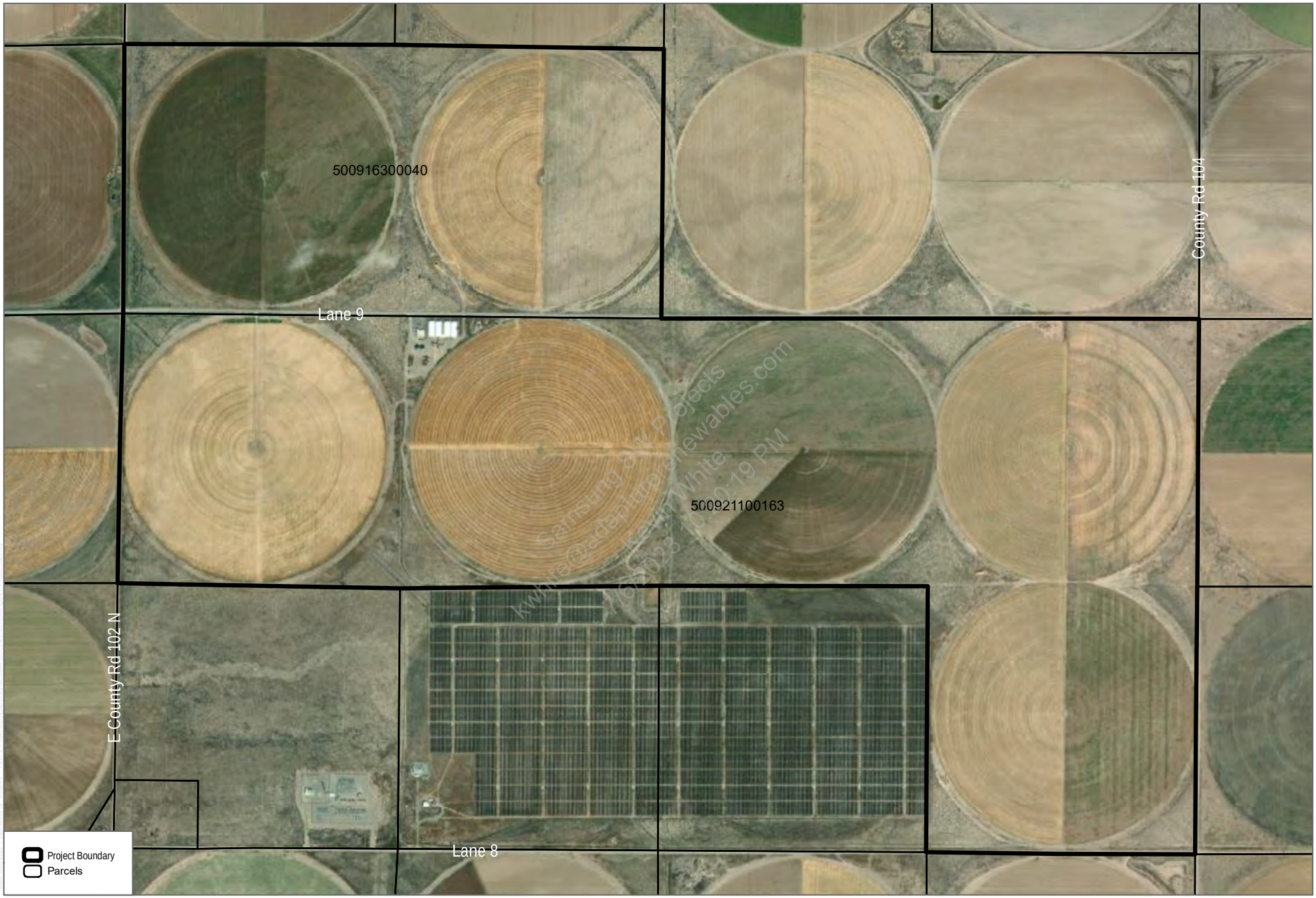
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Haynach Solar Project



SOURCE: Maxar 2017

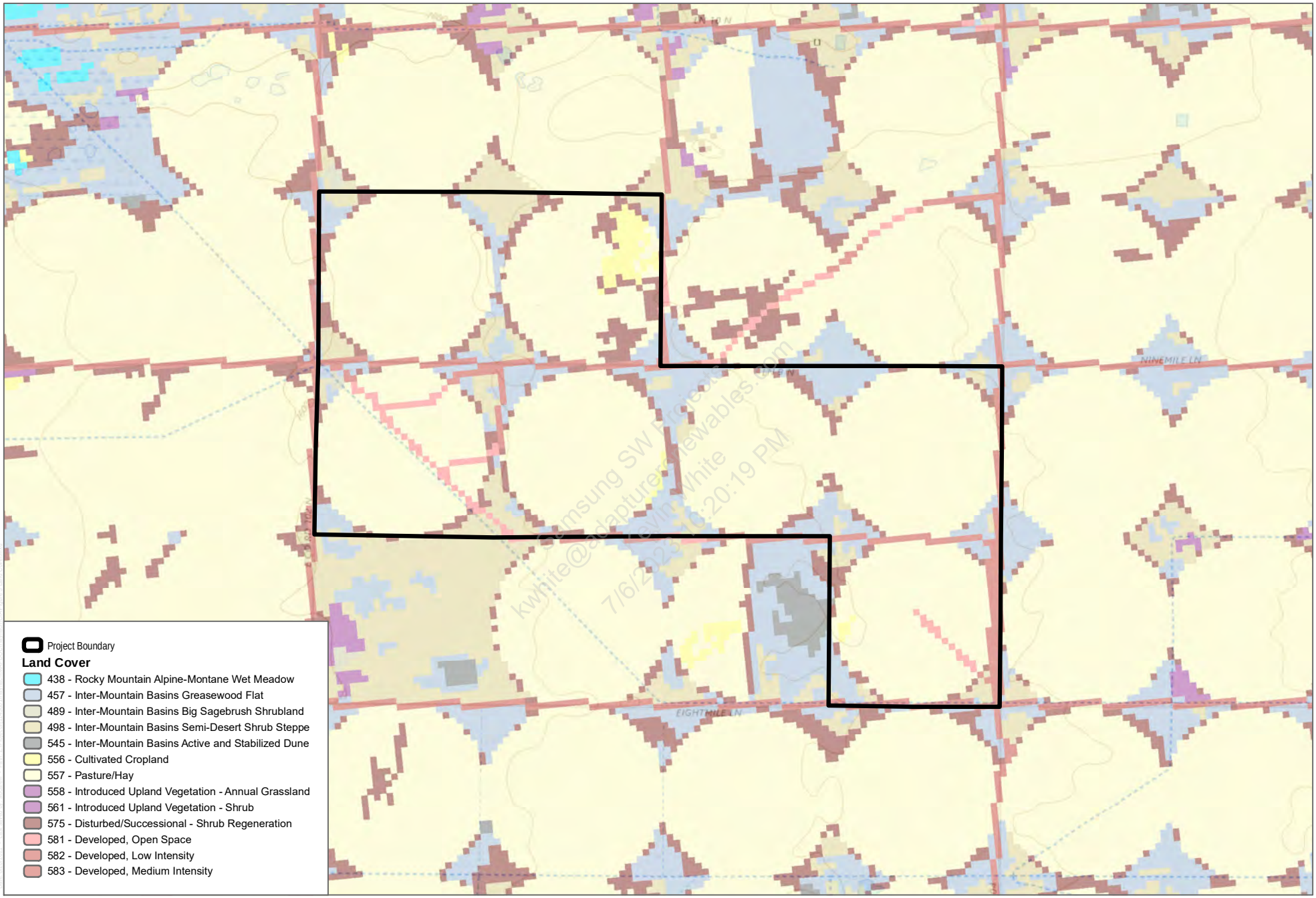
DUDEK

0 625 1,250 Feet

FIGURE 2

Project Site

Haynach Solar Project



SOURCE: USGS National Map 2021; USGS GAP/LANDFIRE 2011

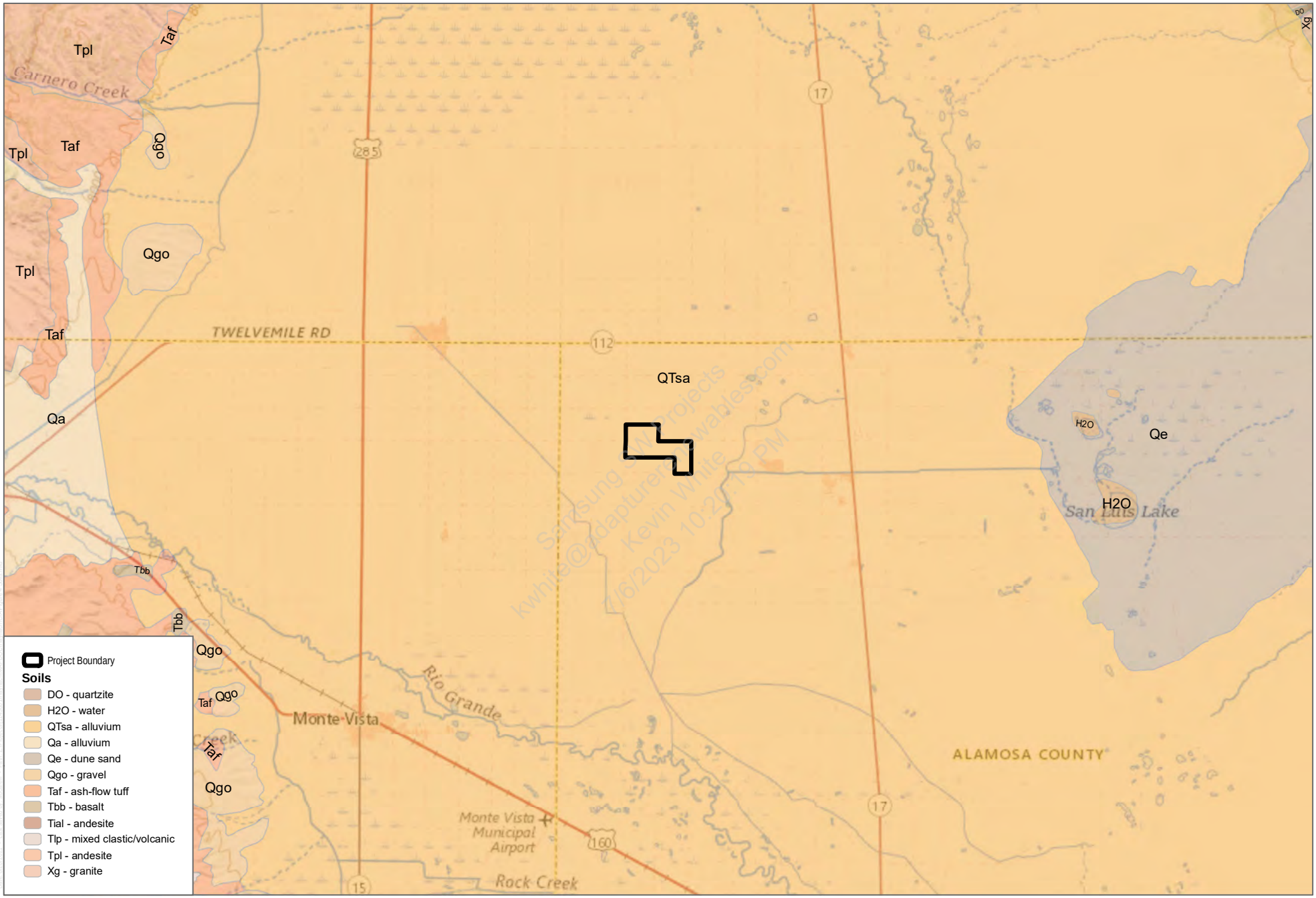
DUDEK

0 1,000 2,000 Feet

FIGURE 3

Land Cover

Haynach Solar Project



SOURCE: USGS National Map 2021; Colorado Geologic Survey

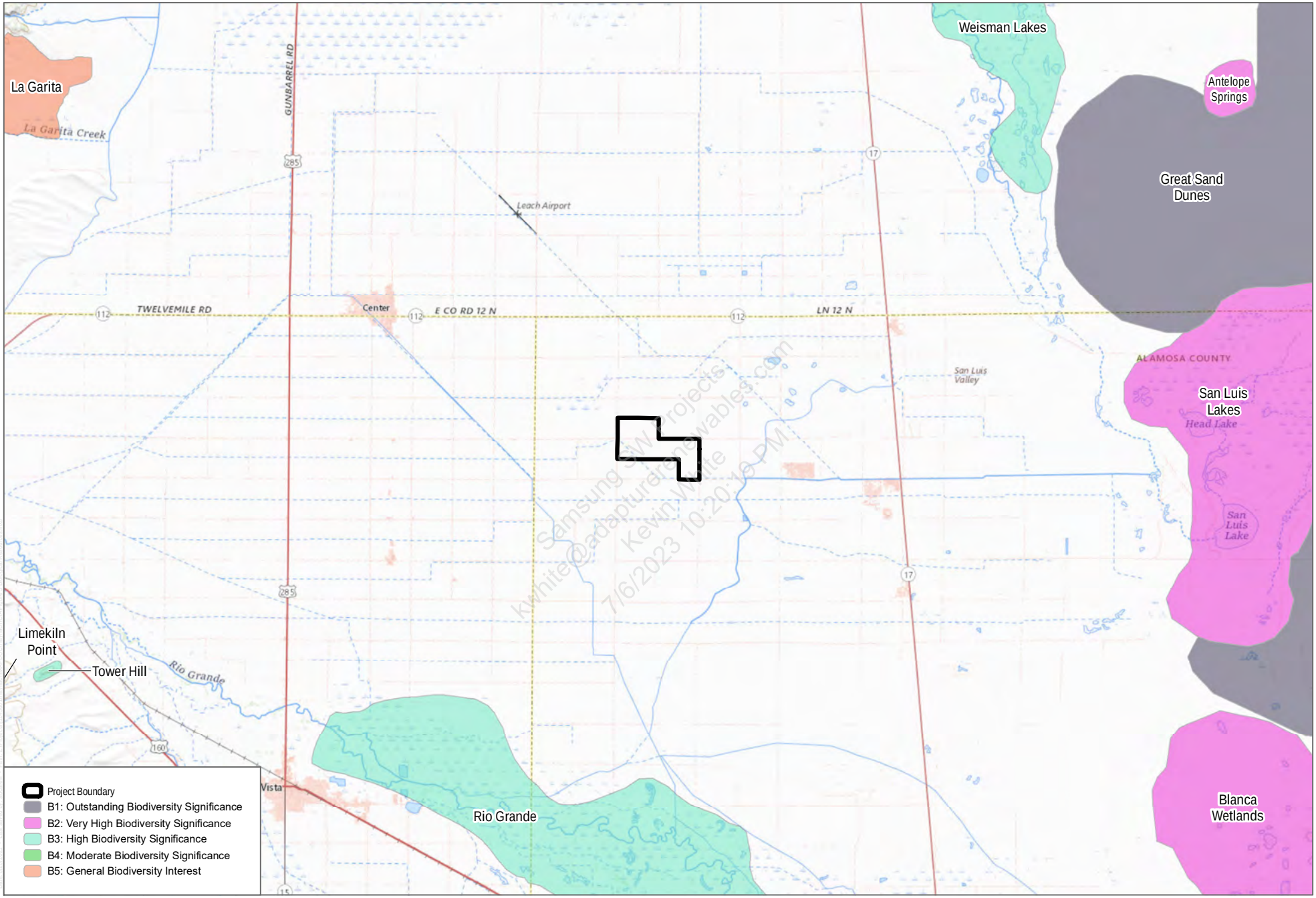
DUDEK

0 10,500 21,000 Feet

FIGURE 4

Soils

Haynach Solar Project



SOURCE: USGS National Map 2021; CNHP 2021

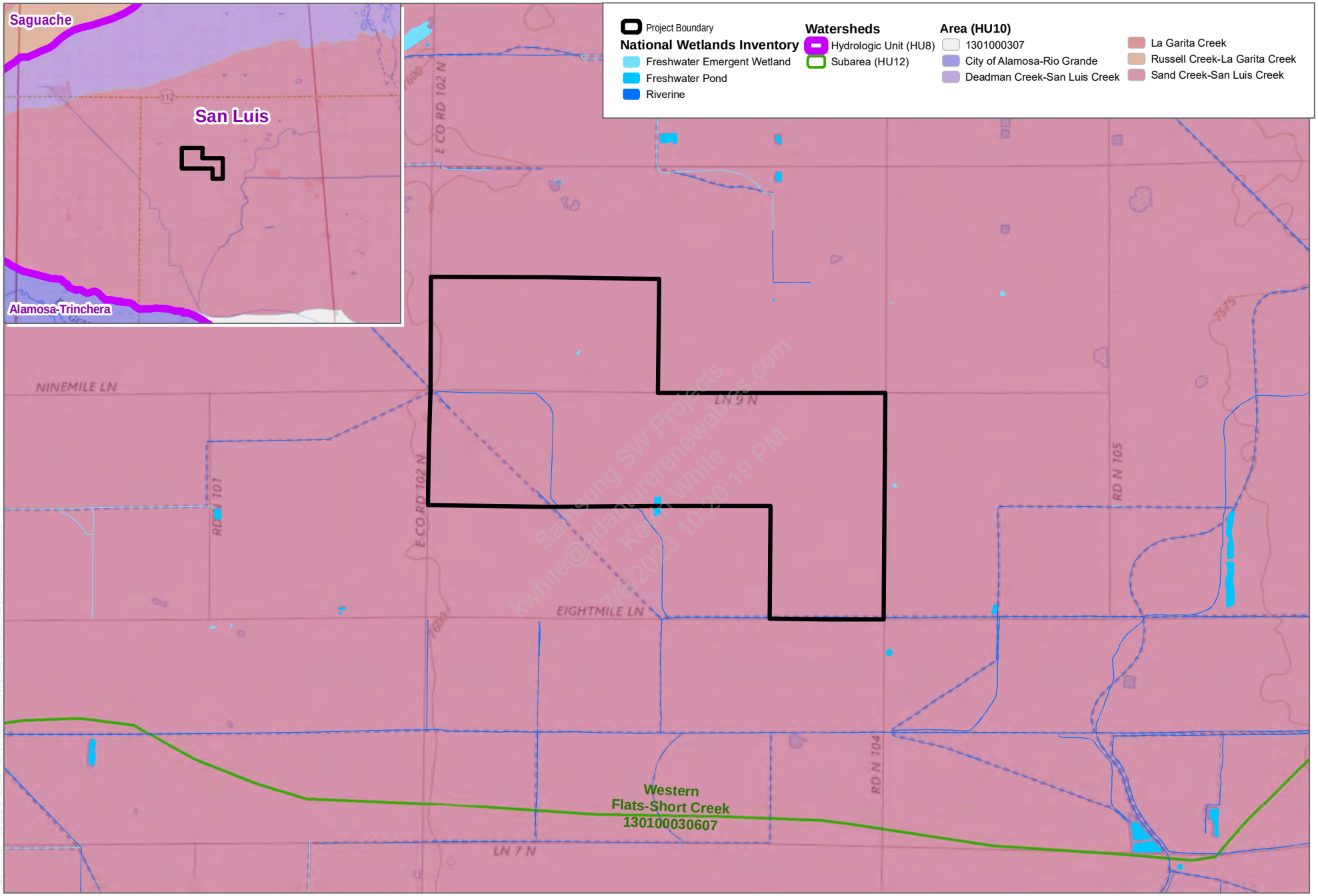
DUDEK

0 8,000 16,000 Feet

FIGURE 5

Biological Resources

Haynach Solar Project



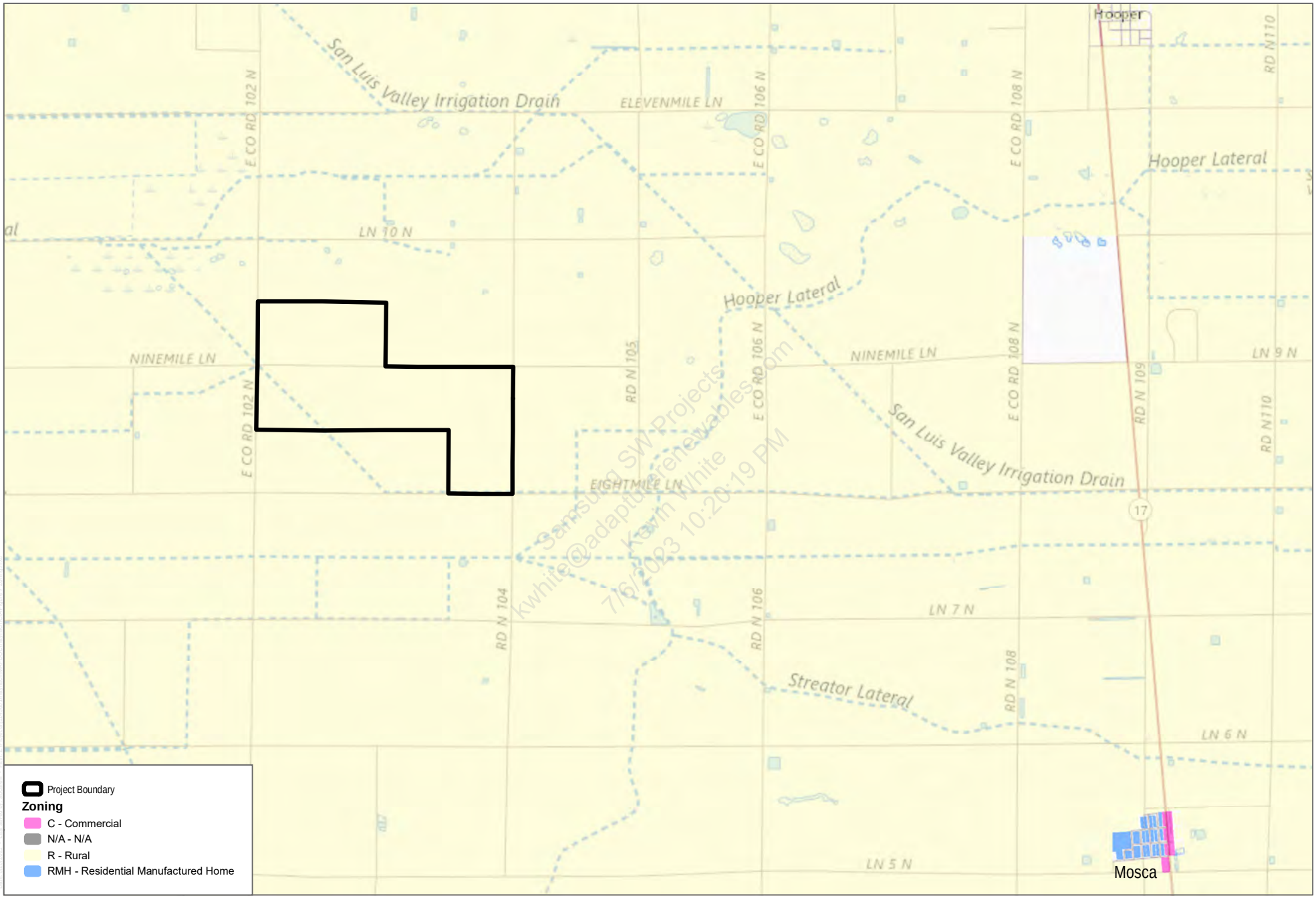
SOURCE: USGS National Map 2021; USFWS NWI

DUDEK

FIGURE 6

Aquatic Resources

Haynach Solar Project



SOURCE: USGS National Map 2021; Alamosa County 2021

DUDEK

0 2,700 5,400 Feet

FIGURE 7

Zoning

Haynach Solar Project

Attachment A

USFWS IPaC Search Results

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Alamosa County, Colorado

Local office

Western Colorado Ecological Services Field Office

(970) 628-7180
(970) 245-6933

445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711

http://GrandJunctionES@fws.gov
http://www.fws.gov/mountain-prairie/es/Colorado/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Canada Lynx Lynx canadensis | Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/3652

Birds

NAME	STATUS
Mexican Spotted Owl Strix occidentalis lucida Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8196	Threatened
Southwestern Willow Flycatcher Empidonax traillii extimus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/6749	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/

conservation-measures.php

- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

THERE ARE NO MIGRATORY BIRDS OF CONSERVATION CONCERN EXPECTED TO OCCUR AT THIS LOCATION.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

PEM1C

FRESHWATER POND

PUSAx

RIVERINE

R4SBAx

R5UBFx

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Exhibit H: Wetlands Summary

March 21, 2023

MK Kim
Project Manager
US Solar Group
Samsung Energy Division
mkmk.kim@samsung.com

Re: Wetlands Summary
Haynach Solar Project (1,105 acres)
Alamosa County, Colorado

Dear Ms. Kim:

Samsung Energy Division is proposing a solar generation project located along North County Road 104 in Alamosa County, Colorado. The 1,105-acre site consists of a majority agriculture land, as well as disturbed rangeland. The surrounding lands consist of agriculture lands, solar generation facilities (Hooper Solar), and disturbed rangeland.

