The logo for SWCA (Soil Water Conservation Agency) is positioned vertically on the left side of the page. It consists of the letters 'S', 'W', and 'C' stacked vertically, with the 'A' positioned to the right of the 'C'. The letters are in a light blue color and have a stylized, rounded font.

# Vegetation and Noxious Weed Management Plan for the Rancho Viejo Solar Project in Santa Fe County, New Mexico

JULY 2024

PREPARED FOR  
**Rancho Viejo Solar, LLC**

PREPARED BY  
**SWCA Environmental Consultants**



# VEGETATION AND NOXIOUS WEED MANAGEMENT PLAN FOR THE RANCHO VIEJO SOLAR PROJECT IN SANTA FE COUNTY, NEW MEXICO

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# 1 INTRODUCTION

Rancho Viejo Solar, LLC (Rancho Viejo), is proposing to build the Rancho Viejo Solar Project (Project) in Santa Fe County, New Mexico (Figures A-1 and A-2 in Appendix A). The Project will be approximately 3 miles south of Santa Fe city limits and approximately 4.2 miles east of La Cienega. The energy supplied by the solar facility is intended to replace part of the fossil-based assets of the Public Service Company of New Mexico.

This Vegetation and Noxious Weed Management Plan (Plan) summarizes the vegetation-related work that is expected to occur during the pre-construction, construction, and post-construction phases of the Project and provides specific restoration, reclamation, and management guidelines for contractors completing restoration and reclamation. This Plan includes an overview of acceptable restoration, reclamation, and management techniques and the criteria for selecting each technique. However, it is incumbent upon Rancho Viejo and/or the selected contractor(s) to implement these techniques as appropriate. In addition, methods for the control, treatment, and eradication of noxious weeds are included in this Plan. Noxious weed populations pose a threat to native plant populations and often diminish the habitat and quality of forage for wildlife as well as livestock. Limiting the spread and establishment of noxious weeds is a crucial goal of the Plan; in fact, the primary reason for replanting disturbed areas is to control noxious weeds. The term “noxious weed” is used throughout this document to refer to both regulated invasive plants (at a federal, state, and/or local level) and otherwise undesirable non-native plant species; however, the responsible party is only statutorily required to treat and control regulated invasive species.

## 1.1 Regulatory Authority and Requirements

The authority guiding this Plan is provided under the following:

**7 United States Code (USC) 2801-2814, Federal Noxious Weed Act of 1974.** This act provides for the control and eradication of “any parasitic or other plant of a kind, or subdivision of a kind, which is of foreign origin, is new to or not widely prevalent in the United States, and can directly or indirectly injure crops, other useful plants, livestock, or poultry or other interests of agriculture, including irrigation, or navigation or the fish or wildlife resources of the United States or the public health.” This act gives the Secretary of Agriculture broad powers in regulating transactions in and movement of noxious weeds into or throughout the United States.

**7 USC 7701-7786, Plant Protection Act of 2000.** This act specifies that the Secretary of Agriculture may prohibit or restrict the importation, entry, exportation, or movement in interstate commerce of any noxious weed if it is determined “that the prohibition or restriction is necessary to prevent the introduction into the [U.S.] or the dissemination of a plant pest or noxious weed within the [U.S.],” and authorizes the issuance of implementing regulations.

**New Mexico Statutes Annotated (NMSA) 1978 76-7-1, Noxious Weed Control Act, 1959.** This act establishes noxious weed control districts who may designate noxious weed species for control, determine the time and method of control, and prescribe the areas subject to control measures.

**NMSA 1978 76-7-1, Noxious Weed Act of 1963.** This act makes it unlawful to sell, give away, or plant designated noxious weeds in New Mexico.

**NMSA 1978 76-7D-1, Noxious Weed Management Act, 1998.** This act aims to improve the state economy and environment by managing noxious weeds in New Mexico.

**New Mexico Noxious Weed Memo and List, 2020.** This list identified plant species to be targeted as noxious weeds for control or eradication pursuant to the Noxious Weed Management Act. The list includes 47 species divided into the following groups:

- Class A species are currently not