On November 29 and 30, 2022, Kimley-Horn environmental scientist, Jesse Carlson, conducted site visits to document onsite conditions. Field reconnaissance was conducted via windshield and pedestrian surveys within the project limits. In addition, representative photographs to document general conditions were also taken. During the field visit, the approximate temperature was 20 degrees Fahrenheit with sunny skies and winds were light and variable. Vehicle access to the site was provided via Lane 8 North, Lane 9 North, North County Road 102, and North County Road 104. Access within the site was provided via unpaved dirt roads and driving overland with a 4x4 vehicle.

SUMMARY OF FINDINGS

No potential wetlands, as defined by the U.S. Army Corp of Engineers (USACE), or other Waters of the U.S. (WOTUS) features of concern were observed during field reconnaissance. National Wetlands Inventory (NWI) mapped features were incorrectly mapped and were not present. No other potential wetland or WOTUS constraints to development were identified during the field visit. **Solar development of this site will not impact wetlands or WOTUS features and will not require USACE permitting.**

SITE CONDITIONS

The project area was dominated by both active and fallow agriculture areas with isolated pockets of disturbed rangeland. Active agriculture areas were dominated by wheat (*Triticum aestivum*) cultivation; however, no wheat was actively growing at the time of the site visit. Fallow agriculture areas were dominated by species typical of unmanaged areas such as Russian thistle (*Salsola tragus*) and kochia (*Bassia scoparia*). Both of these species are considered invasive plants in Colorado but are not Colorado Department of Agriculture listed species. Disturbed rangeland areas in between agriculture fields were dominated by big sagebrush (*Artemisia tridentata*), a plant commonly found in arid and semi-arid regions of the Intermountain West. Transmission utility poles, buildings and structures, agriculture production

equipment, an excavated gravel pit, upland swales, and unpaved dirt roads were also present within the site.

Wetlands

The U.S. Fish and Wildlife Service NWI Program provides users with preliminary information on wetland locations, extent, type and change. There are NWI mapped features within the project limits; however, the NWI database is often outdated, mismapped, and not accurate to onsite conditions. Field reconnaissance determined that these NWI mapped features were not present as these areas lacked the wetland plants, hydric soils, and/or hydrology necessary to be considered a wetland or WOTUS feature. Instead, the landscape features in the locations were isolated depressional features, upland swales, or were entirely absent altogether.

Soils

Alamosa County lies within the San Luis Alluvial Flats and Wetlands (22b) Sub-Region of the Arizona/ New Mexico Plateau Ecoregion. There are six (6) different Soil Map Units (SMU) identified within the project area by the National Resources Conservation Service (NRCS) Web Soil Survey. These soils are listed in **Table 1.** The dominant (over 20 percent of the property) SMUs of the project are Gunbarrel loamy sand (0 to 1 percent slopes) and Gunbarrel loamy sand (saline). Gunbarrel loamy sand (0 to 1 percent slopes) constitutes a total of 35.0%, or 387 acres, of the project area and is characterized as a loam sand or loamy coarse sand soil with a parent material derived from alluvium. Gunbarrel loamy (saline) constitutes a total of 25.8%, or 285 acres, of the project area and is characterized as a loamy sand or loamy coarse sand with a parent material derived from alluvium. Gunbarrel loamy sand (saline) and Mosca loamy sand (wet) have hydric soil components; however, these are considered by NRCS as being minor components of these SMUs.

Table 1. Soil Map Units within the Project area

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	Hydric Soil Components	Farmland
Gn	Gunbarrel loamy sand, 0 to 1 percent slopes	387.0	35.0	No	Farmland of unique importance
Gs	Gunbarrel loamy sand, saline	285.1	25.8	Yes	Not prime farmland
Mc	McGinty sandy loam	38.7	3.5	No	Not prime farmland
Mo	Mosca loamy sand	147.8	13.4	No	Farmland of unique importance
Ms	Mosca loamy sand, wet	87.9	8.0	Yes	Not prime farmland
Se	San Luis sandy loam, 0 to 1 percent slopes	158.6	14.4	No	Not prime farmland

Hydrology

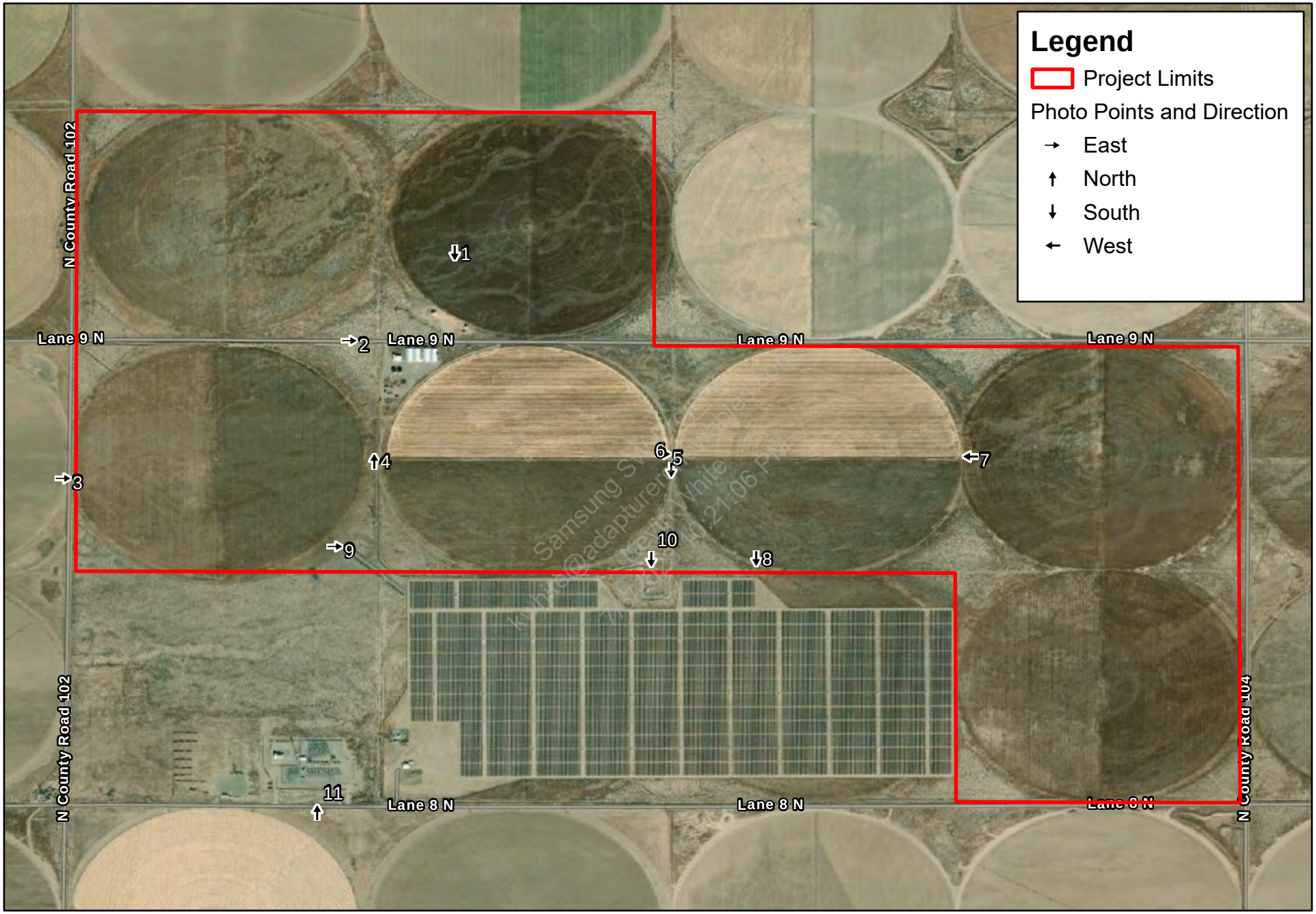
The subject property is located within the Western Flats - Short Creek subarea within the San Luis Hydrologic Region. Site conditions were generally dry, and no standing water was observed during the site visit. Inundation and erosion issues are of minimal concern. Although soils will drain quickly, they are also more susceptible to scour in dry conditions. More precipitation may be converted to runoff and will result in higher ponding depths than if the soil received regular rainfall. If a larger storm event were to

occur, it is possible that ponding depths in low lying areas would initially be severe before water absorption into the soil. A hydraulic model of existing conditions would be needed to fully understand inundation and erosion concerns.

Attachments

- Photograph Locations Map
- Ground Photographs
- Hydrology Map
- Soils Map

Aerial Source/Date: ESRI, 2022



Photograph Locations Map
Wetlands Summary
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn Expect More. Experience Better.

0 1,250 2,500 5,000 Feet

0 500 1,000 2,000 Meters

N W E S

Photo No. 1

View from the northwestern portion of the project area looking south at a non-existent NWI mapped feature. Note the lack of wetland plants and hydrology.

Photo No. 2

View from the western portion of the project limits looking east towards Lee Welch Farm structures and 230kV TriState – PSCo Transmission Line.

Photo No. 3

View from the western portion of the project area looking east towards typical fallow agriculture.

Photo No. 4

View from the western portion of the project area looking north towards agriculture equipment and 230kV TriState – PSCo Transmission Line.

Photo No. 5

View from the central portion of the project area looking east towards typical fallow (north) and active agriculture (south).

Photo No. 6

View from the central portion of the project area looking south along an unpaved agriculture road.

Photo No. 7

View from the eastern portion of the project area looking west towards typical fallow (north) and active agriculture (south).

Photo No. 8

View from the south-central portion of the project area looking south at solar panels on adjacent property (Hooper Solar).

Photo No. 9

View from the southwestern portion of the project area looking east at a non-existent NWI mapped feature. Feature is an upland swale.

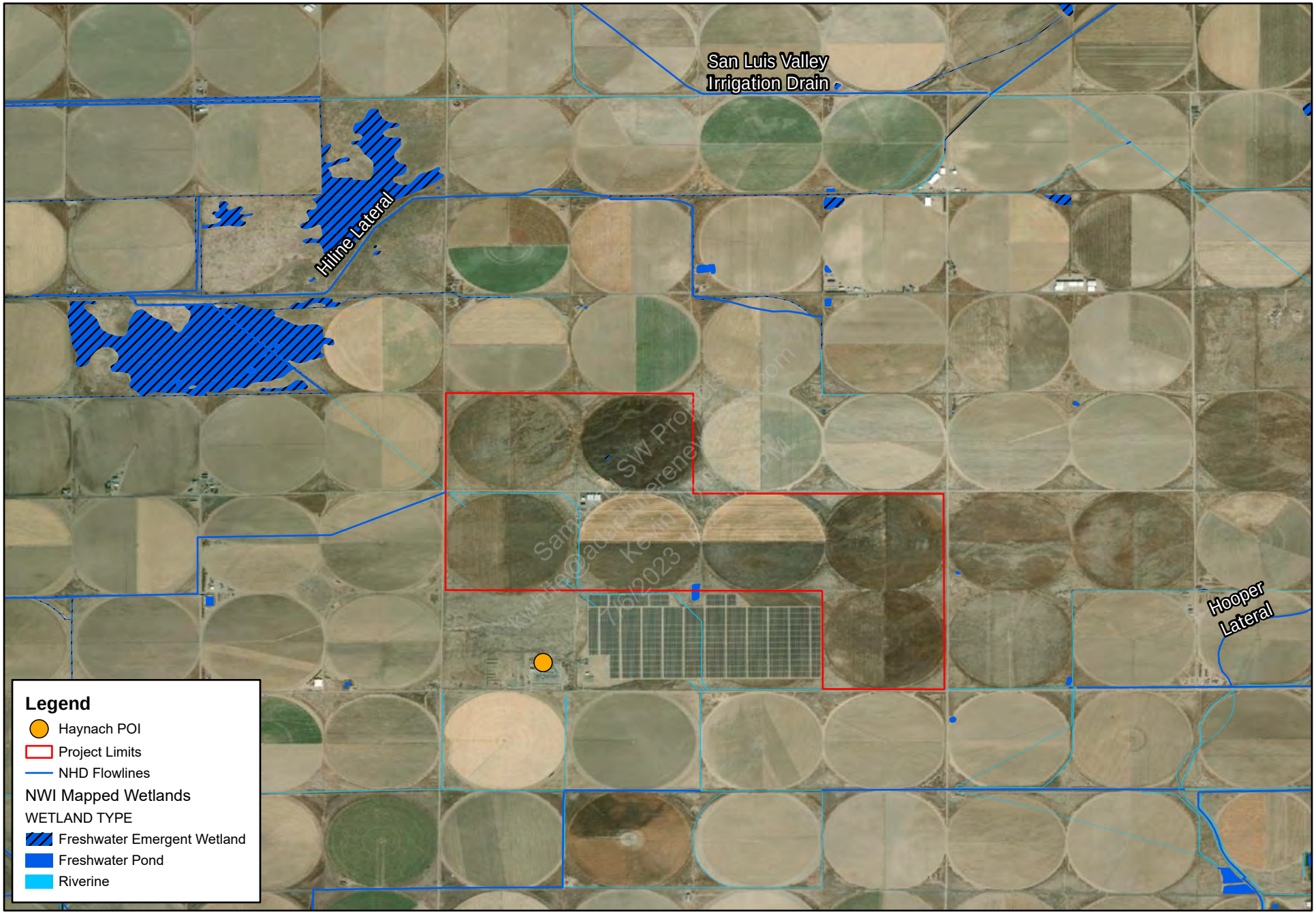
Photo No. 10

View from the south-central portion of the project area looking south at a non-existent NWI mapped feature. Feature is a gravel pit excavated in uplands.

Photo No. 11

Photo of the point of interconnection (POI) looking north. Taken from outside of and to the south of the project area.

Aerial Source/Date: ESRI, 2022



Hydrology Map
Wetlands Summary
Haynach Solar Project
Alamosa County, CO

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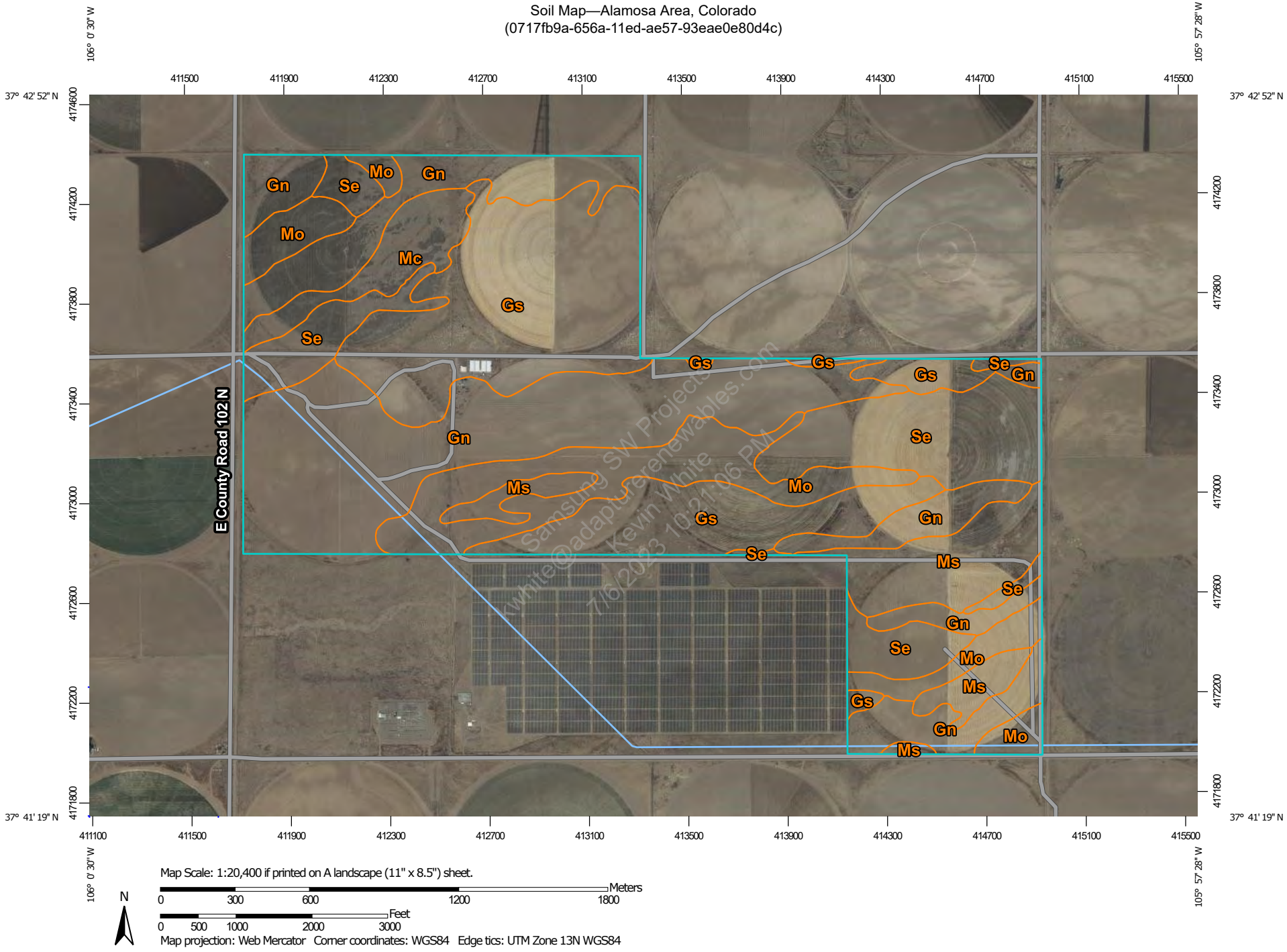
0 3,000 6,000 12,000 Feet

0 1,000 2,000 4,000 Meters

N
W E
S

Soil Map—Alamosa Area, Colorado
(0717fb9a-656a-11ed-ae57-93eae0e80d4c)



Map Scale: 1:20,400 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 300 600 1200 1800

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Alamosa Area, Colorado
Survey Area Data: Version 16, Sep 7, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 18, 2020—May 21, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Gn	Gunbarrel loamy sand, 0 to 1 percent slopes	387.0	35.0%
Gs	Gunbarrel loamy sand, saline	285.1	25.8%
Mc	McGinty sandy loam	38.7	3.5%
Mo	Mosca loamy sand	147.8	13.4%
Ms	Mosca loamy sand, wet	87.9	8.0%
Se	San Luis sandy loam, 0 to 1 percent slopes	158.6	14.4%
Totals for Area of Interest		**1,105.1**	**100.0%**

<u>Exhibit I:</u> Wetlands and Aquatic Resources Delineation Report

Wetlands and Aquatic Resources Delineation Report

Haynach Hybrid Solar

Alamosa County, Colorado

April 26, 2023

Prepared For:

Samsung Solar Energy 2, LLC
5601 E. Slauson Ave, Suite 101
Commerce, CA 90040

Prepared By:

Kimley»Horn
Denver, Colorado

Kimley»Horn

TABLE OF CONTENTS

APPENDICES

Wetlands and Aquatic Resources Delineation
Haynach Hybrid Solar
Approximately 1,105 Acres
Alamosa County, Colorado
April 26, 2023

1.0 - INTRODUCTION

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained by Samsung Solar Energy 2 LLC. (Client) to perform an Aquatic Resources Delineation for the proposed Haynach Hybrid Solar located on approximately 1,105 acres of undeveloped agricultural land located southwest of Hooper in Alamosa County, Colorado (study area). The site is generally located east of County Rd 102 N and north of Eightmile LN. The existing 320 acre, 49.5 mega-watt (MW) Hooper Solar project is located immediately adjacent to the south of the study area. The study area consisted mainly of disturbed rangeland and agriculture.

The proposed project consists of the development of a solar energy facility. Kimley-Horn conducted a site visit at the study area on April 17 and 18, 2023, with the objective characterizing the existing site conditions and identifying potential Waters of the U.S (WOTUS). An initial site observation to assess preliminary conditions was conducted on November 29 and 30, 2022.

2.0 - MAPPING AND BACKGROUND INFORMATION

Prior to performing the site visit, selected maps and background information were obtained and reviewed to assist with identifying potential WOTUS on the study area. The selected resources are described below.

Topographic Map

Based on a review of the United States Geological Survey topographic map (Hooper West quadrangle), the study area is predominantly depicted as undeveloped, vacant land, as indicated by the lack of red shading, with areas of woodlands and shrublands, as indicated by green shading. Zero “blue-line” features and zero apparent ponds are depicted throughout the study area. The topographic map depicts the generally flat area with elevation ranging between 7566 and 7592 feet above mean sea level. The topographic map for the site can be seen as **Figure 2** in **Appendix A**.

National Wetlands Inventory (NWI) Map

Based on review of NWI data, five potential wetland and/or waterbody features were identified within the study area, including three riverine features, one freshwater pond, and one freshwater emergent wetland feature. NWI data is published by the United States Fish and Wildlife Service and depicts suspected wetland areas and waterbodies based on stereoscopic analysis of high-altitude aerial photographs. The published data is not regularly updated and has not been validated in the field. NWI data generally overlaps the riverine features. **Figure 3** in **Appendix A** delineates the boundaries of potential wetlands and waters within the study area as recorded by the NWI data.

Soil Survey

Alamosa County lies within the San Luis Alluvial Flats and Wetlands (22b) Sub-Region of the Arizona/New Mexico Plateau Ecoregion. There are six different Soil Map Units identified within the study area by the National Resources Conservation Service (NRCS) Web Soil Survey. These soils are listed in **Table 1** and **Figure 4 in Appendix A**.

Table 1. Soil Map Units within the Study Area					
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**	**Hydric Soil Components**	**Farmland**
Gn	Gunbarrel loamy sand, 0 to 1 percent slopes	387.0	35.0	No	Farmland of unique importance
Gs	Gunbarrel loamy sand, saline	285.1	25.8	Yes	Not prime farmland
Mc	McGinty sandy loam	38.7	3.5	No	Not prime farmland
Mo	Mosca loamy sand	147.8	13.4	No	Farmland of unique importance
Ms	Mosca loamy sand, wet	87.9	8.0	Yes	Not prime farmland
Se	San Luis sandy loam, 0 to 1 percent slopes	158.6	14.4	No	Not prime farmland

According to **Table 1**, Gs and Ms contain hydric components; suggesting that wetlands could be anticipated onsite. Soil pits were dug at eight locations throughout the study area including in swales, NWI mapped features, and upland areas. Soil profiles were a uniform sand texture throughout with no topsoil and no hydric characteristics observed. The lack of topsoil is likely due to historic agriculture activities.

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM)

Figure 5 in **Appendix A** depicts the FEMA floodplain zone across the study area. According to the FEMA FIRM (Panel Number 0800090005A and 08105C0200C 1), there is minimal Flood Zone information for this project. The majority of the study area is located within Zone X: Area of Minimal Flood Hazard, which is outside of the FEMA designated 100-year and 500-year flood zones.

Aerial Photographs

Figure 3 in **Appendix A** provides a current aerial photograph of the study area. Conditions within the study area appear to be generally consistent with the selected aerial photograph. The study area is generally depicted as largely agricultural with pockets of disturbed rangeland. Recent aerial photography (2023) is used as base data for many figures in **Appendix A**. **Figure 7** depicts the delineated aquatic resources observed within the study area

Figure 1 in **Appendix B** provides the general location of site visit photographs. Ground level photographs are provided in **Appendix B, Figure 2**.

3.0 - FIELD METHODS

Kimley-Horn personnel conducted a site visit on April 14th, 2023 with the objective of identifying potential WOTUS features. At the time of the site visit, the temperature ranged from approximately 63° to 68° Fahrenheit, with partly sunny skies and winds of 15 to 20 miles per hour.

Characteristics of potential WOTUS features were assessed utilizing the criteria detailed in the sections below. Referencing both the photo location map shown on **Figure 1** in **Appendix B**, as well as the Aquatic Resource Map shown on **Figure 7** in **Appendix A**, will help supplement the following discussion.

3.1 - WETLANDS

Guidance from the "Corps of Engineers Wetlands Delineation Manual" United States Army Corps of Engineers (USACE) Waterways Experiment Station Wetlands Research Program Technical Report Y-87-1, dated January 1987 for routine wetland determinations for areas greater than five-acres (as modified by the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast regions Version 2, May 2010), was used to evaluate the presence of wetlands within the study area. The USACE defines wetlands as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR 328.3b). Wetlands generally have three essential characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology.

Observations for the presence of wetland vegetation and hydrology indicators were performed and soil pits were excavated to evaluate the presence of hydric soils.

Vegetation Characteristics

The study area was observed to determine the species, when possible, and percentage of ground cover for four strata of plant community types. Herbs were generally observed within a five-foot radius; shrubs/saplings were generally observed within a 15-foot radius; trees and woody vines were generally observed within a 30-foot radius of the soil station location. For each species of vegetation observed, their wetland indicator status was identified through review of the National Wetland Plant List. Indicator status categories for vegetation are presented below:

- Obligate Wetland (OBL) - occur almost always (estimated probability greater than 99%) under natural conditions in wetlands.
- Facultative Wetland (FACW) - usually occur in wetlands (estimated probability 7%-99%), but occasionally found in non-wetlands.
- Facultative (FAC) - equally likely to occur in wetlands or non-wetlands (estimated probability of 34%-66%).
- Facultative Upland (FACU) - usually occur in non-wetlands (estimated probability of 67%-99%), but occasionally found in wetlands.
- Obligate Upland (UPL) - rarely occur in wetlands, but occur almost always (estimated probability greater than 99%) under natural conditions in non-wetlands.

Hydrology Characteristics

Visual indicators of wetland hydrology were evaluated throughout the study area. According to the USACE, examples of primary wetland hydrology indicators include, but are not limited to, surface water, high water table, soil saturation, water marks, sediment deposits, drift deposits, iron deposits, inundation visible on aerial imagery, and water-stained leaves. Examples of secondary wetland hydrology indicators include, but are not limited to, surface soil cracks, drainage patterns, moss trim lines, and crayfish burrows. Under normal conditions, if at least one primary wetland hydrology indicator and/or two secondary wetland hydrology indicators are observed, the observation location should be considered to have wetland hydrology.

Hydric Soils Characteristics

After evaluating vegetation and hydrology characteristics, subsurface soil samples were collected and were visually compared to Munsell Soil Color Charts. Potential hydric soils indicators were evaluated utilizing the Field Indicators or Hydric Soils in the United States manual published by the NRCS. Under normal conditions, if hydric soils indicators are observed, the observation location should be considered to have hydric soils.

3.2 - WATERBODIES

Section 404 of the Clean Water Act establishes a program to regulate the discharge of dredged or fill material into waters of the U.S., including jurisdictional wetlands. Under Section 404 of the Clean Water Act, the discharge of dredged and fill material into waters of the U.S. is regulated, and in many circumstances, authorization from the USACE is required prior to commencing construction activities.

Section 10 of the Rivers and Harbors Act requires that regulated activities conducted below the ordinary high water mark (OHWM) elevation of navigable waters of the U.S. or mean high water mark for tidal waters be approved/permitted by the USACE. Regulated activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Navigable waters of the U.S. are those waters that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past or may be susceptible to use to transport interstate or foreign commerce.

On June 5, 2007 (updated December 2008), the U.S. Environmental Protection Agency (EPA) and the USACE jointly issued guidance interpreting the Supreme Court's June 2006 split decision in the consolidated cases of *Rapanos v. U.S.* and *Carabell v. U.S.* (known as the Rapanos decision). Following the Rapanos decision, the Corps issued a Regional Guidance Letter (RGL-08-02) on June 26, 2008, documenting the procedures for Preliminary and Approved Jurisdictional Determinations. This guidance was clarified and superseded in October 2016 by RGL 16-01. An Approved Jurisdictional Determination (AJD) is a document that precisely identifies the limits of waters of the U.S. on a study area. A Preliminary Jurisdictional Determination (PJD) is an unofficial document that indicates that there are waters of the U.S. present. Approved JDs can be appealed while PJDs cannot. Regional Guidance Letter-16-01 indicates that the recipient of a PJD can request and obtain an AJD if that later becomes necessary. A No Permit Required letter is a Corps issued document that indicates that a specific project will not involve activities subject to the requirements of Section 404 or Section 10; therefore, that project would not require a Department of Army permit.

The Navigable Waters Protection Rule (NWPR) was enacted in June 2020 and it redefined waters of the U.S. On August 30, 2021, the U.S. District Court for the District of Arizona issued an order vacating and remanding the NWPR in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*. This

order applies nationwide and steps for implementation under the pre-2015 waters of the U.S. regulatory regime were provided by USACE Headquarters on September 8, 2021. This court decision has re-implemented the Rapanos Guidance. It should be known that the results and recommendations documented in this report are based on the Rapanos Guidance.

On December 30, 2022, the EPA published a Final Revised Definitions of "Waters of the United States". The rule was published in the Federal Register on January 18, 2023, and is set to become effective on March 20, 2023. It is our preliminary analysis that the rule does not substantially differ from the Rapanos Guidance; however, implementation procedures of the rule will be communicated by the USACE.

The regulatory environment can change quickly and frequently and changes to regulations pertaining to waters of the U.S. may affect results and recommendations.

Potential jurisdictional streams are typically evaluated based on the observations of the following characteristics:

- Flow
  - Perennial: contains water at all times of the year except during extreme drought
  - Intermittent: contains water occasionally or seasonally
  - Ephemeral: contains water only during and immediately after periods of rainfall or snowmelt

- OHWM: The limit line on the shore established by the fluctuation of the water surface shown by:
  - A clear line impressed on the bank
  - Shelving
  - Changes in soil character
  - Destruction of terrestrial vegetation
  - Presence of litter and debris

- Bank Shape
  - Undercut: banks that overhang the stream channel
  - Steep: bank slope of approximately greater than 30 degrees
  - Gradual: bank slope of approximately 30 degrees or less

- Aquatic Habitat
  - Pool: deeper portion of a stream where water flows slower than in neighboring, shallower portions, smooth surface, and finer substrate
  - Riffle: shallow area in a stream where water flows swiftly over gravel and rock or other coarse substrate resulting in a rough flow and a turbulent surface

The Corps generally asserts jurisdiction to the normal pool elevation for lakes and ponds, if those features are considered jurisdictional.

It is Kimley-Horn's experience with the Albuquerque District Corps that the Rapanos Decision had little impact on what this District would assert jurisdiction over. In other words, if an aquatic feature was considered jurisdictional prior to the Rapanos Decision, it would be jurisdictional following the Rapanos Decision. The Rapanos Guidance discusses linear aquatic features as follows:

- Ephemeral streams flow only as a response to rain and are not influenced by groundwater. Under the Rapanos guidance these aquatic features may be classified as non-relatively permanent waters

(non-RPW). These aquatic features are described as non-navigable tributaries that are not relatively permanent. These aquatic features require a fact-specific analysis to determine whether they have a significant nexus with a Traditional Navigable Water (TNW). The Corps, with EPA oversight, makes the determination based on information submitted to them by the permit applicant. If a significant nexus is determined, the agencies will assert jurisdiction;

- Intermittent streams may be influenced by groundwater and flow for a longer period of time than ephemeral streams but do not have continuous flow all year long. Under the Rapanos guidance these may be classified as relatively permanent waters (RPW). These aquatic features can be described as non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically have continuous flow at least seasonally (e.g., typically three months); and

- Perennial streams have continuous flow for most of a typical year. Under the Rapanos Guidance, these may be classified as TNWs or RPWs. Relatively permanent waters can be described as non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round.

In addition to streams, other features such as swales or ditches are described as follows:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume infrequent, or short duration flow); and

- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The Rapanos Guidance states that the agencies generally will not assert jurisdiction over swales and ditches. However, certain geographic features (e.g. swales, ditches, pipes) may contribute to a surface hydrological connection and could be considered jurisdictional where the features:

- Replace and relocate a Water of the U.S.; or

- Connect a Water of the U.S. to another Water of the U.S.; or

- Provide a relatively permanent flow to Waters of the U.S.

Waters found within the study area will be discussed in detail relative to the Rapanos Guidance.

4.0 - SUMMARY OF RESULTS

Six swales were identified within the study area. No streams, wetlands, or upland ponds were identified within the study area. The locations of the delineated aquatic resources are depicted on **Figure 7** in **Appendix A**. Descriptions of the onsite features are provided in the following sections.

Table 2. Observed Aquatic Resources within the Study Area		
Feature Type	**Amount of Aquatic Resource Linear Feet**	**Waters of the U.S.?**
Likely Non-Jurisdictional Swale (SW)	3,053 linear feet	No

4.1 - SWALES

6 swales (labeled SW1-SW6) were observed within the study area. The swales were observed to be generally dry and vegetated across the bottom. The Swales did not have an observable OHWM and were observed to exhibit conditions consistent with short duration, low volume flows. The swales totaled approximately 3,053 linear feet.

4.2 - UPLANDS

During the site visit, Kimley-Horn personnel traversed the project site and observed areas that are typically indicative of being classified as uplands. The study area can best be categorized into three distinct vegetation types: disturbed rangeland, fallow agriculture, and active agriculture. This vegetation type is a result of current and historic land use practices. Disturbed rangeland makes up approximately 21% (235 acres) of the study area and is characterized by big sagebrush (*Artemisia tridentata*), Russian thistle (*Salsola tragus*), bareground areas, and other grasses, forbs, and ruderal species. Fallow agriculture makes up approximately 66% (736 acres) of the study area and is characterized by Russian thistle, kochia (*Bassia scoparia*), and bareground areas. Active agriculture makes up approximately 11% (126 acres) of the study area and is characterized by common wheat (*Triticum aestivum*). The remaining portion of the project area, 2% or 8 acres, consists of structures.

5.0 - USACE PERMIT CONSIDERATIONS

Kimley-Horn has prepared this document based on limited field observations and our interpretation, as wetland scientists, of the Corps' regulations at 33 CFR 328 Definition of WOTUS, joint Corps and EPA guidance regarding the final "Revised Definition of 'Waters of the Unites States' "rule issued on January 18, 2023 and taking effect on March 20, 2023. While Kimley-Horn believes our interpretation to be accurate, final authority to interpret the regulations lies with the Corps and EPA. Corps and EPA Headquarters occasionally issue guidance that changes the interpretation of published regulations. Guidance issued after the date of this report has the potential to invalidate our conclusion and/or recommendations and may cause a need to reevaluate our recommendation. Because Kimley-Horn has no regulatory authority, the Client understands that proceeding based solely upon this document does not protect the Client from potential sanction or fines from the Corps. The Client acknowledges that they have the opportunity to submit a proposed jurisdictional determination to the Corps for concurrence prior to proceeding with any work. If the Client elects not to do so, then the Client proceeds at their sole risk.

As the proposed development likely does not impact WOTUS, the Client can proceed without notifying the Corps, or request a "No Permit Required" letter (NPR).

If an official determination from the regulatory authorities is desired to verify our analysis of likely jurisdictional and non-jurisdictional aquatic features, a request for an AJD can be made in accordance with Regulatory Guidance Letter 16-01. The anticipated outcome of an AJD request would be a final determination for which features would be regulated by the USACE.

Please note that our analysis is based on our professional judgment and understanding of the applicable laws and our experience with their interpretation. However, we do not control, and cannot predict, how the Corps will respond in any particular situation.

6.0 - CONCLUSIONS

According to our delineation, Kimley-Horn observed six upland swales. Based on Kimley-Horn's analysis, the Albuquerque District USACE would likely not assert jurisdiction over the swales (SW1-SW6). These non-stream linear features lacked an observable OHWM. Therefore, these features would likely not pass a significant nexus evaluation.

Based on our analysis, aquatic features which would be jurisdictional, and as such, regulated by the USACE Albuquerque District were not observed. Therefore, permitting with the USACE Albuquerque District would likely not be required to support development of the site for the proposed project.

This report has been prepared by:

KIMLEY-HORN AND ASSOCIATES, INC.

Please contact me at (720) 295-6923 or jesse.carlson@kimley-horn.com should you have any questions.

Sincerely,

Jesse Carlson

Senior Environmental Scientist

Appendix A: Figures

Aerial Source/Date: ESRI, 2022: Ownership Source/Date: BLM 2022

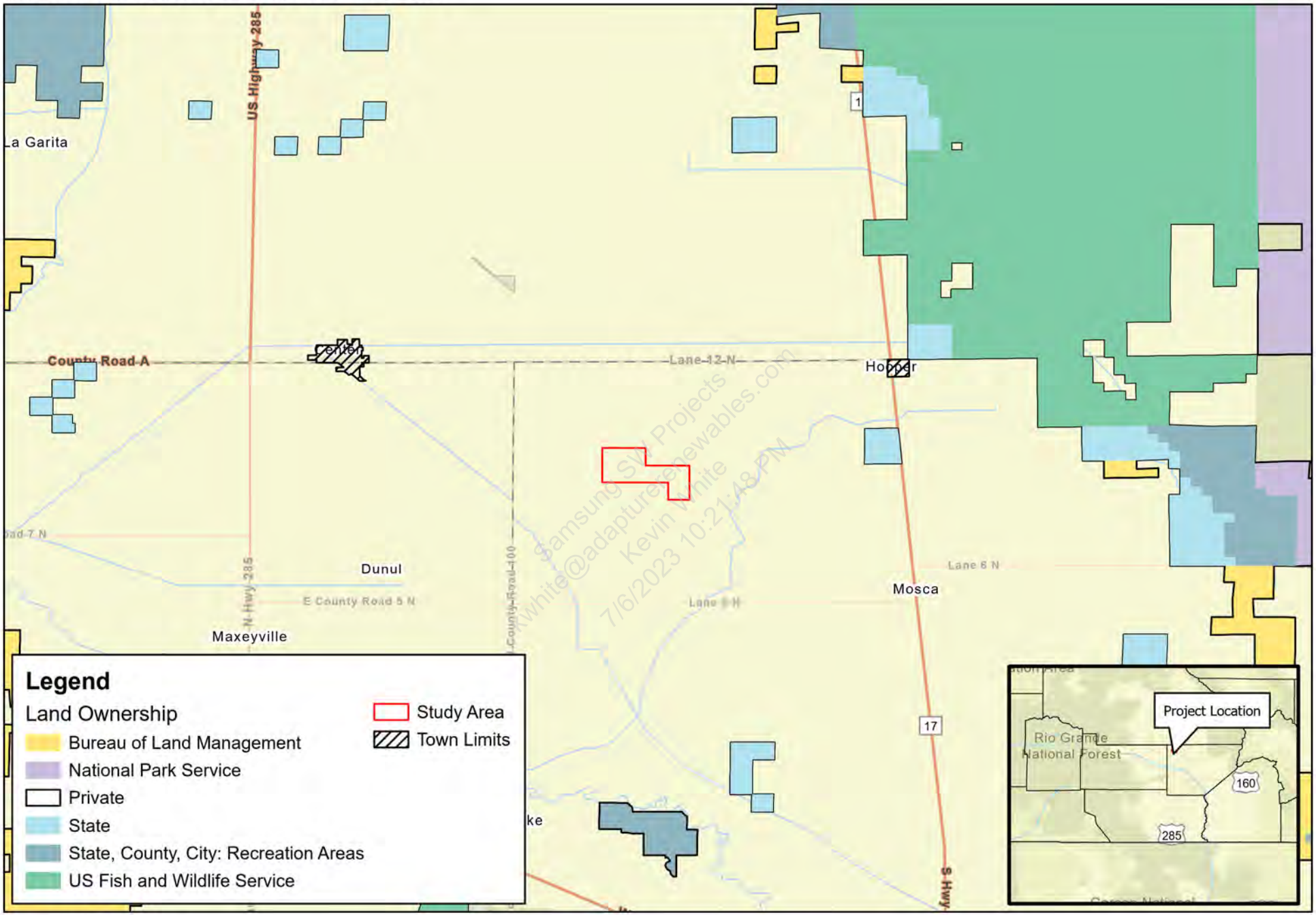


Figure 1: Vicinity Map
Aquatic Resources Delineation Report
Haynach Solar Project
Alamosa County, CO

TOPO Source/Date: ESRI, 2022:

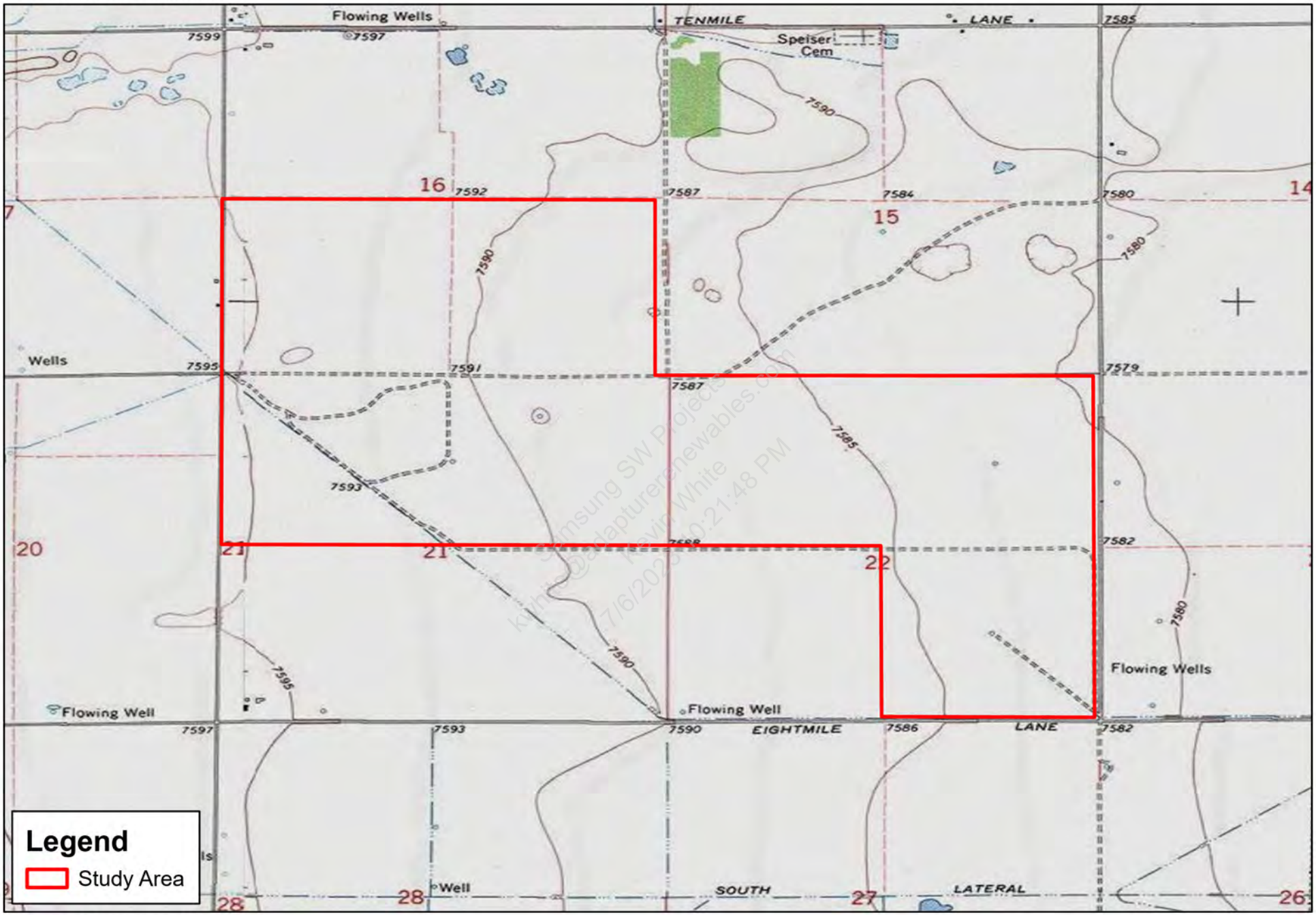


Figure 2: USGS Topo Map
Aquatic Resources Delineation Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn

0 1,000 2,000 4,000 Feet

0 405 810 1,620 Meters

N W E S

Aerial Source/Date: ESRI, 2023: Hydrology/ NWI Source/Date: USFWS, 2023

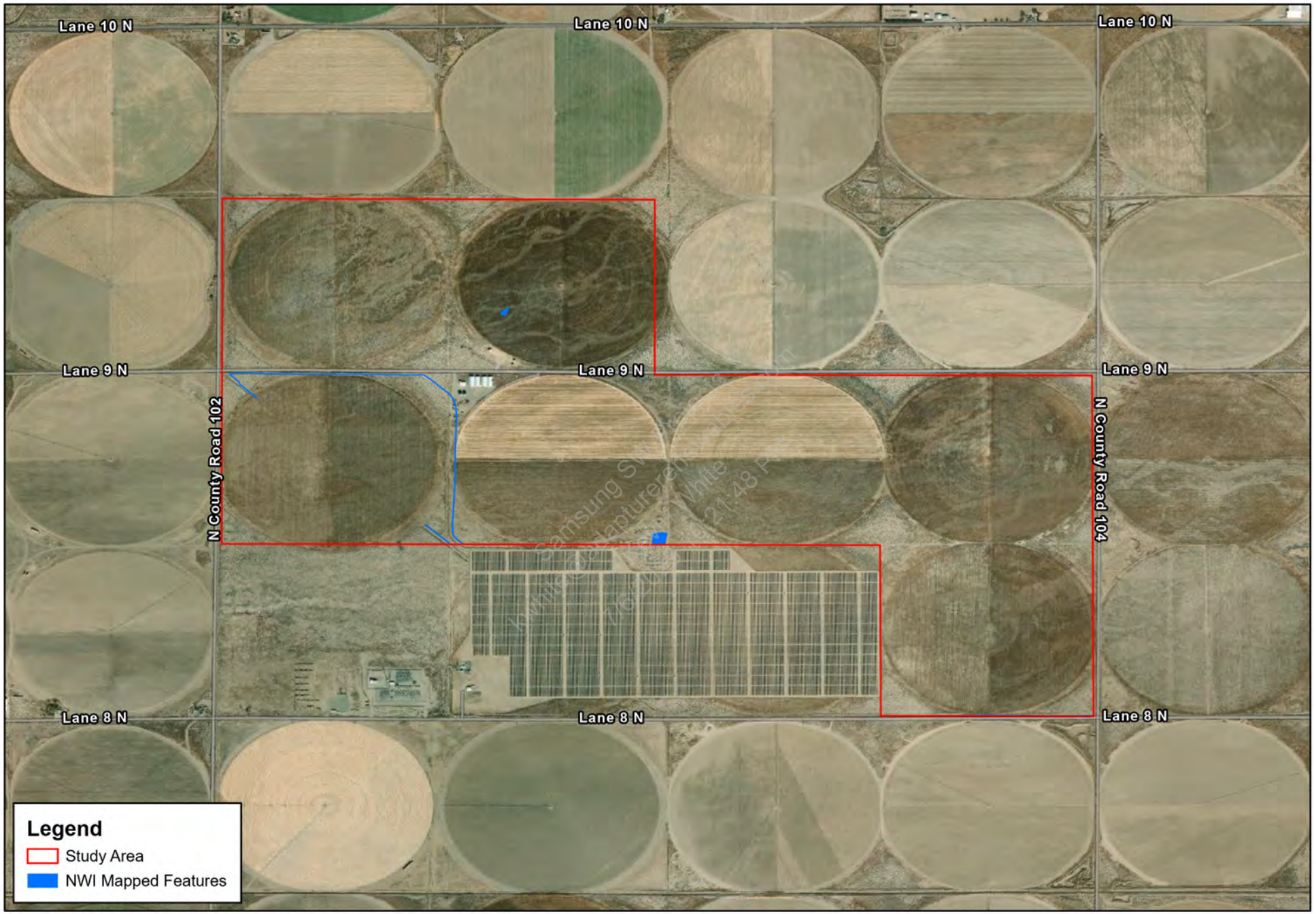


Figure 3: Aerial Map with NWI Hydrology Map
Aquatic Resources Delineation Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn Expect More. Experience Better.

0 1,000 2,000 4,000 Feet

0 405 810 1,620 Meters

N W E S

Aerial Source/Date: ESRI, 2023: Soils Data Source/Date: NRCS 2023

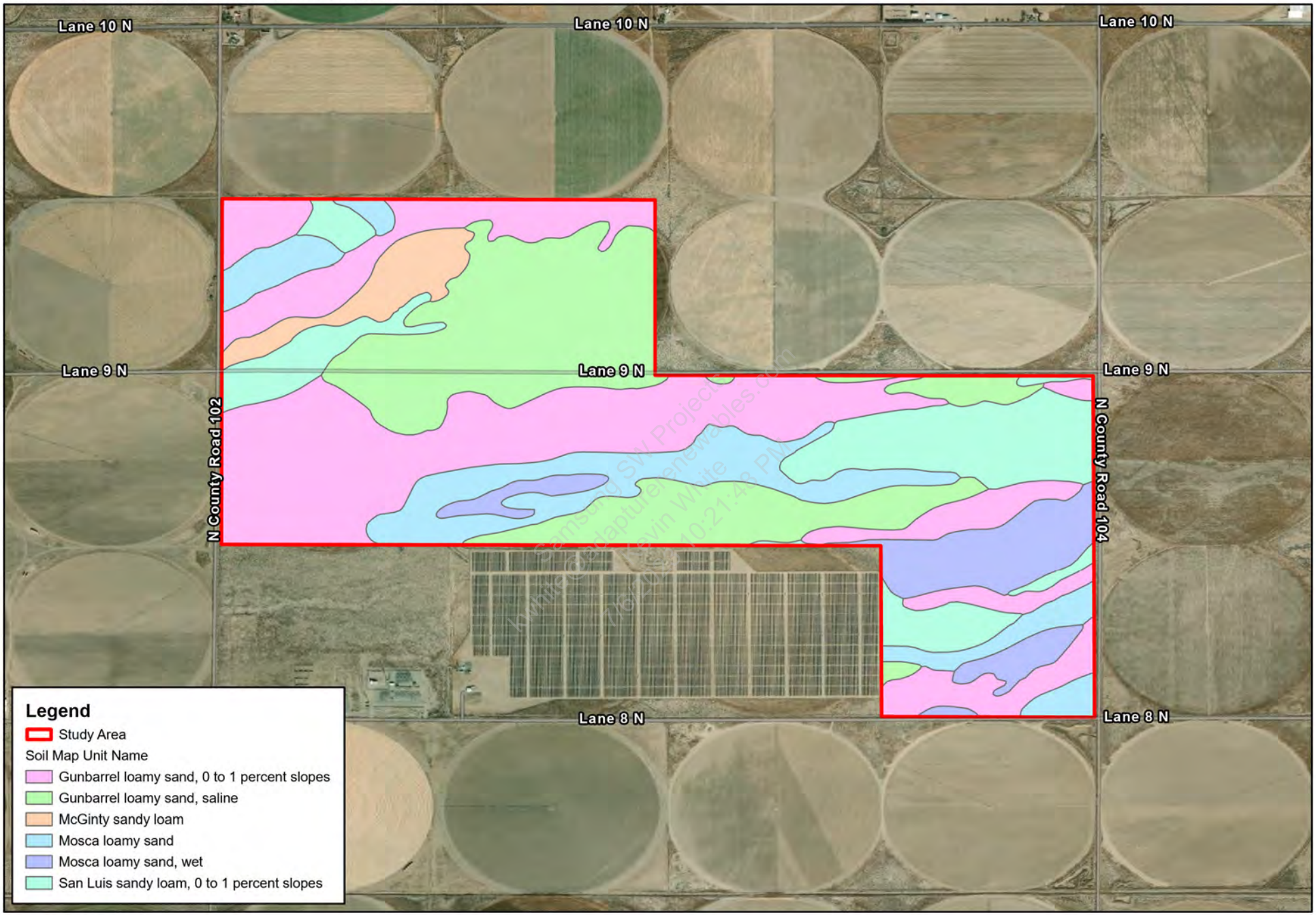


Figure 4: Soils Map
Aquatic Resources Delineation Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn Expect More. Experience Better.

0 1,000 2,000 4,000 Feet

0 405 810 1,620 Meters

N W E S

Aerial Source/Date: ESRI, 2022: Flood Hazard Layer Source/Date: FEMA 2023

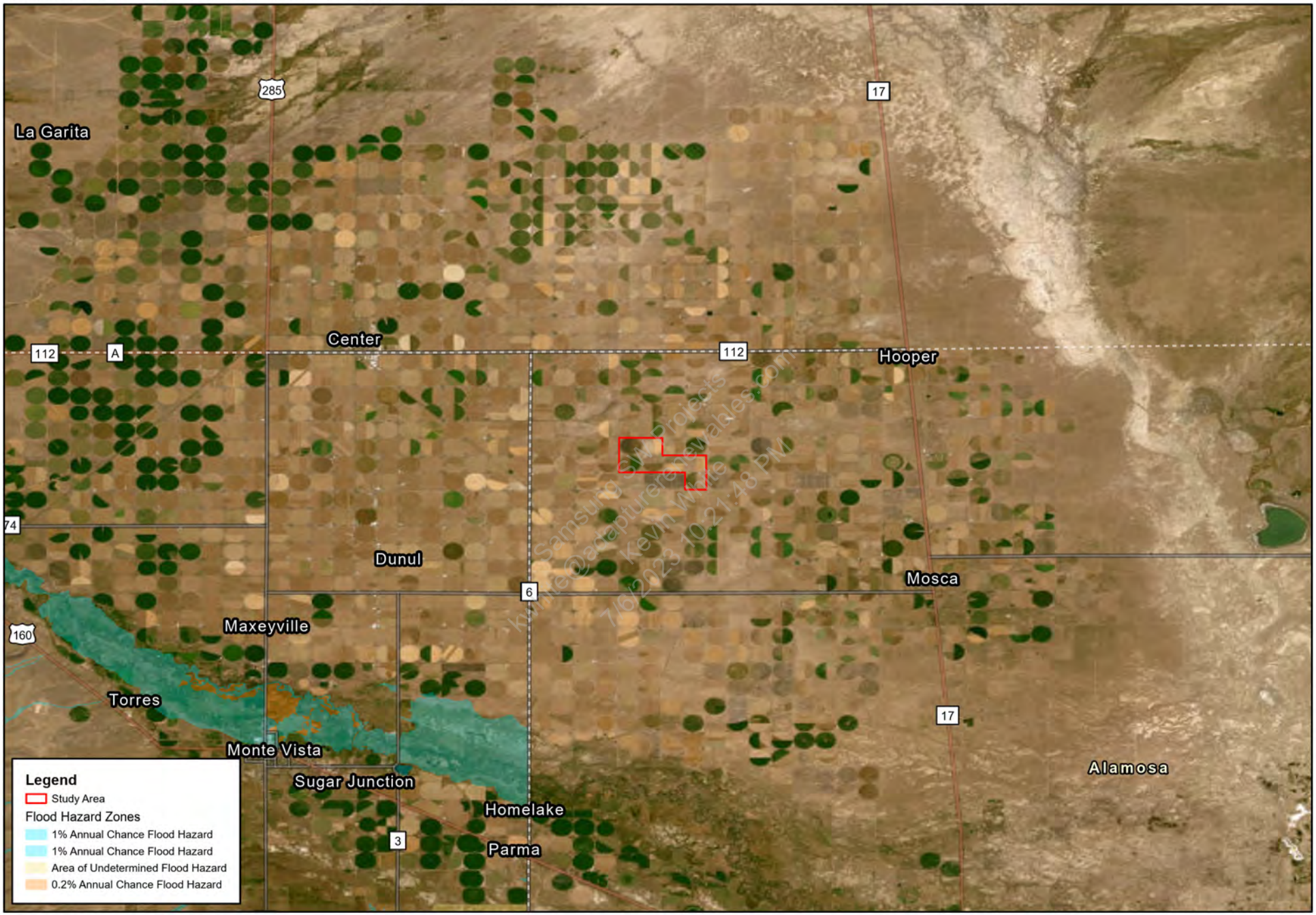


Figure 5: FEMA Flood Hazard Map
Aquatic Resources Delineation Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn Expect More. Experience Better.

0 10,000 20,000 40,000 Feet

0 4,000 8,000 16,000 Meters

N W E S

Aerial Source/Date: ESRI, 2022:

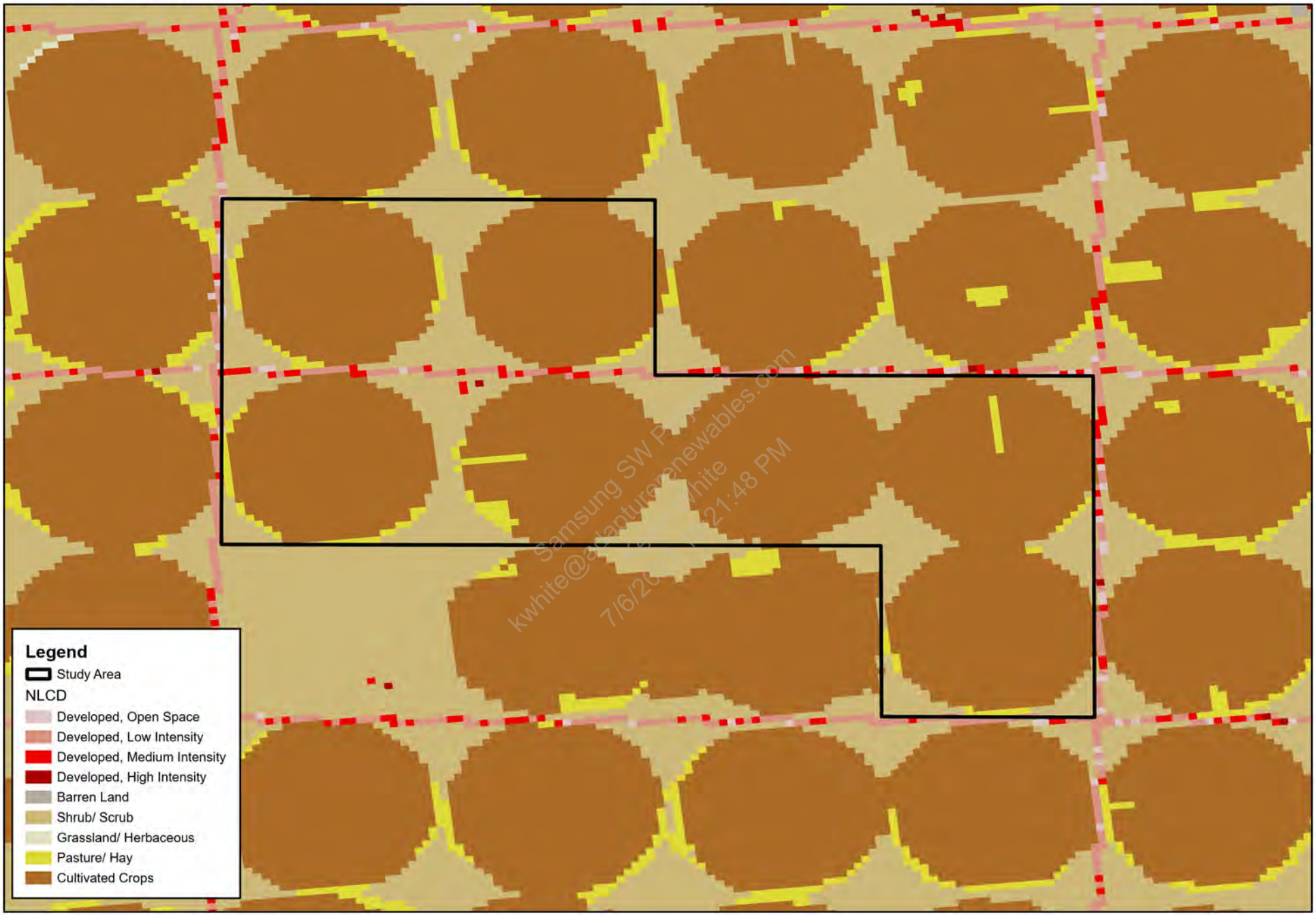


Figure 6: National Land Cover Dataset (NLCD) Map
Aquatic Resources Delineation Report
Haynach Solar Project
Alamosa County, CO

Aerial Source/Date: ESRI, 2023

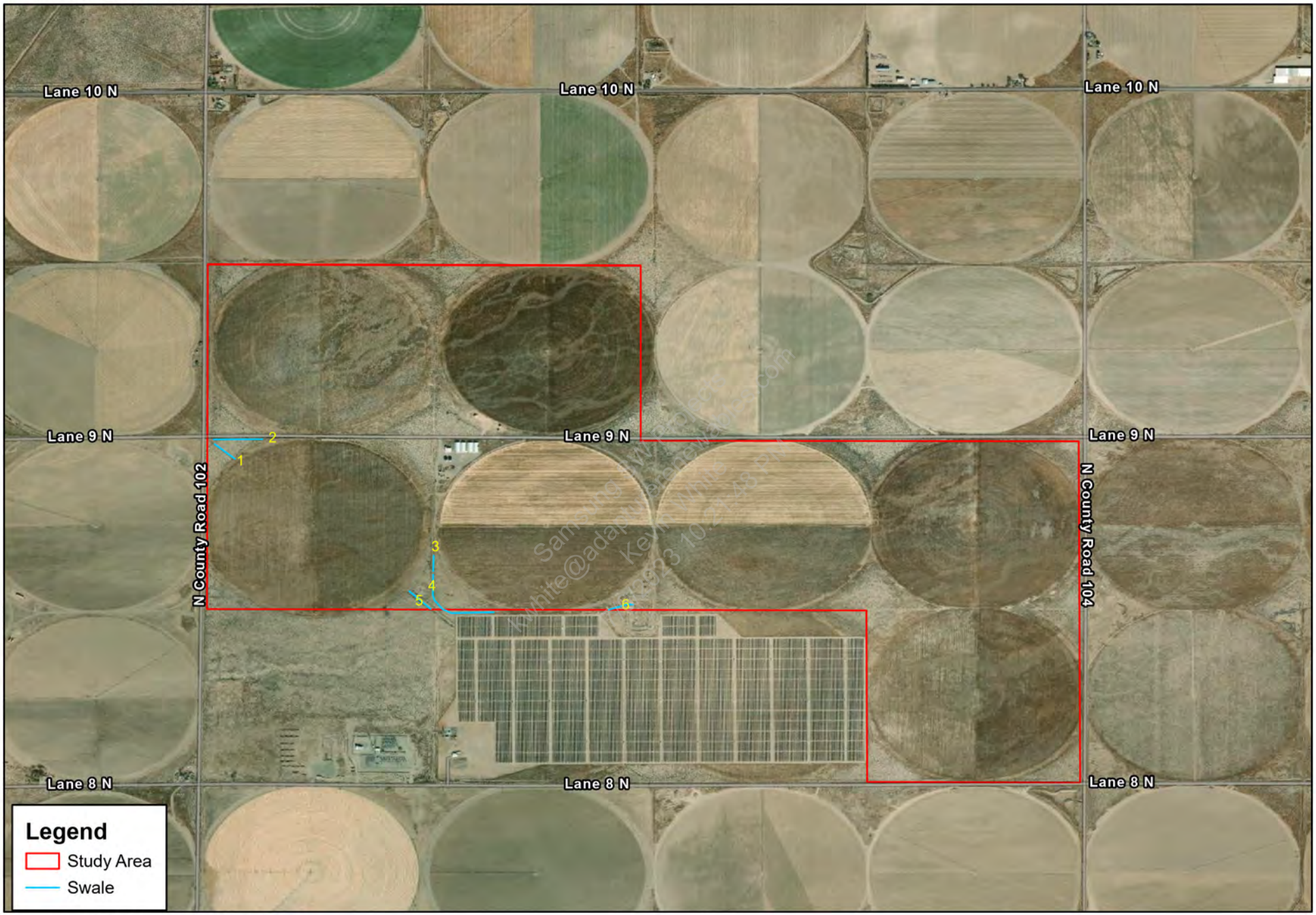


Figure 7: Field Delineated WOTUS Map
Aquatic Resources Delineation Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn Expect More. Experience Better.

0 1,000 2,000 4,000 Feet

0 405 810 1,620 Meters

N W E S

Appendix B: Photo Location Map and Site Visit Photographs

Kimley»Horn

Aerial Source/Date: ESRI, 2023

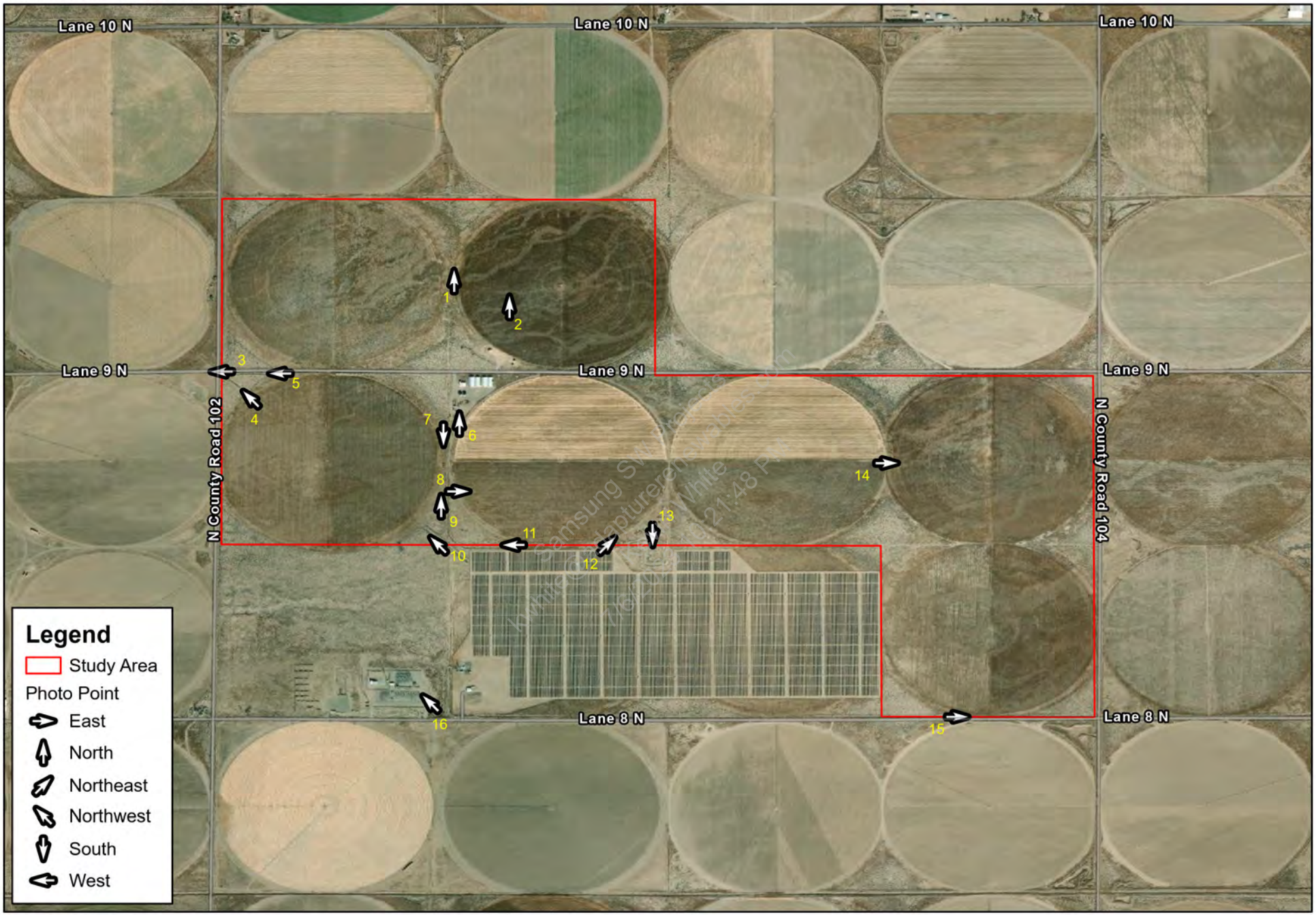


Photo Location Map
Aquatic Resources Delineation Report
Haynach Solar Project
Alamosa County, CO

SAMSUNG SAMSUNG C&T Kimley»Horn
Expect More. Experience Better.

0 1,000 2,000 4,000 Feet
0 405 810 1,620 Meters

N
W E
S

Photo No. 1

View from the north-central portion of the study area looking north along 230kV TriState – PSCo Transmission Line (Hooper Solar Substation). Note disturbed rangeland (area between agriculture plots) in the foreground.

Photo No. 2

View from the north-central portion of the study area looking north at a mismapped NWI wetland feature. Feature is not present.

Photo No. 3

View from the western boundary of the study area looking west at a mismapped NWI wetland feature. Feature is not present.

Photo No. 4

View from the western portion of the study area looking northwest along Swale 1.

Photo No. 5

View from the western portion of the study area looking west along Swale 2.

Photo No. 6

View from the western portion of the study area looking north at Lee Welch Farm structures.

Photo No. 7

View from the central portion of the study area looking south along 230kV TriState – PSCo Transmission Line (Hooper Solar Substation).

Photo No. 8

View from the central portion of the study area looking east towards typical active agriculture (wheat) field.

Photo No. 9

View from the south-central portion of the study area looking north along Swale 3.

Photo No. 10

View from the south-central portion of the study area looking northwest along Swale 5.

Photo No. 11

View from the south-central portion of the study area looking west along Swale 4.

Photo No. 12

View from the south-central portion of the study area looking northeast along Swale 6.

Photo No. 13

View from the south-central portion of the study area looking south at a mismapped NWI wetland feature. Feature is not present.

Photo No. 14

View from the east-central portion of the study area looking east at typical fallow agriculture.

Photo No. 15

View from the southeastern portion of the study area looking east at a mismapped NWI mapped wetland feature. Feature is not present.

Photo No. 16

View from outside the study area looking northwest at Haynach Solar point of interconnection (Hooper Solar Substation).

Exhibit J: Phase 1 Environmental Site Assessment

PHASE I ENVIRONMENTAL SITE ASSESSMENT

HAYNACH HYBRID SOLAR PROJECT
LEE WELCH
EAST COUNTY ROAD 102 NORTH
MOSCA, CO 81125

REPORT DATE: JANUARY 26, 2022

PREPARED FOR

Samsung Solar Energy 2 LLC
5601 E. Slauson Ave, Suite 101
Commerce, CA 90040

PREPARED BY

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Mark Larocque
PRESIDENT

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APPENDIX

1.0 EXECUTIVE SUMMARY

Practical Environmental Solutions (PES) was authorized by Samsung Solar Energy 2 LLC (Samsung Solar) to conduct a Phase I Environmental Site Assessment (ESA) of the Lee Welch parcels for the Haynach Hybrid Solar Project located along East County Road 102 North in Mosca, Alamosa County, Colorado ("the Site"). PES has conducted this ESA in general accordance with the scope and limitations of ASTM Designation E1527-21, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process."

The Site consists of two parcels totaling 1145.56 acres. The parcels are owned by Lee Welch. The Site area is currently farm land with one maintenance building, two potato cellars and two grain silos. No significant surface features or environmental conditions were noted on the project Site areas. PES did note some areas of debris and old farm equipment, around the maintenance building area. Vehicle access to the Site is provided via East County Road 102 North to the west of the parcels.

The Site is situated within a rural area of Mosca. The Site is bound to the north by farm land; to the south by a solar farm and substation; to the east by farm land; and to the west by farm land. Based upon topographic map interpretation and site observations, groundwater flow beneath the Site is inferred to be in an easterly direction.

The Site is not listed in the regulatory databases reviewed in Section 4.1.1 of this report.

CONCLUSIONS

PES has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-21 of the Welch parcels for the Haynach Hybrid Solar Project located along East County Road 102 North in Mosca, Alamosa County, Colorado. Any exceptions to or deletions from this practice are described in Section 2.4 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the Site. No further actions or investigations are warranted at this time.

2.0 INTRODUCTION

Practical Environmental Solutions (PES) was retained by Samsung Solar to conduct a Phase I Environmental Site Assessment of the Welch parcels for the Haynach Hybrid Solar Project located along East County Road 102 North in Mosca, Alamosa County, Colorado. The protocol used for this assessment is in general conformance with ASTM E1527-21, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process scope of work for Phase I Environmental Site Assessments."

PES assessed the possible presence of petroleum products and hazardous materials at the Site. PES's investigation included review of aerial photos, review of adjoining properties, background research, and review of available local, state, and federal regulatory records regarding the presence of petroleum products and/or hazardous materials at the Site.

PES contracted Environmental Data Resources of Shelton, CT (EDR) to perform a computer database search for local, state, and Federal regulatory records pertaining to environmental concerns for the Site and properties in the vicinity of the Site (see Section 4.0).

2.1 Purpose

The purpose of this Phase I Environmental Site Assessment (ESA) was to identify existing or potential Recognized Environmental Conditions (RECs) (as defined by ASTM Standard E1527-21) in connection with the Site. PES understands that the findings of this study will be used by Samsung Solar to evaluate a pending financial transaction in connection with the Site.

2.2 Scope of Services

PES has performed a Phase I Environmental Site Assessment on the Site in general conformance with the scope and limitations of ASTM Practice E1527-21. Any exceptions to or deletions from this practice are described in the body of this report.

In general, the scope of this assessment consisted of reviewing readily available information and environmental data relating to the Site; interviewing readily available persons knowledgeable about the Site; reviewing readily available maps, aerial photographs and records maintained by federal, state, and local regulatory agencies.

2.3 Assumptions

There is a possibility that even with the proper application of these methodologies there may exist on the Site conditions that could not be identified within the scope of the assessment or that were not reasonably identifiable from the available information. PES believes that the information obtained from the record review and the interviews concerning the Site is reliable.

2.4 Limitations and Exceptions (Data Gaps)

The findings and conclusions contain all of the limitations inherent in these methodologies that are referred to in ASTM E1527-21. Specific limitations and exceptions to this ESA are more specifically set forth below:

- PES encountered data limitations by not interviewing past Site owners, tenants, or adjoining property owners, as none were available for comment, did not respond to requests to information, or did not exist. However, based on our review of the available municipal, regulatory, and historical information, the absence of information obtained from interviews with these individuals is not considered significant to the findings, conclusions, or recommendations of this assessment.
- PES was unable to inspect the interior of the three site buildings during the site visit. PES noted no environmental issues around the exterior of these buildings. The lack of interior access to the buildings is not considered significant to the findings, conclusions, or recommendations of this assessment.

2.5 Special Terms and Conditions

Authorization to perform this work was given by a directive from Samsung Solar Energy 2, LLC, the owner of Haynach Solar, LLC.

The conclusions and findings set forth in this report are strictly limited in time and scope to the date of the evaluations. The conclusions presented in the report are based solely on the services described therein, and not on scientific tasks or procedures beyond the scope of agreed-upon services or the time and budgeting restraints imposed by the client. No subsurface exploratory drilling or sampling was done under the scope of this work. Unless specifically stated otherwise in the report, no chemical analyses have been performed during the course of this ESA.

Some of the information provided in this report is based upon personal interviews, and research of available documents, records, and maps held by the appropriate government and private agencies. This is subject to the limitations of historical documentation, availability, and accuracy of pertinent records, and the personal recollections of those persons contacted.

The content and conclusions provided by PES in this report are based solely on the information collected during our investigation and activities at the Site, our present understanding of the Site conditions, and our professional judgment in light of such information at the time this report was prepared. Part of the findings in this investigation is based on data provided by others. This report presents PES's professional opinion, and no warranty, expressed or implied, is made.

2.6 User Reliance

Samsung Solar Energy 2, LLC, its affiliates and co-owners and/or shareholders of Haynach Solar LLC and its affiliates (collectively, "Client") may use and rely upon this Report in connection with a planned loan securitization or planned financial transaction involving the Site.

3.0 SITE DESCRIPTION

3.1 User Provided Information

Pursuant to ASTM E1527-21, PES requested the following site information from Samsung Solar Energy 2 LLC (User of this report) and from the site contact.

3.2 Location and Legal Description

The parcels are located along East County Road 102 North in Mosca, Alamosa County, Colorado. According to the Arapahoe County Tax Assessor's Office, the parcels total approximately 1145.56 acres and are owned by Lee Welch. The legal description for the parcels is presented in Appendix A.

3.3 Site and Vicinity General Characteristics

The Site is situated within a rural area of Mosca. The Site is bound to the north by farm land; to the south by a solar farm and substation; to the east by farm land; and to the west by farm land. Based upon topographic map interpretation and site observations, groundwater flow beneath the Site is inferred to be in an easterly direction.

3.4 Current Use of the Site

The Site consists of two parcels totaling 1145.56 acres. The parcels are owned by Lee Welch. The Site area is currently farm land with one maintenance building, two potato cellars and two grain silos. No significant surface features or environmental conditions were noted on the project Site areas. PES did note some areas of debris and old farm equipment, around the maintenance building area. Vehicle access to the Site is provided via East County Road 102 North to the west of the parcels.

3.5 Description of Site Improvements

There are no site improvements, other than some power lines. Electricity is provided to the Site by San Luis Valley Rural Electric Cooperative.

3.6 Current Use of Adjoining Properties

During the vicinity review, PES noted the following land use on properties in the immediate vicinity of the Site.

North:	Areas immediately adjoining to the north of the Site include the following: farm land
South:	Areas immediately adjoining to the south of the Site include the following: substation and solar field
East:	Areas immediately adjoining to the east of the Site include the following: farm land
West:	Areas immediately adjoining to the west of the Site include the following: farm land
No recognized environmental conditions (RECs) were identified based on the current uses of the adjoining properties.	

4.0 RECORDS REVIEW

4.1 Standard Environmental Record Sources

4.1.1 State and Federal Regulatory Review

Information from standard Federal and state environmental record sources was provided through Environmental Data Resources (EDR). Data from governmental agency lists are updated and integrated into one database, which is updated as these data are released. This integrated database also contains postal service data in order to enhance address matching. Records from one government source are compared to records from another to clarify any address ambiguities. The demographic and geographic information available provides assistance in identifying and managing risk. The accuracy of the geocoded locations is approximately +/-300 feet.

In some cases, location information supplied by the regulatory agencies is insufficient to allow the database companies to geocode facility locations. These facilities are listed under the unmappables section within the EDR report. A review of the unmappable facilities indicated that none of these facilities are within the ASTM minimum search distance from the Site. These facilities are discussed under the appropriate database heading below. PES ran three separate databases with a 2-mile radius in order to cover the entire project area.

Regulatory information from the following database sources were reviewed for information within the ASTM minimum search distance from the Site. Specific facilities are discussed below if the potential for a recognized environmental condition (REC) has resulted at the Site from the listed facilities. Please refer to Appendix A for a complete listing.

Federal NPL

The National Priorities List (NPL) is the U.S. Environmental Protection Agency (EPA) database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund Program. *The Site is not listed as a NPL facility. No NPL sites are located within two mile radius of the Site.*

Federal Delisted NPL

The Delisted NPL is the U.S. EPA database of sites that have been deleted from the NPL where no further response is appropriate. *The Site is not listed as a Delisted NPL facility. No Delisted NPL sites are located within two mile radius of the Site.*

Federal CERCLIS List

The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) list is a compilation of sites that the EPA has investigated or is currently investigating for a release or threatened release of hazardous substances. *The Site is not listed as a CERCLIS facility. No CERCLIS sites are listed within two mile radius of the Site.*

Federal CERCLIS NFRAP Sites List

The CERCLIS No Further Remedial Action Planned (NFRAP) List is a compilation of sites that the EPA has investigated, and has determined do not pose a threat to human health or the

environment, under the CERCLA framework. *The Site is not listed as a CERCLIS-NFRAP facility. No CERCLIS-NFRAP sites are listed within two mile radius of Site.*

Federal RCRA CORRACTS Facilities List

The EPA Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The CORRACTS database is the EPA's list of hazardous waste handlers subject to corrective action under RCRA. *The Site is not listed as a RCRA CORRACTS facility. No RCRA CORRACTS sites are listed within two mile radius of the Site.*

Federal RCRA Non-CORRACTS TSD Facilities List

The RCRA Non-CORRACTS Treatment, Storage and Disposal (TSD) database is a compilation by the EPA of reporting facilities that treat, store or dispose of hazardous waste. *The Site is not listed as a RCRA Non-CORRACTS TSD facility. No RCRA Non-CORRACTS TSD sites are listed within two mile radius of the Site.*

Federal RCRA Generators List

The RCRA program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Generators database is a compilation by the EPA of reporting facilities that generate hazardous waste. *The Site is not listed as a RCRA facility. No RCRA Generator sites are listed on the adjoining properties or within the database two mile radius.*

Federal Institutional Control / Engineering Control Registries

The U.S. institutional control (INST CONTROL) and engineering control (ENG CONTROL) registries include sites with engineering controls and institutional controls in place. Engineering controls including various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or affect human health. Institutional controls include administrative measures intended to prevent exposure to contaminants remaining on site. *No U.S. INST CONTROL or ENG CONTROL sites are listed on the Site. or within the database two mile radius.*

Federal ERNS

The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil or hazardous substances. *No ERNS sites are listed for the Site or within the database two mile radius.*

State CERCLIS-Equivalent List

The State maintains a State CERCLIS-equivalent list (SCL) of facilities under investigation that could be actually or potentially contaminated and presenting a possible threat to human health and the environment. *The Site is not listed as a SCL facility. No SCL sites are listed within two mile radius of the Site.*

Solid Waste/Landfill Facilities

A database of Solid Waste and/or Landfill (SWLF) facilities is maintained by the state. *The Site is not listed as a SWLF facility. No SWLF sites are listed within two mile radius of the Site.*

State Leaking Underground Storage Tank List

The State compiles lists of all leaking underground storage tanks (LUST). *The Site is not listed as a LUST facility. No LUST sites are listed within two mile radius of the Site.*

State Registered Storage Tank List

The State compiles a list of registered petroleum tank (i.e. underground and aboveground storage tank (UST/AST) locations. *The Site is not listed as a UST/AST facility. No registered UST/AST sites are listed within a two mile radius of the Site.*

State Institutional Control / Engineering Control Registries

The State compiles a list of INST CONTROL and ENG CONTROL sites. *No State INST CONTROL or ENG CONTROL sites are listed for the Site or within the database two mile radius.*

State Voluntary Cleanup Sites

The State compiles a list of Voluntary Cleanup Program (VCP) sites. *No VCP facilities are listed for the Site. No VCP sites are listed within two mile radius of the Site.*

State Brownfields Sites

The State compiles a list of Brownfield sites. *No Brownfield facilities are listed for the Site. No Brownfield sites are listed within two mile radius of the Site.*

State SPILLS/OTHER sites

No SPILLS/OTHER sites are listed for the Site. No SPILLS and one OTHER sites (FINDS site) is listed within two mile radius of the Site (Hooper Solar - located adjacent to the south). The OTHER site is considered to be located hydrologically upgradient of the project area but not considered to pose a risk to the subject Site.

4.1.2 Regulatory Agency Review

4.1.2.1 State Agency

A file review was performed for the Site with the State. This file review consisted of an online search of the State records by EDR. There are no current records on file for the Site with the State, other than what is described above in the EDR database findings.

4.1.2.2 Assessor & Health Dept.

According the Assessor's Office, no environmentally-related liens or deed restrictions have been recorded against the Site.

4.1.2.3 Fire Officials

Records from local Fire Department were reviewed for evidence indicating the presence of petroleum bulk storage tanks and for the use of hazardous materials. No current records were found for the Site address.

4.1.2.4 Planning/Building Department

Records from County Planning/Building Department were reviewed for evidence indicating the developmental history of the Site, and for the presence of documentation relative to petroleum bulk storage tanks. Land use was indicated as farm land.

4.2 Physical Setting Sources

4.2.1 Topography

The United States Geological Survey (USGS), Hooper West, CO Quadrangle 7.5 minute series topographic map was reviewed for this ESA. This map was published by the USGS in 2019. According to the contour lines on the topographic map, the Site is located at approximately 7600-7590 feet above mean sea level (MSL). The contour lines in the area of the Site indicate the area is sloping to the east.

4.2.2 Soils/Geology

Based on the on-line soil survey maps published by the USDA Soil Conservation Service, the Site is mapped as silty to loamy soils of the following associations:

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Gn	Gunbarrel loamy sand, 0 to 1 percent slopes	410.5	35.3%
Gs	Gunbarrel loamy sand, saline	296.4	25.5%
Mc	McGinty sandy loam	39.2	3.4%
Mo	Mosca loamy sand	154.9	13.3%
Ms	Mosca loamy sand, wet	92.8	8.0%
Se	San Luis sandy loam, 0 to 1 percent slopes	169.4	14.6%
Totals for Area of Interest		1,163.2	100.0%

The estimated depth to bedrock at the Site is approximately >20 feet bgs. The San Luis Valley and associated underlying basin of south-central Colorado and north-central New Mexico is the largest structural and hydrologic basin of the Rio Grande Rift and fluvial system. The surrounding San Juan and Sangre de Cristo Mountains reveal evidence of widespread volcanism and transtensional tectonism beginning in the Oligocene and continuing to the present, as seen in fault displacement of Pleistocene to Holocene deposits along the eastern basin-bounding Sangre de Cristo fault system and fault zones along the western margin of the basin. The San Luis basin can generally be subdivided into northern and southern basins at the structural and physiographic high terrain of the San Luis Hills in the center of the basin, proximal to the Colorado-New Mexico stateline. The northern San Luis Valley can be subdivided into two subbasins at approximately the latitude of the Great Sand Dunes and San Luis Lakes, where the endorheic northern subbasin surface and subsurface flow currently accumulate in a series of playa lakes.

4.2.3 Hydrology

Based on the topography of the Site and vicinity, groundwater flow beneath the Site is inferred to be in an easterly direction. No Surface water was noted on the parcels. The National Wetlands Map shows no wetland areas on the site.

The EPA defines a sole or principal source aquifer as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas may have no alternative drinking water source(s) that could physically, legally and economically supply all those who depend on the aquifer for drinking water. For convenience, all designated sole or principal source aquifers are referred to as "sole source aquifers" (SSA).

This designation was made under Section 1424(e) of the Safe Drinking Water Act. The Site is not situated above a SSA.

4.2.4 Flood Zone Information

A review of the Flood Insurance Rate Maps, published by the Federal Emergency Management Agency (FEMA), was performed. According to Panel Numbers 0800090020A, the Site is located in Flood Zone D. Flood Zone D regions consist of those areas that are not mapped for the 100-year flood zone.

4.2.5 Oil and Gas Exploration

According to web-based information available from the State, there is current or historical exploration or production of oil, gas, or geothermal resources in the general area near the Site area. According to Mr. Welch, he has no knowledge of any current or historical oil/gas wells on the property. The oil and gas map records online for Colorado indicated there were no listed wells on the parcels.

4.3 Historical Use Information

The historical use of the Site was determined based on review of aerial photographs. The following briefly summarizes the developmental history of the Site.

4.3.1 Aerial Photographs

Available aerial photographs dated *1985, 1998, 2006, and 2017* from Google Earth, were reviewed for this ESA. Copies of selected photographs are included in Appendix C of this report. The site appears as undeveloped farm land in all the photos.

4.3.2 Fire Insurance Maps

Fire insurance maps were created for insurance underwriters and often contain information regarding the uses of individual structures, and the locations of fuel and/or chemical storage tanks that may have historically been on a property. No fire insurance map collection was available for the Site area.

4.3.3 City Directories

Historical city directories were not available for the site. The lack of city directories does not represent a data gap for the report.

4.3.4 Chain of Title

A 50-year chain-of-title was not warranted for this study. Historical use of the Site was researched using other standard historical sources. The site is owned by Lee Welch. PES reviewed the following title report: #N0034530-010-TO2-ES, prepared by Fidelity Title Company, dated September 5, 2021. PES noted no environmental liens or issues in the title reports.

4.3.5 Additional Environmental Record Sources

No additional environmental record sources were available for the project area. PES interviewed the property owner (Lee Welch). Mr. Welch indicated that his family has owned since 1950. The parcels were used for range land historically. Mr. Welch indicated that there

is one water well on the parcels (that has not been in use for over 25 years). PES was unable to locate the well during the site visit. Mr. Welch was unaware of any oil wells, drilling, or environmental issues on the parcels.

4.3.6 Historical Use Information on Adjoining Properties

By review of the standard historical sources referenced above, the historical uses of the adjoining properties were similar to the current usage in all aerial photos.

5.0 SITE REVIEW

5.1 General Site Characteristics

The Site consists of two parcels totaling 1145.56 acres. The parcels are owned by Lee Welch. The Site area is currently farm land with one maintenance building, two potato cellars and two grain silos. No significant surface features or environmental conditions were noted on the project Site areas. PES did note some areas of debris and old farm equipment, around the maintenance building area. Vehicle access to the Site is provided via East County Road 102 North to the west of the parcels.

5.1.1 Solid Waste Disposal

No solid waste disposal was noted on the parcels. PES did note some areas of debris and old farm equipment, around the maintenance building area. There were 3 empty drums of motor oil noted around the tractor storage area. No staining or leakage was noted around the drums. PES was unable to access the interior of the maintenance building or potato cellars. PES noted no staining around the exterior of these buildings.

5.1.2 Surface Water Drainage

The surface water drainage flows to the east.

5.1.3 Wells and Cisterns

No aboveground evidence of cisterns were noted during the Site review. Mr. Welch indicated that there several water wells on the parcels. PES was unable to located the well during the site visit.

5.1.4 Wastewater

No indications of industrial/sanitary wastewater disposal or treatment facilities were noted during the Site review.

5.1.5 Additional Site Observations

No additional relevant general Site characteristics were noted. Mr. Welch had no knowledge of any environmental issues on the land.

5.2 Potential Environmental Conditions

5.2.1 Hazardous Materials and Petroleum Products Used or Stored at the Site

No evidence of the use of hazardous materials or wastes was noted on the Site during the site review. According to Mr. Welch, fertilizers and pesticides have been used on the land.

5.2.1.1 Unlabeled Containers and Drums

No unlabeled containers or drums were noted during the Site review. There were 3 empty drums of motor oil noted around the tractor storage area. No staining or leakage was noted around the drums.

5.2.1.2 Disposal Locations of Regulated/ Hazardous Waste

No obvious indications of hazardous waste generation, storage or disposal were noted on the Site or were indicated during interviews.

5.2.2 Evidence of Releases

No obvious indications of hazardous material or petroleum product releases, such as stained areas or stressed vegetation, was noted during the Site review.

5.2.3 Polychlorinated Biphenyls (PCBs)

Older transformers and other electrical equipment could contain polychlorinated biphenyls (PCBs) at a level that subjects them to regulation by the U.S. EPA. PCBs in electrical equipment are controlled by United States Environmental Protection Agency regulations 40 CFR, Part 761. Under the regulations, there are three categories into which electrical equipment can be classified:

- Less than 50 parts per million (PPM) of PCBs – "*Non-PCB" transformer*
- 50 ppm-500 ppm – "PCB-Contaminated" electrical equipment
- Greater than 500 ppm – "*PCB" transformer*

PES noted one pole mounted electrical transformers on the parcels. The unit is labeled as non-PCB containing. No staining or leakage was noted around the unit. No other electrical equipment expected to contain PCBs was noted on the Site during PES's review.

5.2.4 Landfills

No evidence of on-Site landfills were noted or reported during the Site review.

5.2.5 Pits, Ponds, Lagoons, Sumps, and Catch Basins

No evidence of on-Site pits, ponds, or lagoons was noted or reported during the Site review. No evidence of sumps or catch basins were noted or reported during the Site review.

5.2.6 On-Site ASTs and USTs

No evidence of aboveground storage tanks (ASTs) or underground storage tanks (USTs) was noted during the Site review. There are several plastic totes and plastic holding tanks located around the farm equipment storage area. All of these containers were empty.

5.2.7 Vapor Migration

During PES's Site observations, review of historical sources, and review of regulatory databases, no current or historical usage of chemicals of concern at the Site or reported release or other indication of subsurface contamination from an onsite source was evident. Additionally, no release or material threat of a release to the subsurface from an offsite source was identified. As such, a vapor migration concern was not identified for the Site during the course of this assessment.

5.2.8 Radiological Hazards

No radiological substances or equipment was noted or reported to be stored on the Site.

5.2.9 Drinking Water

Per Mr. Welch, the Site has several water wells throughout the property. According to the County Health Department, there have been no issues reported with the water wells.

5.2.10 Additional Hazard Observations

No additional hazards were noted on the Site.

5.2.11 Asbestos-Containing Materials (ACM)

No suspected areas of ACMs were noted on the parcel.

5.2.12 Radon

The U.S. EPA has prepared a map to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones, based on the EPA Action limit of 4.0 picoCuries per Liter (pCi/L). Review of the EPA Map of Radon Zones places the Site in Zone 1, where average predicted radon levels are greater than 4.0 pCi/L. Additionally, based on the undeveloped nature of the site, radon is not considered to be a concern for the Site.

5.2.13 Lead-Based Paint

No suspected areas of lead-based paints were noted on the parcel.

5.2.14 Mold

No suspected areas of mold were noted on the parcel.

6.0 INTERVIEWS

Interviews were conducted with the following individuals. Findings from these interviews are discussed in the appropriate sections in this report.

Contact Name	Affiliation	Telephone No	Date Interviewed	Comments
Sandra Hostettler	County Assessor	719-589-6365	1-20-22	No issues known
Eric Treinen	Fire Department	719-589-1131	1-20-22	No issues known
Pete MaGee	County Building-Planning	719-589-4848	1-20-22	No issues known
Bev Strnad	County Health Dept	719-589-6639	1-20-22	No issues known
Lee Welch	Property owner	719-588-1829	1-25-22	No issues known

7.0 FINDINGS AND CONCLUSIONS

7.1 Findings

7.1.1 On-Site Recognized Environmental Conditions (RECs)

No on-Site environmental conditions (RECs) were identified during the course of this assessment.

7.1.2 Off-Site Recognized Environmental Conditions (RECs)

No off-Site environmental conditions (RECs) were identified during the course of this assessment..

7.1.3 Historical/Controlled Recognized Environmental Conditions (HRECs/CRECs)

No Historical Recognized Environmental Conditions (HRECs) or Controlled Recognized Environmental Conditions (CRECs) were identified on the Site during the course of this assessment.

7.1.4 De Minimis Environmental Conditions

Several *de minimus* environmental conditions were noted on the parcels. There are a few areas of household debris and empty drums located mainly near the maintenance facility. None of these materials appeared to be hazardous in nature.

There has been use of fertilizers and pesticides on the parcels for the farming operations. There may be residual chemicals in the site soils that is associated with the fertilizer or pesticide applications. The general area around the project site is all used for farming. The presence of these materials in the site soils can be considered background conditions and does not constitute a REC at this time.

According to the land owner, there are water wells on the property. If the wells are not to be used in the future for the solar facility or the land owner, the wells should be properly closed.

7.2 Opinion

During the performance of this ESA, no environmental conditions were identified that likely would impact the Site.

7.3 Conclusions

PES has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-21 of the parcels for the Haynach Hybrid Solar Project located along East County Road 102 North in Mosca, Alamosa County, Colorado (the Site). Any exceptions to or deletions from this practice are described in Section 2.4 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the Site.

7.4 Recommendations

No further actions or investigations are recommended at this time.

7.5 Deviations

This Phase I ESA substantially complies with the scope of services and E1527-21, as amended, except for exceptions and/or limiting conditions as discussed in Section 3.4.

8.0 REFERENCES

REPORTS, PLANS, AND OTHER DOCUMENTS REVIEWED:

Aerial Photographs – EDR - *1985, 1998, 2006, 2017*

EDR Radius Map Report

Federal Emergency Management Agency, Federal Insurance Administration, National Flood Insurance Program, Flood Insurance Map, Community Panel Number 0800090020A

State or Federal radon info.

State Groundwater or Water Well Maps

State Oil and Gas Map reviewed

USEPA National Radon Survey, 1993.

USGS - 7.5 Minute Topographic Quadrangle

USGS Soil Survey (online)

PES Site Visit - 1-21-22

Owner Interview - Lee Welch - 1-25-22

AGENCIES CONTACTED:

Local - Fire Department

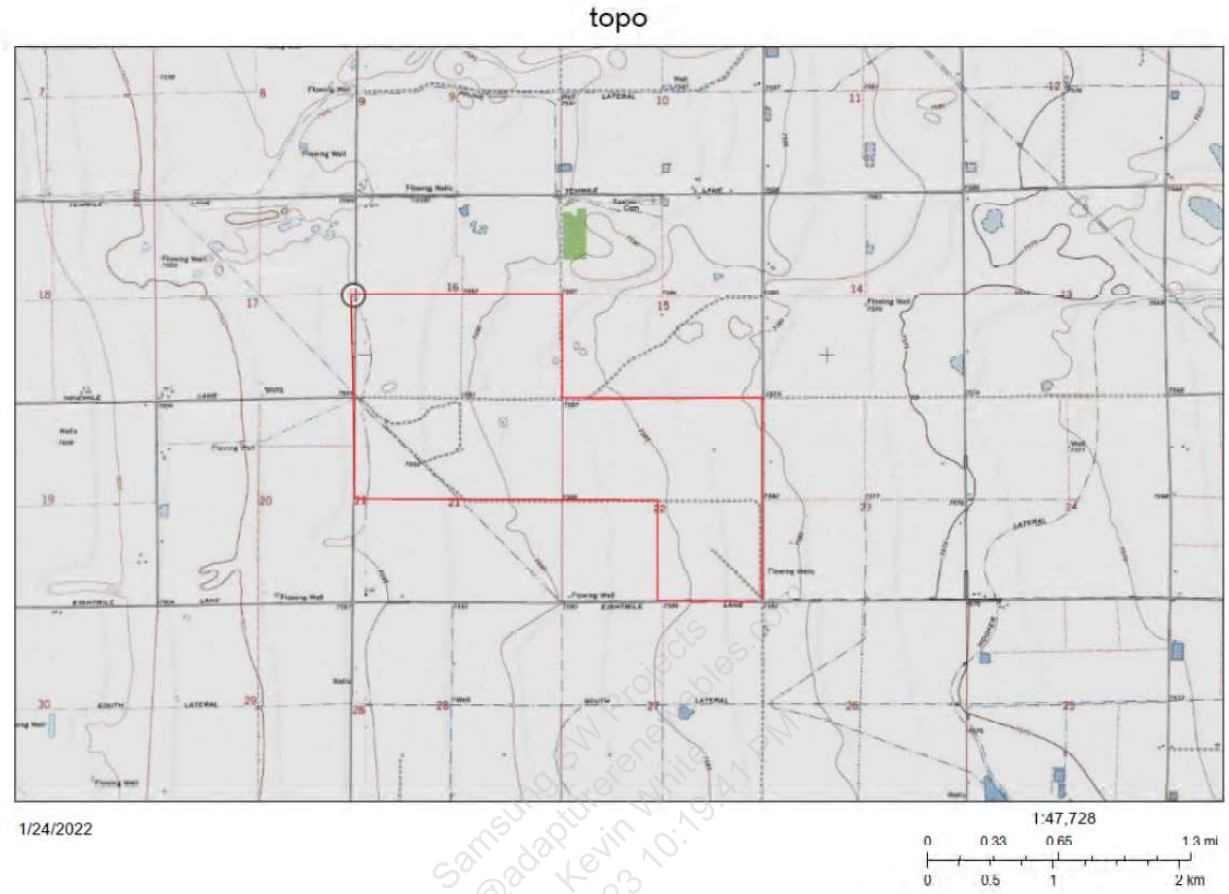
County - Health Department

County - Tax Assessor

County - Building/Planning Department

FIGURES

Figure 1 - Topo



USGS - Hooper West, CO (2019)

Figure 2 - Site Location

Figure 3 - Site Map

Figure 4 - Tax Parcel Map

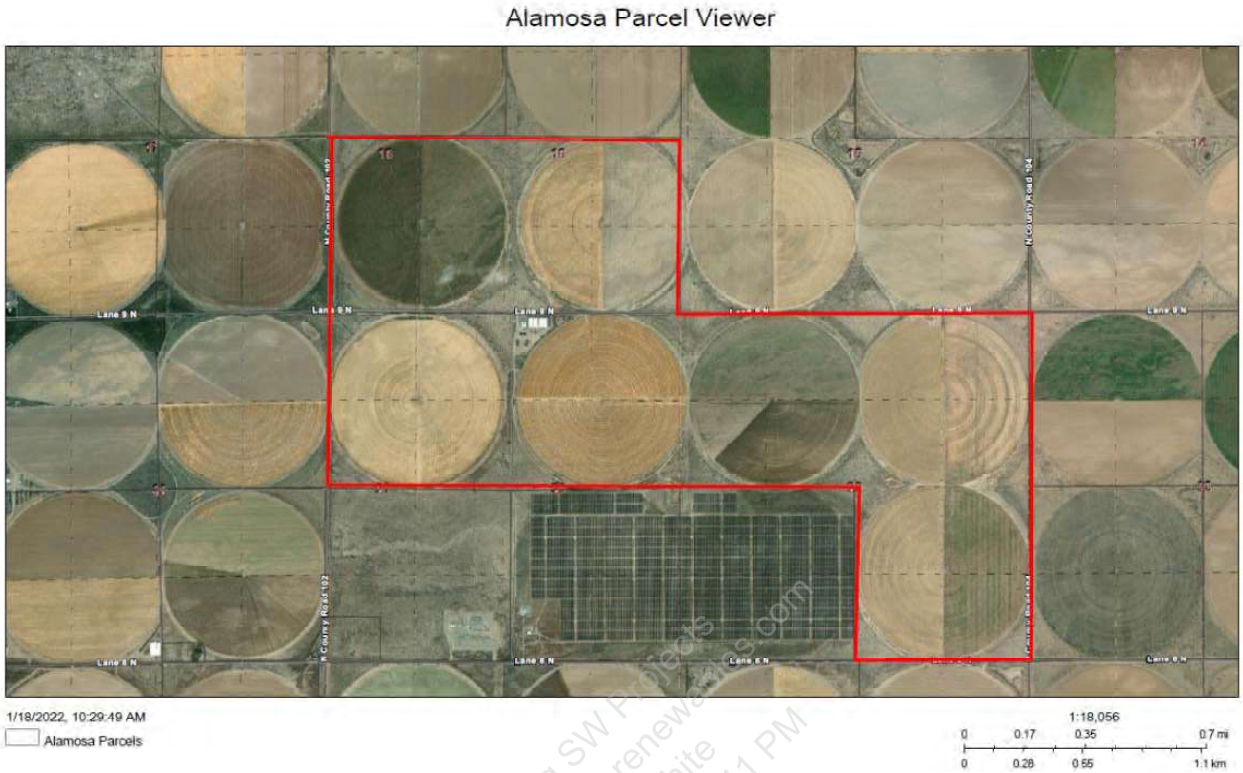


TABLE 1 - Parcel List

Haynach Solar - Lee Welch	
Parcel #	**Acres**
500921100163	817
500916300040	328.56
total	**1145.56**

APPENDIX A

ENVIRONMENTAL DATABASE
&
LEGAL DESCRIPTIONS

LEGAL DESCRIPTIONS

Township 40 North, Range 9 East, N.M.P.M.: Section 16: South ½, LESS and EXCEPT the South 30 feet thereof previously conveyed to the Board of County Commissioners, Alamosa County, Colorado, in Book 208 Page 383; Section 21: Northeast ¼, LESS and EXCEPT the North 30 feet thereof previously conveyed to the Board of County Commissioners, Alamosa County, Colorado, in Book 208 Page 382; Section 22: North ½ and the Southeast ¼, LESS and EXCEPT the North 30 feet thereof previously conveyed to the Board of County Commissioners, Alamosa County, Colorado, in Book 208 Page 383; County of Alamosa, State of Colorado. Tax ID .: 500-921-100-163 500-916-300-040

Haynach Solar - Welch Lee
East County Road 102 North
Mosca, CO 81146

Inquiry Number: 6825043.10s
January 19, 2022

FirstSearch Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Search Summary Report

TARGET SITE **EAST COUNTY ROAD 102 NORTH**
MOSCA, CO 81146

Category	Sel	Site	1/8	1/4	1/2	> 1/2	ZIP	TOTALS
NPL	Y	0	0	0	0	0	0	0
NPL Delisted	Y	0	0	0	0	0	0	0
CERCLIS	Y	0	0	0	0	0	0	0
NFRAP	Y	0	0	0	0	0	0	0
RCRA COR ACT	Y	0	0	0	0	0	0	0
RCRA TSD	Y	0	0	0	0	0	0	0
RCRA GEN	Y	0	0	0	0	0	0	0
Federal IC / EC	Y	0	0	0	0	0	0	0
ERNS	Y	0	0	0	0	0	0	0
State/Tribal CERCLIS	Y	0	0	0	0	0	0	0
State/Tribal SWL	Y	0	0	0	0	0	0	0
State/Tribal LTANKS	Y	0	0	0	0	0	0	0
State/Tribal Tanks	Y	0	0	0	0	0	0	0
State/Tribal IC / EC	Y	0	0	0	0	0	0	0
State/Tribal VCP	Y	0	0	0	0	0	0	0
ST/Tribal Brownfields	Y	0	0	0	0	0	0	0
US Brownfields	Y	0	0	0	0	0	0	0
Other SWF	Y	0	0	0	0	0	0	0
Other Haz Sites	Y	0	0	0	0	0	0	0
Spills	Y	0	0	0	0	0	0	0
Other	Y	0	0	0	0	1	0	1
Exclusive Recovered Govt. Archives	Y	0	0	0	0	0	0	0
	- Totals --	0	0	0	0	1	0	1

Search Summary Report

TARGET SITE: **EAST COUNTY ROAD 102 NORTH**
MOSCA, CO 81146

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	ZIP	TOTALS
NPL	NPL	10/20/2021	2.000	0	0	0	0	0	0	0
	Proposed NPL	10/20/2021	2.000	0	0	0	0	0	0	0
NPL Delisted	Delisted NPL	10/20/2021	2.000	0	0	0	0	0	0	0
CERCLIS	SEMS	10/20/2021	2.000	0	0	0	0	0	0	0
NFRAP	SEMS-ARCHIVE	10/20/2021	2.000	0	0	0	0	0	0	0
RCRA COR ACT	CORRACTS	09/13/2021	2.000	0	0	0	0	0	0	0
RCRA TSD	RCRA-TSDF	09/13/2021	2.000	0	0	0	0	0	0	0
RCRA GEN	RCRA-LQG	09/13/2021	2.000	0	0	0	0	0	0	0
	RCRA-SQG	09/13/2021	2.000	0	0	0	0	0	0	0
	RCRA-VSQG	09/13/2021	2.000	0	0	0	0	0	0	0
Federal IC / EC	US ENG CONTROLS	08/23/2021	2.000	0	0	0	0	0	0	0
	US INST CONTROLS	08/23/2021	2.000	0	0	0	0	0	0	0
ERNS	ERNS	09/13/2021	2.000	0	0	0	0	0	0	0
State/Tribal CERCLIS	SHWS	02/05/2021	2.000	0	0	0	0	0	0	0
State/Tribal SWL	SWF/LF	10/30/2020	2.000	0	0	0	0	0	0	0
State/Tribal LTANKS	LAST	03/01/2018	2.000	0	0	0	0	0	0	0
	LTANKS	07/01/2021	2.000	0	0	0	0	0	0	0
	LUST	03/01/2018	2.000	0	0	0	0	0	0	0
	INDIAN LUST	04/28/2021	2.000	0	0	0	0	0	0	0
	LUST TRUST	09/15/2021	2.000	0	0	0	0	0	0	0
State/Tribal Tanks	UST	05/28/2021	2.000	0	0	0	0	0	0	0
	AST	05/28/2021	2.000	0	0	0	0	0	0	0
	INDIAN UST	04/28/2021	2.000	0	0	0	0	0	0	0
State/Tribal IC / EC	AUL	10/19/2021	2.000	0	0	0	0	0	0	0
State/Tribal VCP	VCP	05/31/2021	2.000	0	0	0	0	0	0	0
ST/Tribal Brownfields	BROWNFIELDS	09/09/2021	2.000	0	0	0	0	0	0	0

Search Summary Report

TARGET SITE: **EAST COUNTY ROAD 102 NORTH**
MOSCA, CO 81146

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	ZIP	TOTALS
US Brownfields	US BROWNFIELDS	06/10/2021	2.000	0	0	0	0	0	0	0
Other SWF	HIST LF	01/31/1993	2.000	0	0	0	0	0	0	0
	SWRCY	10/05/2021	2.000	0	0	0	0	0	0	0
	IHS OPEN DUMPS	04/01/2014	2.000	0	0	0	0	0	0	0
	DENVER CO HISTORIC FILL	12/17/2019	2.000	0	0	0	0	0	0	0
Other Haz Sites	CDL	09/15/2021	2.000	0	0	0	0	0	0	0
	US CDL	05/18/2021	2.000	0	0	0	0	0	0	0
	PFAS	12/08/2020	2.000	0	0	0	0	0	0	0
Spills	HMIRS	09/12/2021	2.000	0	0	0	0	0	0	0
	SPILLS	09/15/2021	2.000	0	0	0	0	0	0	0
	SPILLS 90	10/15/2012	2.000	0	0	0	0	0	0	0
Other	RCRA NonGen / NLR	09/13/2021	2.000	0	0	0	0	0	0	0
	TSCA	12/31/2016	2.000	0	0	0	0	0	0	0
	TRIS	12/31/2018	2.000	0	0	0	0	0	0	0
	SSTS	10/18/2021	2.000	0	0	0	0	0	0	0
	RMP	10/20/2021	2.000	0	0	0	0	0	0	0
	RAATS	04/17/1995	2.000	0	0	0	0	0	0	0
	PRP	10/20/2021	2.000	0	0	0	0	0	0	0
	PADS	11/19/2020	2.000	0	0	0	0	0	0	0
	ICIS	11/18/2016	2.000	0	0	0	0	0	0	0
	FTTS	04/09/2009	2.000	0	0	0	0	0	0	0
	MLTS	07/29/2021	2.000	0	0	0	0	0	0	0
	RADINFO	07/01/2019	2.000	0	0	0	0	0	0	0
	INDIAN RESERV	12/31/2014	2.000	0	0	0	0	0	0	0
	FUSRAP	07/26/2021	2.000	0	0	0	0	0	0	0
	US AIRS	10/12/2016	2.000	0	0	0	0	0	0	0
	ABANDONED MINES	09/14/2021	2.000	0	0	0	0	0	0	0
	FINDS	05/05/2021	2.000	0	0	0	0	1	0	1
	DOCKET HWC	05/06/2021	2.000	0	0	0	0	0	0	0
	ECHO	01/01/2022	2.000	0	0	0	0	0	0	0
	UXO	12/31/2018	2.000	0	0	0	0	0	0	0
	FUELS PROGRAM	08/13/2021	2.000	0	0	0	0	0	0	0
	AIRS	08/30/2021	2.000	0	0	0	0	0	0	0
	ASBESTOS	11/06/2019	2.000	0	0	0	0	0	0	0
	METHANE SITE	12/31/1980	2.000	0	0	0	0	0	0	0
	Methane Investigation	03/15/1979	2.000	0	0	0	0	0	0	0
	DRYCLEANERS	08/30/2021	2.000	0	0	0	0	0	0	0
	Financial Assurance	09/28/2021	2.000	0	0	0	0	0	0	0

Search Summary Report

TARGET SITE: **EAST COUNTY ROAD 102 NORTH**
MOSCA, CO 81146

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	ZIP	TOTALS
	LEAD	11/07/2019	2.000	0	0	0	0	0	0	0
	MINES	10/07/2021	2.000	0	0	0	0	0	0	0
	NPDES	10/01/2021	2.000	0	0	0	0	0	0	0
	UIC	08/30/2021	2.000	0	0	0	0	0	0	0
	UMTRA	11/23/2004	2.000	0	0	0	0	0	0	0
	MINES MRDS	04/06/2018	2.000	0	0	0	0	0	0	0
Exclusive Recovered Gov't Archives	RGA AIF		2.000	0	0	0	0	0	0	0
	RGA LUST		2.000	0	0	0	0	0	0	0
	- Totals --			0	0	0	0	1	0	1

Site Information Report

Request Date: JANUARY 19, 2022
Request Name: MARK LAROCQUE
Search Type: COORD
Job Number: 2022-006

Target Site: EAST COUNTY ROAD 102 NORTH
MOSCA, CO 81146

Site Location

	Degrees (Decimal)	Degrees (Min/Sec)	UTMs	
Longitude:	105.982747	105.9827470 - 105ˆ 58’ 57.88’’	Easting:	413365.5
Latitude:	37.701411	37.7014110 - 37ˆ 42’ 5.07’’	Northing:	4172936.2
Elevation:	7592 ft. above sea level		Zone:	Zone 13

Demographics

Sites: 1 **Non-Geocoded:** 0 **Population:** N/A

RADON

Federal EPA Radon Zone for ALAMOSA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ALAMOSA COUNTY, CO

Number of sites tested: 7

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	2.314 pCi/L	86%	14%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

Site Information Report

RADON

State Database: CO Radon

Radon Test Results

Zip	Total Sites	Avg	% sites<=4 pCi/L	% sites>4&<10 pCi/L	% sites>=10&<20 pCi/L	% sites>20 pCi/L
81146	1	1.00	100.00	0.00	0.00	0.00

Target Site Summary Report

Target Property: EAST COUNTY ROAD 102 NORTH
MOSCA, CO 81146

JOB: 2022-006

TOTAL: 1 GEOCODED: 1 NON GEOCODED: 0

Map ID	DB Type --ID/Status	Site Name	Address	Dist/Dir	ElevDiff	Page No.

No sites found for target address

Sites Summary Report

Target Property: EAST COUNTY ROAD 102 NORTH
MOSCA, CO 81146

JOB: 2022-006

TOTAL: 1 GEOCODED: 1 NON GEOCODED: 0

Map ID	DB Type --ID/Status	Site Name	Address	Dist/Dir	ElevDiff	Page No.
1	FINDS --110070397252	HOOPER SOLAR	2555 LANE 8 NORTH MOSCA, CO 81146	0.99 SW	+ 6	1

Site Detail Report

Target Property: EAST COUNTY ROAD 102 NORTH
MOSCA, CO 81146

JOB: 2022-006

FINDS

EDR ID: 1024608891 **DIST/DIR:** 0.994 SW **ELEVATION:** 7598 **MAP ID:** 1

NAME: HOOPER SOLAR
ADDRESS: 2555 LANE 8 NORTH
MOSCA, CO 81146
ALAMOSA
SOURCE: US EPA

Rev: 05/05/2021
ID/Status: 110070397252

FINDS:
Registry ID: 110070397252

Click Here:

Environmental Interest/Information System:
ELECTRIC GENERATOR

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

Database Descriptions

NPL: NPL National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices. NPL - National Priority List Proposed NPL - Proposed National Priority List Sites.

NPL Delisted: Delisted NPL The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate. Delisted NPL - National Priority List Deletions

CERCLIS: SEMS SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL. SEMS - Superfund Enterprise Management System

NFRAP: SEMS-ARCHIVE SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site. SEMS-ARCHIVE - Superfund Enterprise Management System Archive

RCRA COR ACT: CORRACTS CORRACTS identifies hazardous waste handlers with RCRA corrective action activity. CORRACTS - Corrective Action Report

RCRA TSD: RCRA-TSDF RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste. RCRA-TSDF - RCRA - Treatment, Storage and Disposal

RCRA GEN: RCRA-LQG RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. RCRA-LQG - RCRA - Large Quantity Generators RCRA-SQG - RCRA - Small Quantity Generators. RCRA-VSQG - RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators).

Federal IC / EC: US ENG CONTROLS A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health. US ENG CONTROLS - Engineering Controls Sites List US INST CONTROLS - Institutional Controls Sites List.

Database Descriptions

ERNS: ERNS Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances. ERNS - Emergency Response Notification System

State/Tribal CERCLIS: SHWS State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state. SHWS - This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State/Tribal SWL: SWF/LF Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites. SWF/LF - Solid Waste Sites & Facilities

State/Tribal LTANKS: LTANKS LUST - Leaking Underground Storage Tank List. LAST - Leaking Aboveground Storage Tank Listing. Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. LAST - Leaking Underground Storage Tank List INDIAN LUST R7 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R1 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R6 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R4 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R5 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R10 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R9 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R8 - Leaking Underground Storage Tanks on Indian Land. TRUST - Lust Trust Sites.

State/Tribal Tanks: UST Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program. UST - Underground Storage Tank Database AST - Aboveground Tank List. INDIAN UST R9 - Underground Storage Tanks on Indian Land. INDIAN UST R8 - Underground Storage Tanks on Indian Land. INDIAN UST R7 - Underground Storage Tanks on Indian Land. INDIAN UST R4 - Underground Storage Tanks on Indian Land. INDIAN UST R6 - Underground Storage Tanks on Indian Land. INDIAN UST R5 - Underground Storage Tanks on Indian Land. INDIAN UST R10 - Underground Storage Tanks on Indian Land. INDIAN UST R1 - Underground Storage Tanks on Indian Land.

State/Tribal IC / EC: AUL Senate Bill 01-145 gave authority to the Colorado Department of Public Health and Environment to approve requests to restrict the future use of a property using an enforceable agreement called an environmental covenant. When a contaminated site is not cleaned up completely, land use restrictions may be used to ensure that the selected cleanup remedy is adequately protective of human health and the environment. AUL - Environmental Real Covenants List

State/Tribal VCP: VCP The Voluntary Cleanup and Redevelopment Act is intended to permit and encourage voluntary cleanups by providing a method to determine clean-up responsibilities in planning the reuse of property. The VCRA was intended for sites which were not covered by existing regulatory programs. VCP - Voluntary Cleanup & Redevelopment Act Application Tracking Report

ST/Tribal Brownfields: BROWNFIELDS Brownfields Sites Listing BROWNFIELDS - Brownfields Sites Listing

US Brownfields: US BROWNFIELDS Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs. US BROWNFIELDS - A Listing of Brownfields Sites

Database Descriptions

Other SWF: LF DENVER CO METHANE TRI CO. LF - Tri-County Area Solid Waste Facilities List (Adams, Arapahoe and Douglas Counties). DOUGLAS CO. LF - Douglas County Landfill Key. WELD CO. LF - Solid Waste Facilities in Weld County. BOULDER CO. LF - Old Landfill Sites. DENVER CO. LF - Landfills in Denver County. ADAMS CO. LF - Summary Report on Methane Gas Hazards and Surveys Conducted on Domestic and Demolition Landfills in Adams County. PUEBLO CO. LF - Designated Disposal & Landfill Sites. ARAPAHOE CO. LF - A Survey of Landfills in Arapahoe County. Solid Waste Facilities in Weld County. ARAPAHOE CO. LF - Solid Waste Facilities in Weld County SWRCY - Registered Recyclers Listing. HISTORICAL LANDFILL - Historical Landfill List. IHS OPEN DUMPS - Open Dumps on Indian Land. DENVER CO HISTORIC FILL - Denver City & County Historic Fill Areas.

Other Haz Sites: CDL Meth lab locations that were reported to the Department of Public Health & Environment. CDL - Meth Lab Locations US CDL - Clandestine Drug Labs. PFAS - PFAS Information Listing.

Spills: HMIRS Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT. HMIRS - Hazardous Materials Information Reporting System SPILLS 2 - Spills. CO ERNS - Spills Database. SPILLS 90 - SPILLS90 data from FirstSearch.

Other: RCRA NonGen / NLR RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste. RCRA NonGen / NLR - RCRA - Non Generators / No Longer Regulated FEDLAND - Federal and Indian Lands. TSCA - Toxic Substances Control Act. TRIS - Toxic Chemical Release Inventory System. SSTS - Section 7 Tracking Systems. RMP - Risk Management Plans. RAATS - RCRA Administrative Action Tracking System. PRP - Potentially Responsible Parties. PADS - PCB Activity Database System. ICIS - Integrated Compliance Information System. FTTS - FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act). FTTS INSP - FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act). MLTS - Material Licensing Tracking System. RADINFO - Radiation Information Database. BRS - Biennial Reporting System. INDIAN RESERV - Indian Reservations. FUSRAP - Formerly Utilized Sites Remedial Action Program. US AIRS (AFS) - Aerometric Information Retrieval System Facility Subsystem (AFS). US AIRS MINOR - Air Facility System Data. ABANDONED MINES - Abandoned Mines. FINDS - Facility Index System/Facility Registry System. ECHO - Enforcement & Compliance History Information. DOCKET HWC - Hazardous Waste Compliance Docket Listing. UXO - Unexploded Ordnance Sites. FUELS PROGRAM - EPA Fuels Program Registered Listing. AIRS - Permitted Facility & Emissions Listing. ASBESTOS - Asbestos Abatement & Demolition Projects. METHANE SITE - Methane Site Investigations - Jefferson County 1980. METHANE INVESTIGATION - Methane Gas & Swamp Findings. DRYCLEANERS - Drycleaner Facilities. Financial Assurance 1 - Financial Assurance Information Listing. Financial Assurance 2 - Financial Assurance Information Listing. LEAD - Lead Abatement Permit Listing. MINES - Permitted Mines Listing. NPDES - Permitted Facility Listing. UIC - Underground Injection Control. UMTRA - Uranium Mill Tailings Sites. PCS ENF - Enforcement data. MINES MRDS - Mineral Resources Data System. PCS INACTIVE - Listing of Inactive PCS Permits. PCS - Permit Compliance System.

Exclusive Recovered Govt. Archives: RGA LF The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Public Health & Environment in Colorado. RGA LF - Recovered Government Archive Solid Waste Facilities List RGA LUST - Recovered Government Archive Leaking Underground Storage Tank.

Database Sources

NPL: EPA

Updated Quarterly

NPL Delisted: EPA

Updated Quarterly

CERCLIS: EPA

Updated Quarterly

NFRAP: EPA

Updated Quarterly

RCRA COR ACT: EPA

Updated Quarterly

RCRA TSD: Environmental Protection Agency

Updated Quarterly

RCRA GEN: Environmental Protection Agency

Updated Quarterly

Federal IC / EC: Environmental Protection Agency

Varies

ERNS: National Response Center, United States Coast Guard

Updated Quarterly

State/Tribal CERCLIS: Department of Public Health & Environment

No Update Planned

State/Tribal SWL: Department of Public Health & Environment

Varies

State/Tribal LTANKS: Department of Labor & Employment

No Update Planned

State/Tribal Tanks: Department of Labor and Employment, Oil Inspection Section

Updated Quarterly

Database Sources

State/Tribal IC / EC: Department of Public Health & Environment

Varies

State/Tribal VCP: Department of Public Health and Environmental

Updated Semi-Annually

ST/Tribal Brownfields: Department of Public Health & Environment

Varies

US Brownfields: Environmental Protection Agency

Updated Semi-Annually

Other SWF: Tri-County Health Department

No Update Planned

Other Haz Sites: Department of Public Health and Environment

Updated Quarterly

Spills: U.S. Department of Transportation

Updated Quarterly

Other: Environmental Protection Agency

Updated Quarterly

Exclusive Recovered Govt. Archives: Department of Public Health & Environment

Varies

Street Name Report for Streets near the Target Property

Target Property: EAST COUNTY ROAD 102 NORTH
MOSCA, CO 81146

JOB: 2022-006

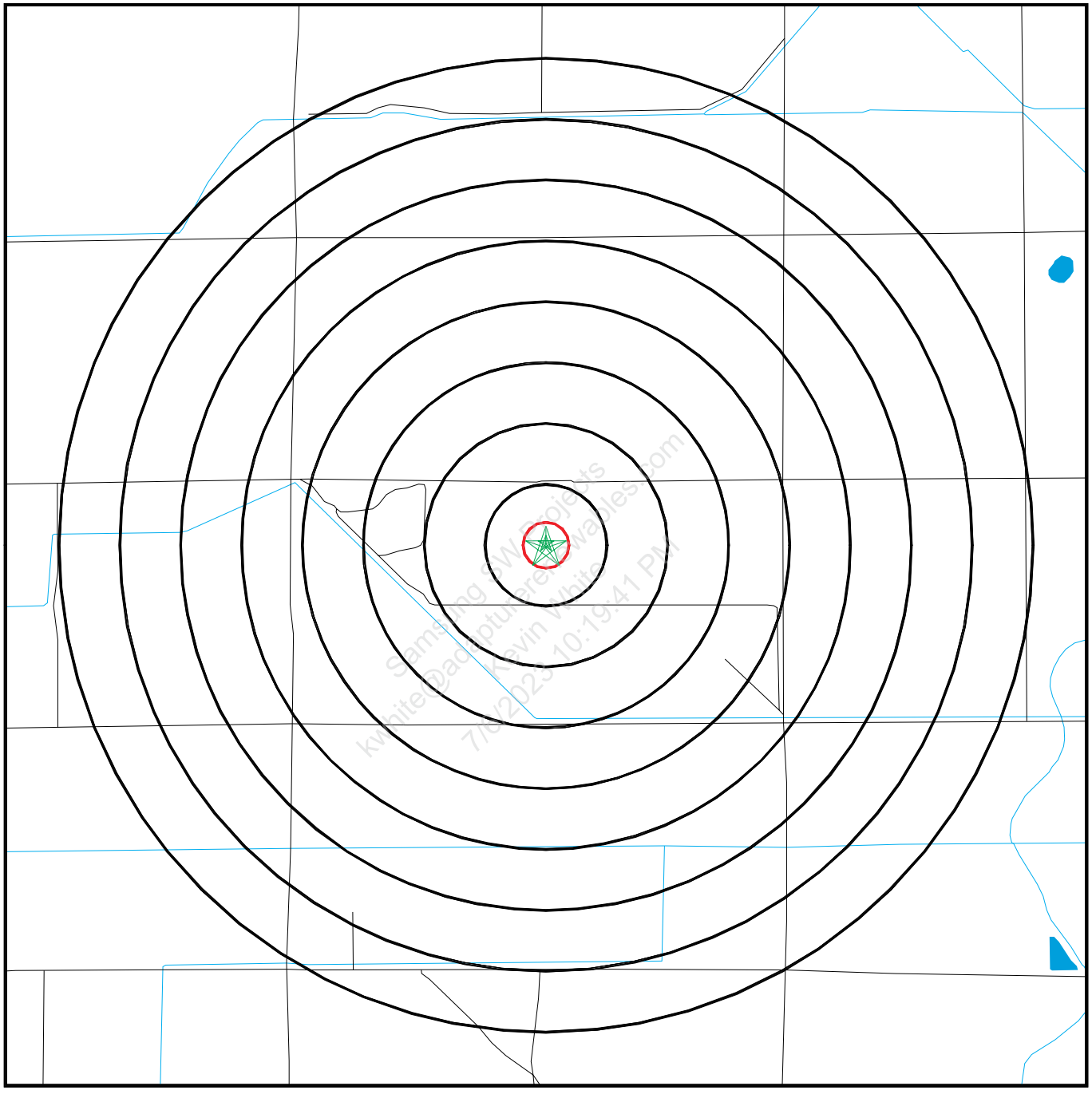
Street Name	Dist/Dir	Street Name	Dist/Dir

Environmental FirstSearch

2.000 Mile Radius

ASTM MAP: NPL, RCRACOR, STATES Sites

EAST COUNTY ROAD 102 NORTH MOSCA, CO 81146



Black Rings Represent Qtr. Mile Radius; Red Ring Represents 500 ft. Radius

Target Property (Latitude: 37.701411 Longitude: 105.982747)

Identified Sites

National Priority List Sites

Indian Reservations BIA

EDR Reference Code (EDR Internal use only): 6825043.10s

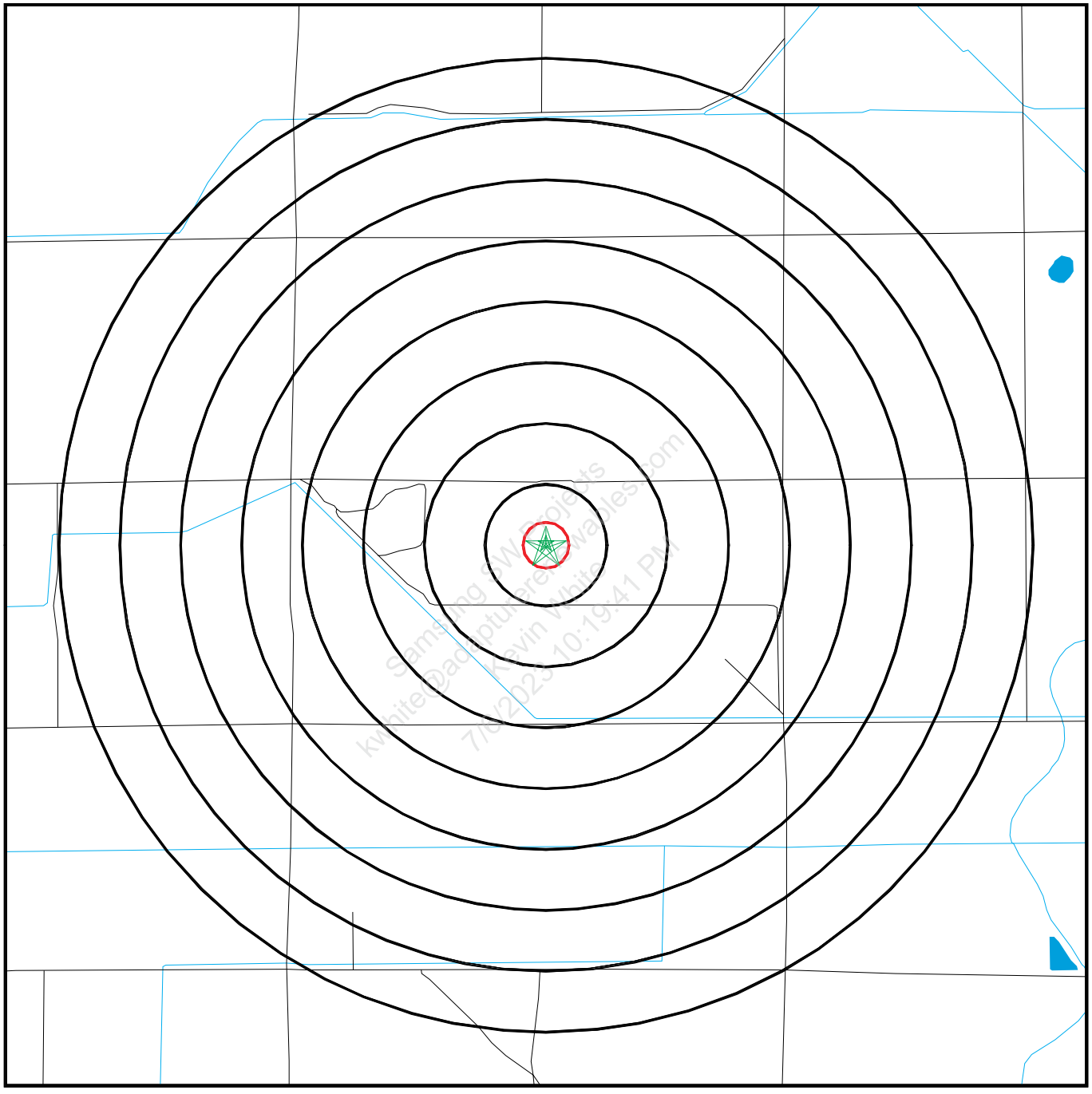
22-01-19.13:08:53.Wed

Environmental FirstSearch

2.000 Mile Radius

ASTM MAP: CERCLIS, RCRATSD, LUST, SWL

EAST COUNTY ROAD 102 NORTH MOSCA, CO 81146



Black Rings Represent Qtr. Mile Radius; Red Ring Represents 500 ft. Radius

★ Target Property (Latitude: 37.701411 Longitude: 105.982747)

▲ Identified Sites

National Priority List Sites

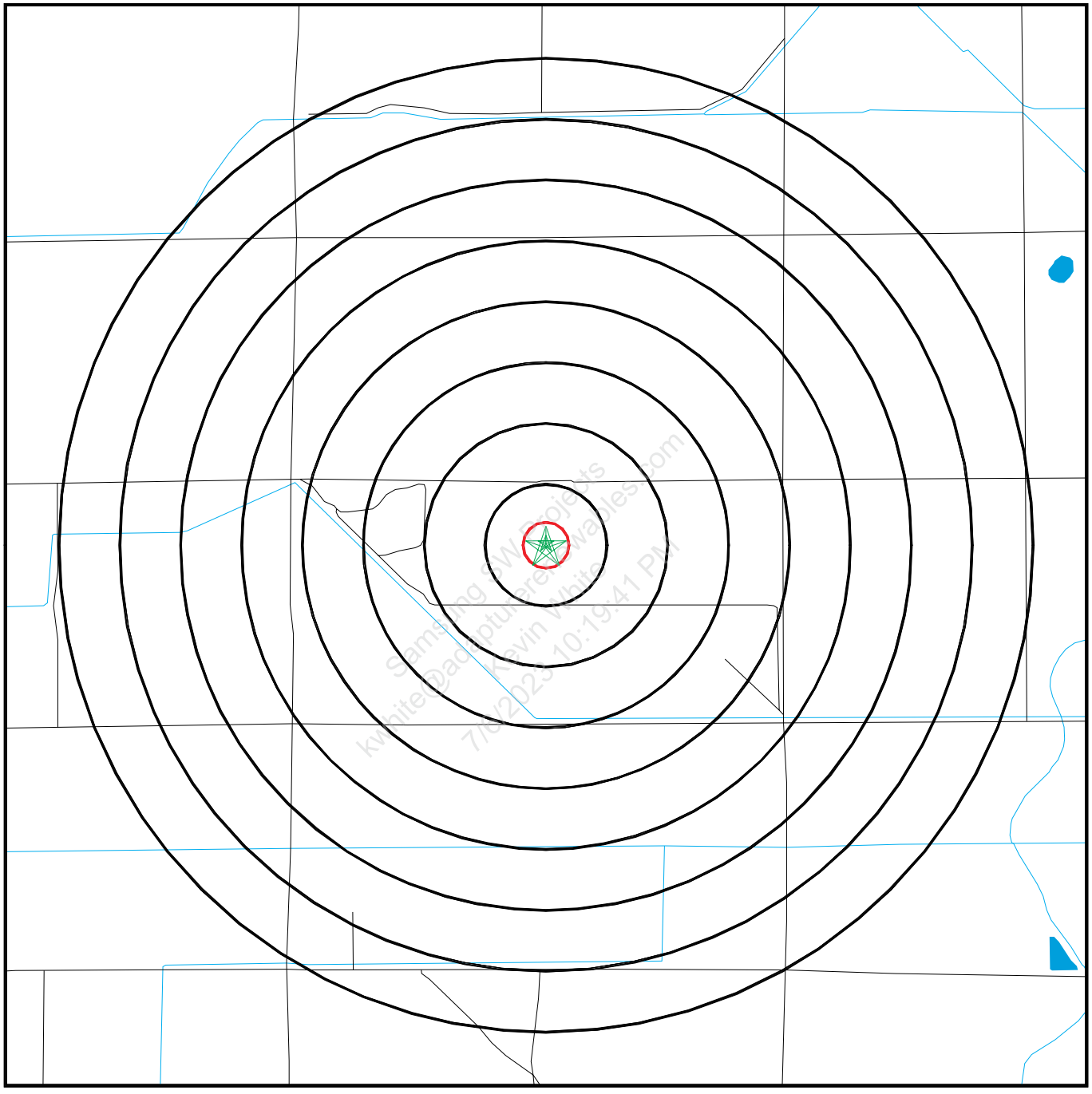
Indian Reservations BIA

Environmental FirstSearch

2.000 Mile Radius

ASTM MAP: RCRAGEN, ERNS, UST, FED IC/EC, METH LABS

EAST COUNTY ROAD 102 NORTH MOSCA, CO 81146



Black Rings Represent Qtr. Mile Radius; Red Ring Represents 500 ft. Radius

Target Property (Latitude: 37.701411 Longitude: 105.982747)

Identified Sites

National Priority List Sites

Indian Reservations BIA

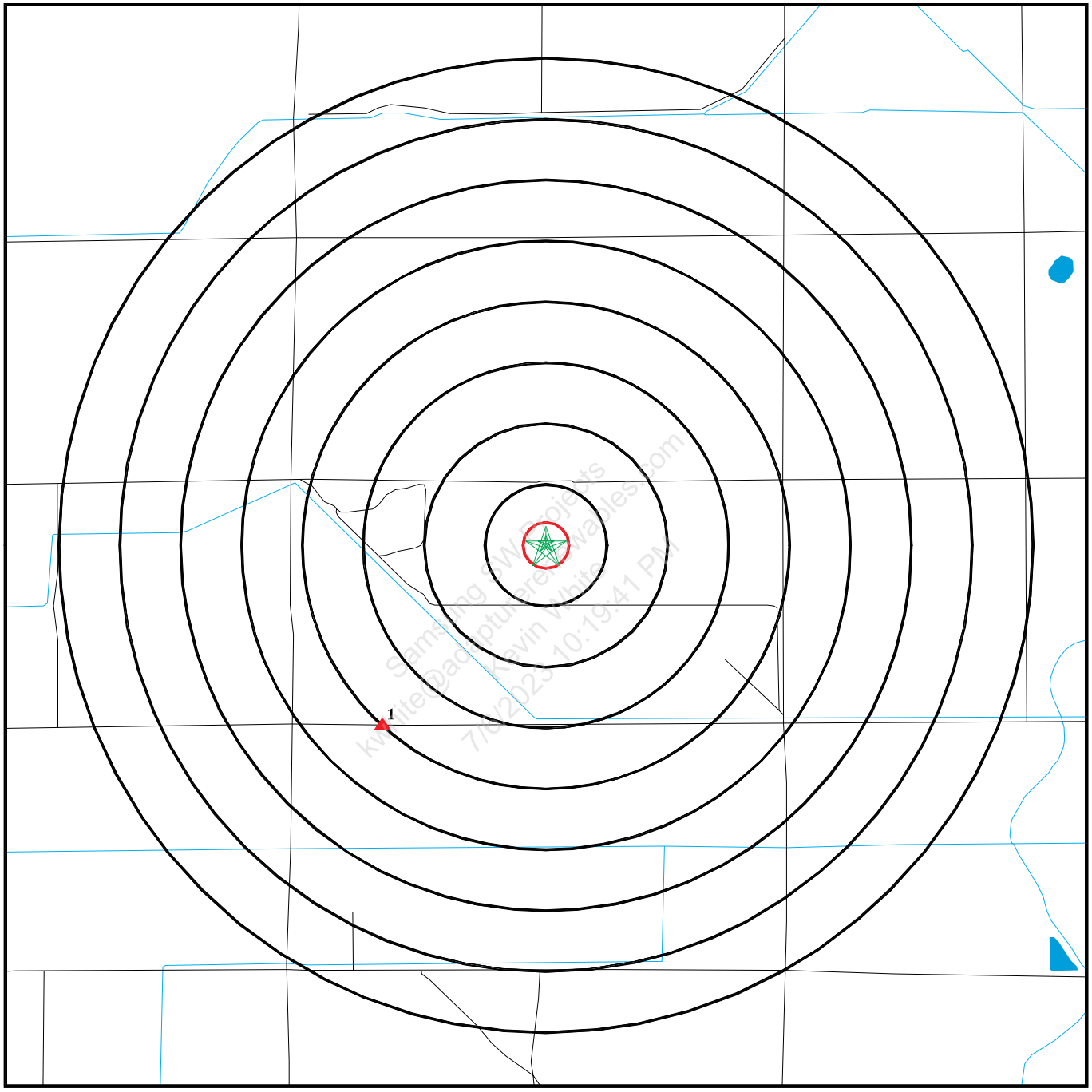
EDR Reference Code (EDR Internal use only): 6825043.10s

22-01-19.13:09:04.Wed

Environmental FirstSearch

2.000 Mile Radius
Non ASTM Map, Spills, FINDS

EAST COUNTY ROAD 102 NORTH MOSCA, CO 81146



Black Rings Represent Qtr. Mile Radius; Red Ring Represents 500 ft. Radius

★ Target Property (Latitude: 37.701411 Longitude: 105.982747)

▲ Identified Sites

Sensitive Receptors

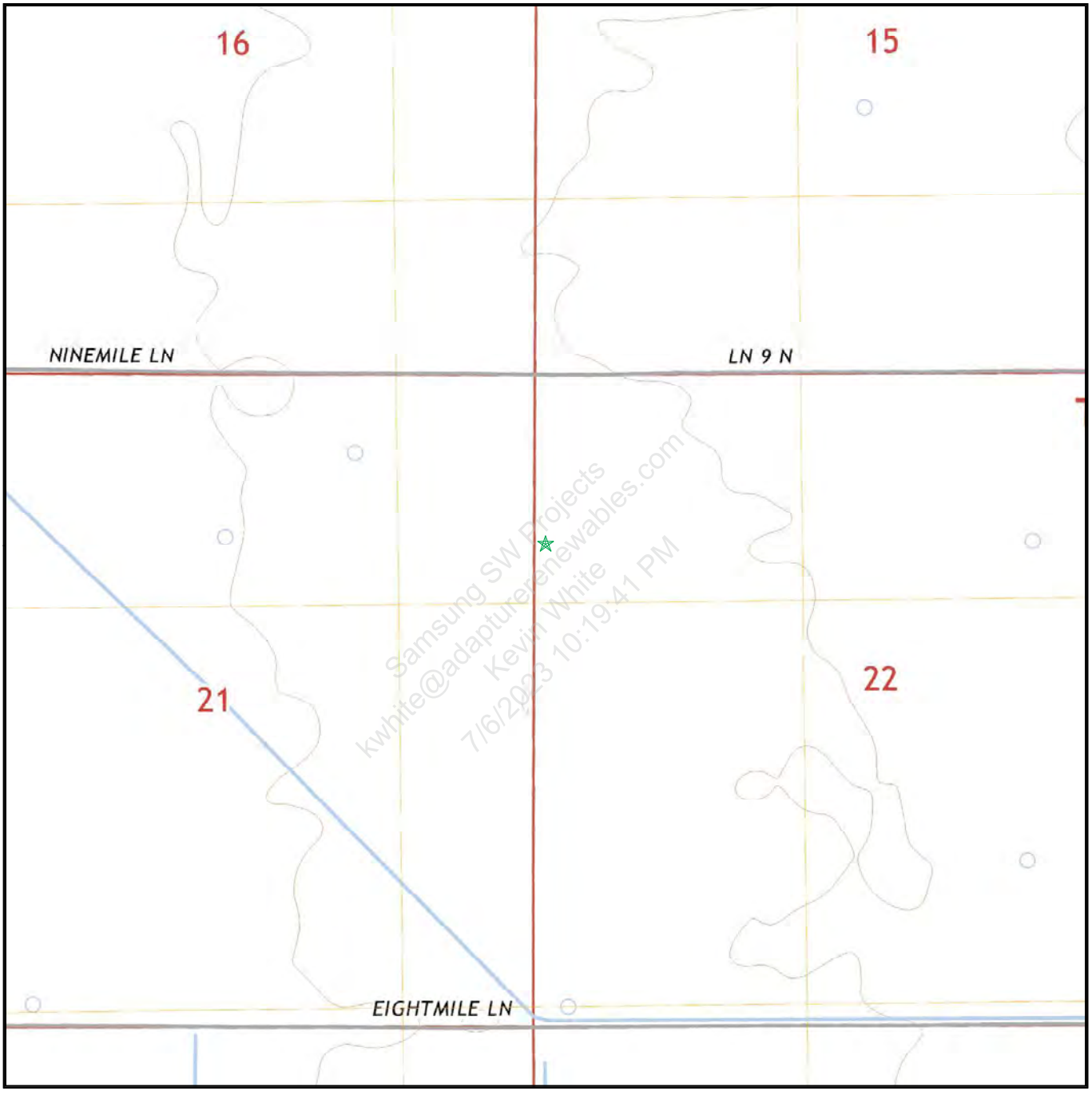
National Priority List Sites

Indian Reservations BIA

Site location Map

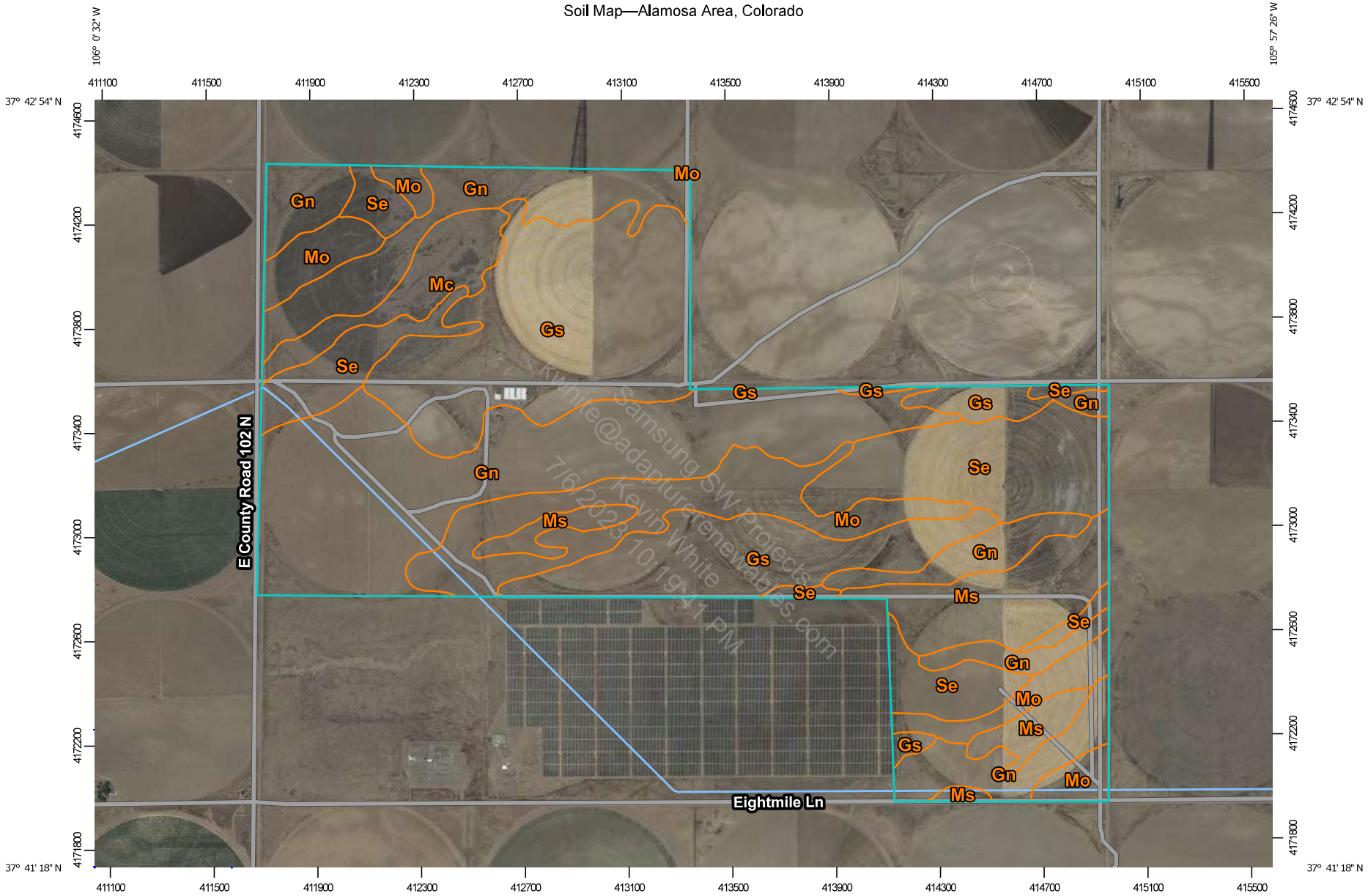
Topo: 0.75 Mile Radius

EAST COUNTY ROAD 102 NORTH MOSCA, CO 81146



Map Image Position: TP
Map Reference Code & Name: 14170546 Hooper West
Map State(s): CO
Version Date: 2019

Soil Map—Alamosa Area, Colorado



Map Scale: 1:20,800 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 300 600 1200 1800

Feet: 0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Alamosa Area, Colorado
Survey Area Data: Version 15, Sep 1, 2021

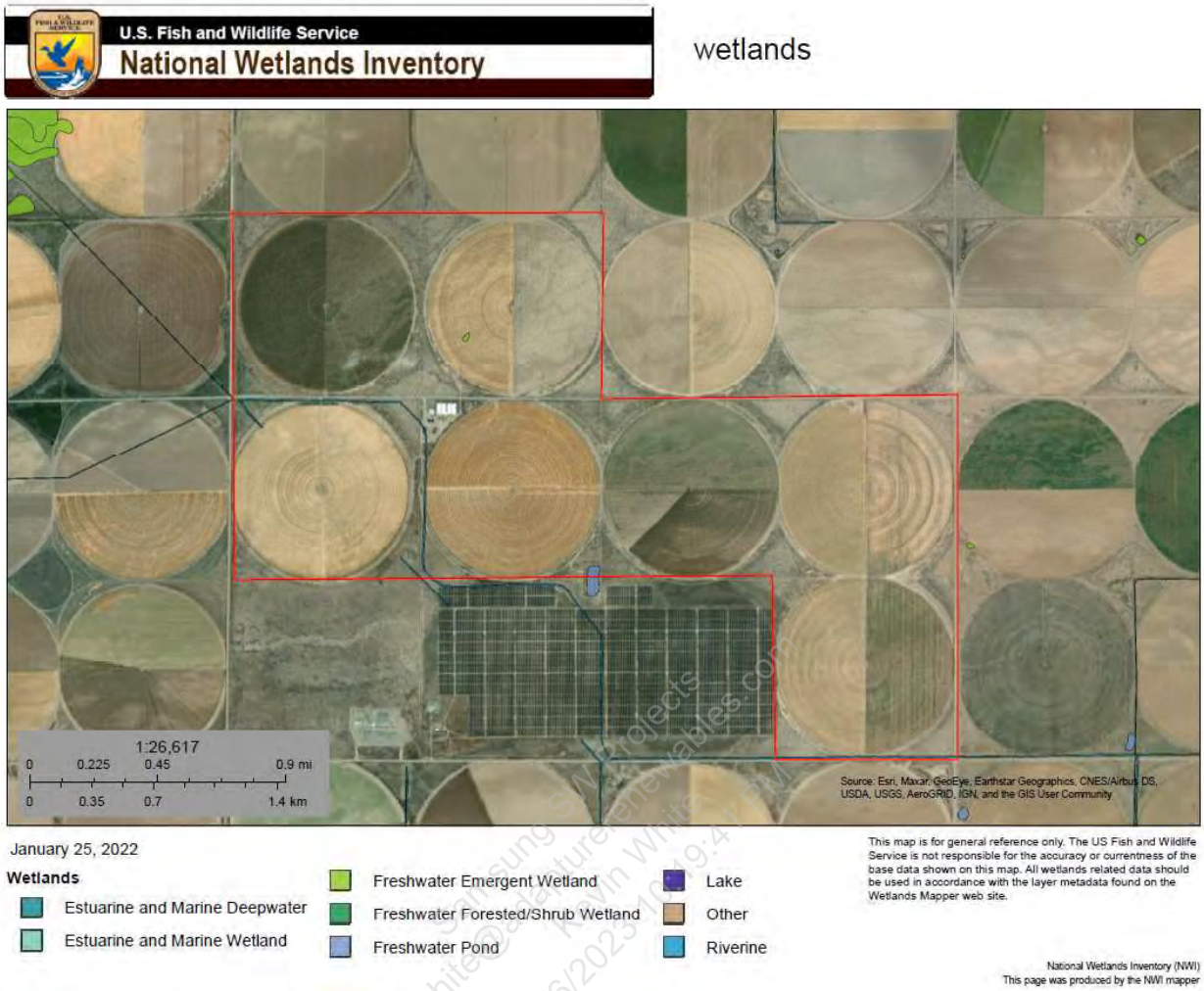
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 18, 2020—May 21, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

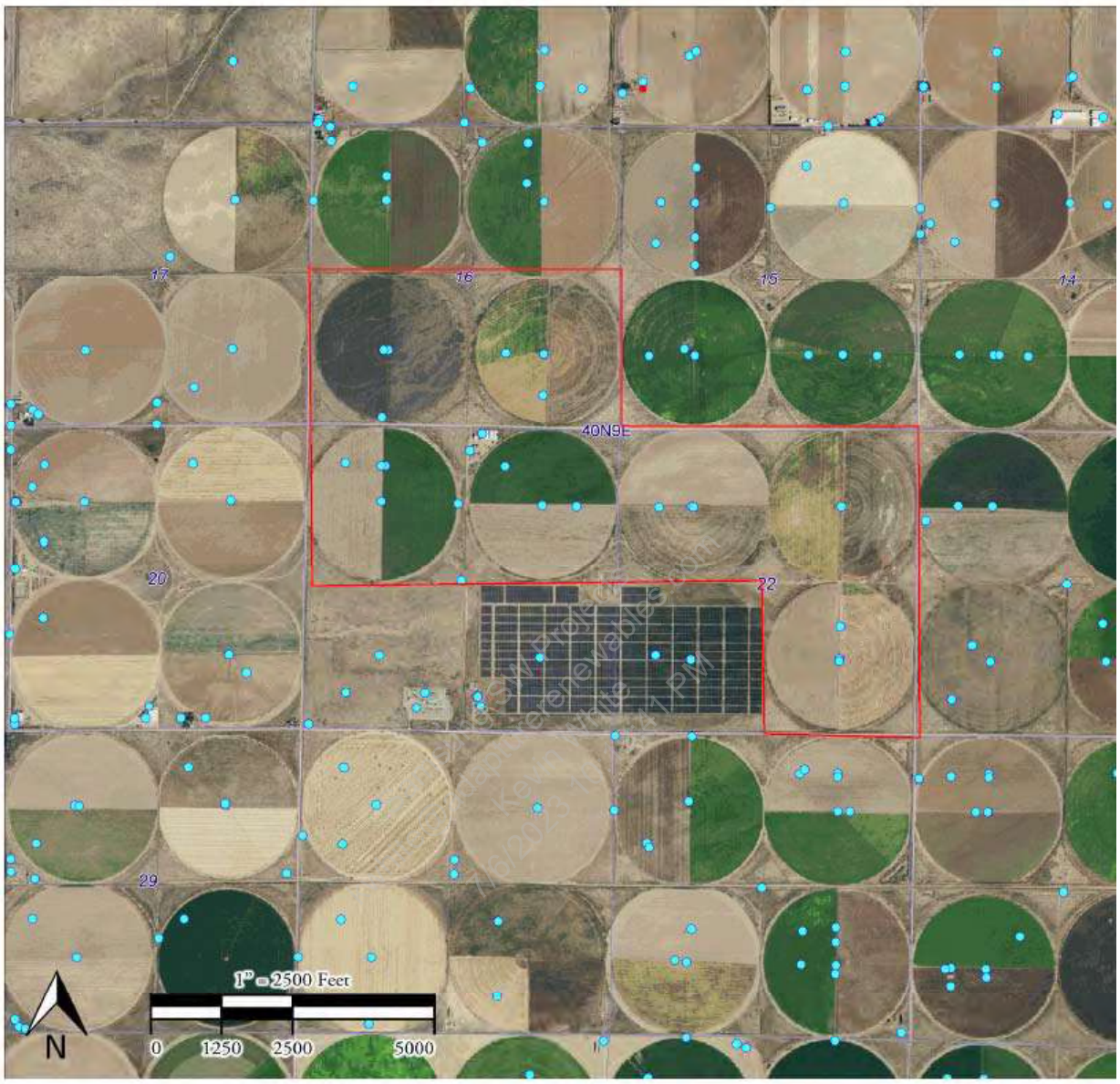
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Gn	Gunbarrel loamy sand, 0 to 1 percent slopes	410.5	35.3%
Gs	Gunbarrel loamy sand, saline	296.4	25.5%
Mc	McGinty sandy loam	39.2	3.4%
Mo	Mosca loamy sand	154.9	13.3%
Ms	Mosca loamy sand, wet	92.8	8.0%
Se	San Luis sandy loam, 0 to 1 percent slopes	169.4	14.6%
Totals for Area of Interest		**1,163.2**	**100.0%**

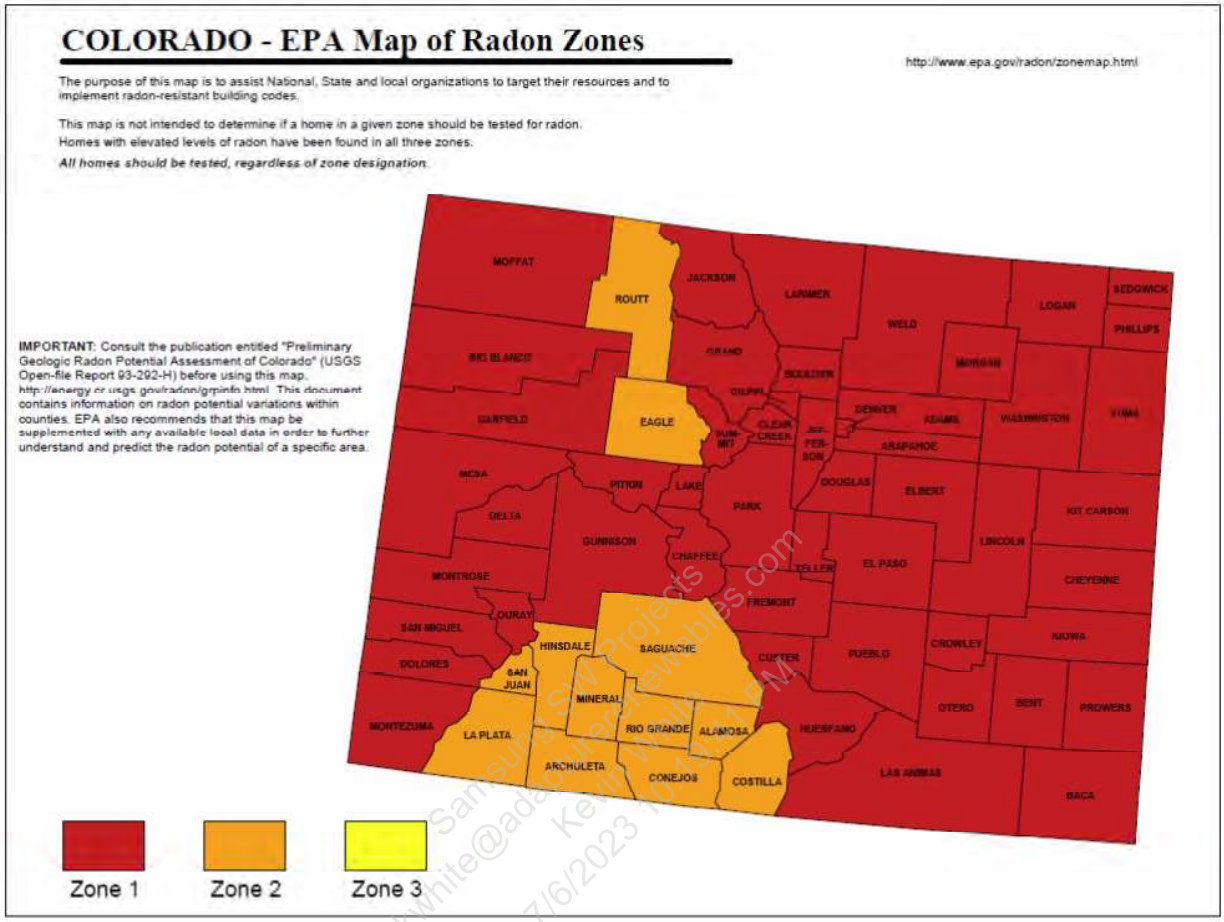


National Wetlands Map

Flood Zone Map



Oil & Gas Well Map - water wells in blue, oil/gas wells in red


COLORADO - EPA Map of Radon Zones
http://www.epa.gov/radon/zonemap.html
The purpose of this map is to assist National, State and local organizations to target their resources and to implement radon-resistant building codes.
This map is not intended to determine if a home in a given zone should be tested for radon.
Homes with elevated levels of radon have been found in all three zones.
All homes should be tested, regardless of zone designation.
IMPORTANT: Consult the publication entitled "Preliminary Geologic Radon Potential Assessment of Colorado" (USGS Open-file Report 93-292-H) before using this map. http://energy.cr.usgs.gov/radon/grpinfo.html. This document contains information on radon potential variations within counties. EPA also recommends that this map be supplemented with any available local data in order to further understand and predict the radon potential of a specific area.
MOFFAT
ROUTT
JACKSON
LARIMER
WELD
LOGAN
SEDGWICK
PHILLIPS
RIO BLANCO
GRAND
BOULDER
MORGAN
GARFIELD
EAGLE
SUMMIT
CLEAR CREEK
JEFFERSON
DENVER
ADAMS
WASHINGTON
YUMA
ARAPAHOE
MESA
PITKIN
LAKE
PARK
DOUGLAS
ELBERT
KIT CARSON
DELTA
GUNNISON
CHAFFEE
TELLER
EL PASO
LINCOLN
MONTROSE
FREMONT
CHEYENNE
OURAY
SAN MIGUEL
HINSDALE
SAGUACHE
CROWLEY
KIOWA
DOLORES
SAN JUAN
CUSTER
PUEBLO
MINERAL
OTERO
BENT
PROWERS
MONTEZUMA
LA PLATA
RIO GRANDE
ALAMOSA
HUERFANO
ARCHULETA
CONEJOS
COSTILLA
LAS ANIMAS
BACA
Zone 1
Zone 2
Zone 3

RADON MAP

APPENDIX B

RESUME OF ENVIRONMENTAL PROFESSIONAL

MARK J. LAROCQUE

EDUCATION

Bachelor of Sciences in Environmental Science/Biology, University of Massachusetts, Amherst, Massachusetts, 1980 - 1984.

EXPERIENCE

Practical Environmental Solutions, Sanbornton, NH (1998 to present), President and Owner.
Dames & Moore, Willow Grove, PA (1995 to 1998), Senior Project Manager
Lexicon Environmental Associates, Inc., West Chester, PA (1994 to 1995) - Project Manager/Environmental Scientist IV.
Groundwater & Environmental Services, Inc. in Exton, PA (1990 - 1994) - Project Manager/Senior Environmental Scientist.
IEP, Inc. in Northboro, Massachusetts (1984 - 1990) - Environmental Scientist

PROFESSIONAL COURSES

Resource Education Institute, Inc. - Northwest Regional Underground Storage Tank Management and Hydrocarbon Cleanup Conferences 1988 and 1989
University of Massachusetts/Massachusetts Department of Environmental Quality - Hydrocarbon Contaminated Soils Conferences 1991 and 1992
Shell Oil Development - Soil Remediation Workshop 1992
Government Institutes, Inc. - Resource Compensation Recovery Act (RCRA) Regulations Workshop 1994.
Occupational Health and Safety Training 1988 through 1995 - Including 40-hour, 8-hour Refreshers, and Supervisor Training.

CERTIFICATIONS & AFFILIATIONS

National Water Well Association
New Jersey Underground Storage Tank & Subsurface Investigator Certification No. 0013515
Texas Corrective Action Project Manager No.CAPM00197
California Registered Environmental Assessors Class I – No. 07357

EXPERIENCE SUMMARY

Over 30 years of experience in various aspects of environmental assessments and remediation projects. Currently owns his own firm, which conducts due diligence and property transfer assessments nationally and internationally. Conducted and managed numerous single and multi-site Phase I and Phase II pre-purchase assessments on a variety of large and small-scale manufacturing facilities across the United States. Has performed over 2,000 Phase I & NEPA/NHPA assessments for several cellular tower firms across US. NEPA compliance work has included Section 106 reviews, Fish & Wildlife Endangered Species Surveys, FONZI applications, and negotiations with Tribal Historical Officers. He has conducted and prepared several ACM O&M Programs for several radio stations, hotels, and golf courses.

He has also designed and managed over 100 ground water and soil remediation projects utilizing a variety of remedial techniques. Implemented various remedial techniques including ground water pump & treat, soil vapor extraction, air sparging, and bioremediation on numerous sites in MA, MD, NY, NJ, DE, and PA. Conducted soil and ground water sampling, quality control, and decontamination procedures on Super Fund projects in MA and Environmental Compensation Recovery Act (ECRA) projects in NJ.

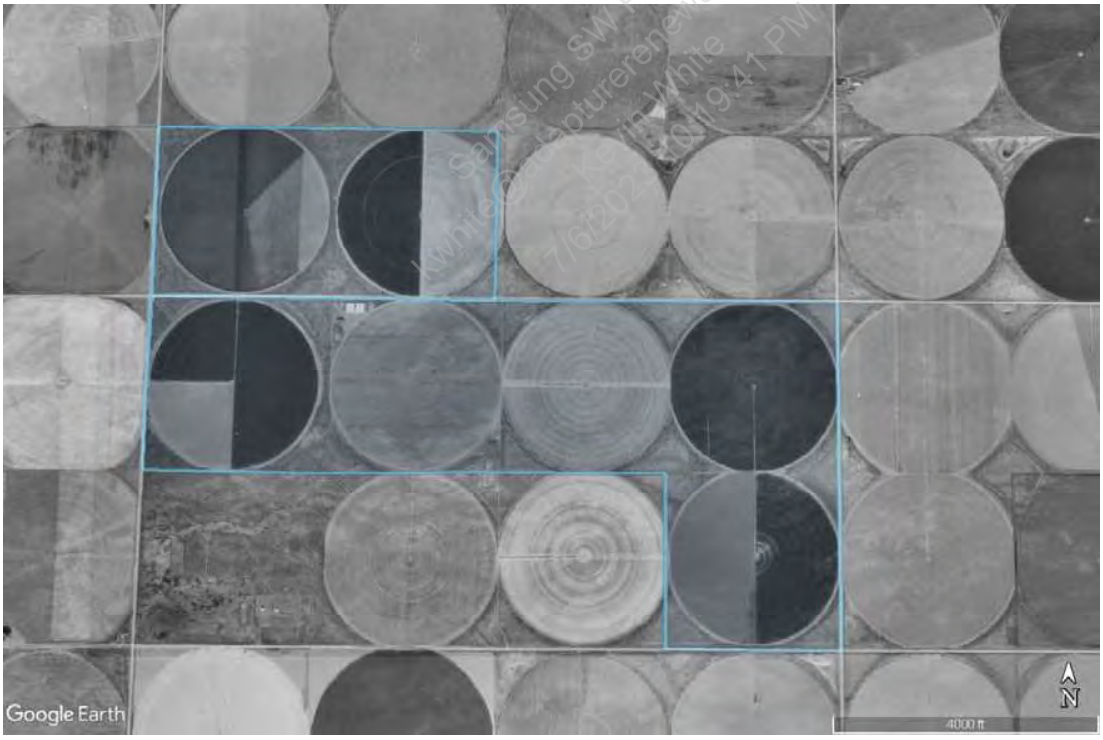
REPRESENTATIVE PROJECT EXPERIENCE

- Has performed over 2000 Phase 1 and NEPA compliance projects throughout the USA including WA, CA, OR, UT, AZ, NV, FL. GA, SC, NC, MO, IL, IN, MI, MA, CT, RI, VA, OH, MS, AL, TX, and CO. This work has been completed for various cellular tower carriers (Nextel, Sprint, Cingular, AT&T Verizon) and owners (Crown, ATC, AAT).
- Conducts single and multi-site Phase I, Phase II, and Compliance assessments across the USA and internationally on behalf of various law firms for Hick, Muse, Tate & Furst, International Home Foods, Olympus Real Estate Corporation, and Arnold Palmer Golf.
- Conducts Phase I & NEPA/NHPA assessments for several national cell tower firms. Provides full compliance with NHPA and Section 106 of NEPA.
- Conducted Phase I and Compliance Assessments of General Cable Corporation - telecommunication cable manufacturing facilities in MI, IL, GA, and NJ.
- Conducted a Phase I and Compliance Assessment of Simonds Industries, a file manufacturing facility which is actively under a RCRA cleanup in OH.
- Conducted several Phase I assessments of Flex-O-Lite - glass bead manufacturing facilities in IA, KY, TN, and MS.
- Conducted numerous Phase I, Phase II, and Compliance assessments in CA, NC, SC, MS, MA, and AL for various industries including radio station acquisitions, headware manufacturers, computer cable/harness manufacturers, and brass regulating equipment manufacturers.
- Senior Project Manager/Director for engineering firm on a multi-site investigation program for Exxon, that included additional subsurface delineation and preparation of CEAs and RAWs for the NJDEP.
- Designed and managed numerous in-situ ground water remediation projects using bioremediation for Bell Atlantic and NYNEX.

APPENDIX C

PHOTOGRAPHS

1985 aerial



1998 aerial

2006 aerial

2017 aerial

Photo Locations

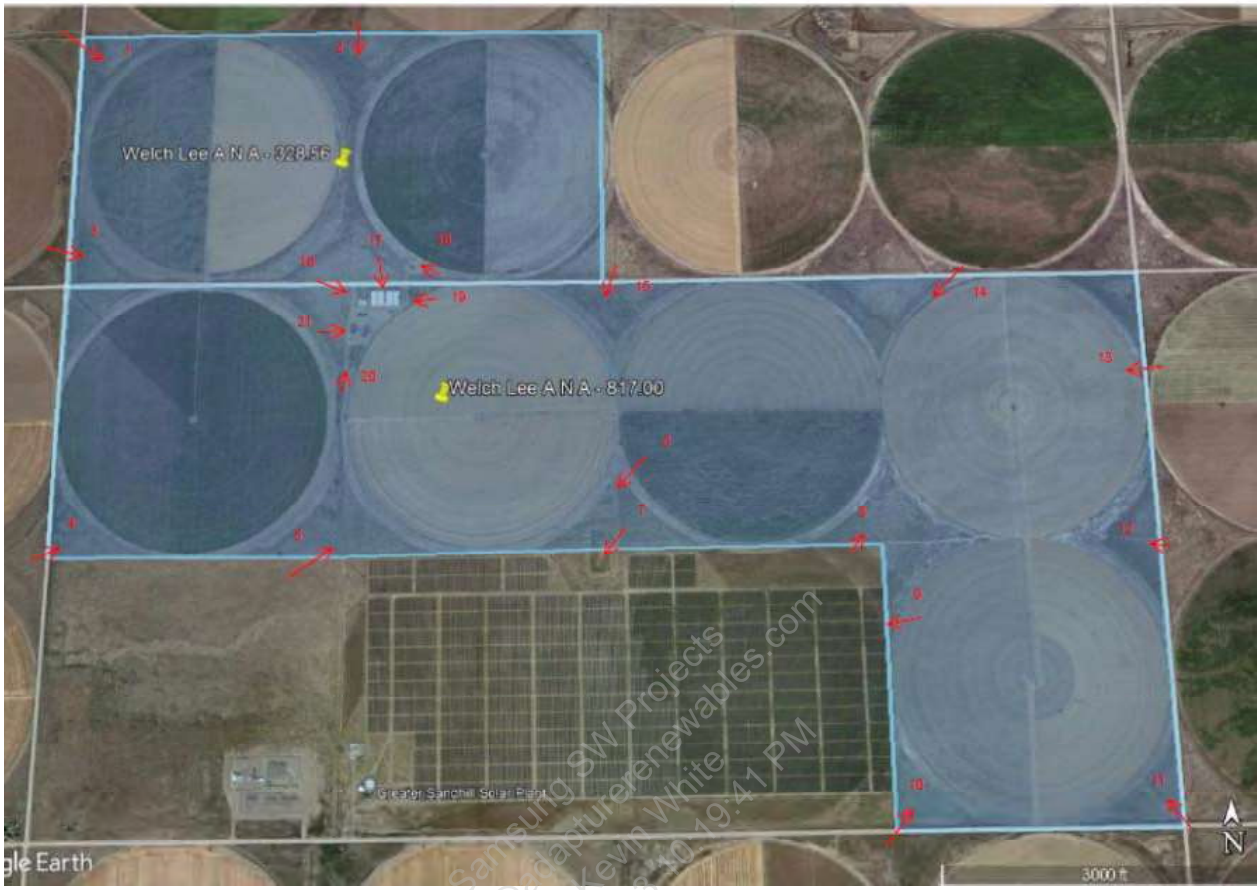


Photo 1 - plastic drum (empty)

Photo 2 - water tanks and debris

Photo 3

Photo 4

Photo 5 - minor household trash

Photo 6 - farm equipment

Photo 7 - empty 5-gallon bucket

Photo 8

Photo 9

Photo 10

Photo 11 - concrete debris

Photo 12

Photo 13

Photo 14

Photo 15

Photo 16 - maintenance building and silos

Photo 17 - potato cellars

Photo 18

Photo 19

Photo 20 - farm equipment

Photo 21 - farm equipment - two empty drums of motor oil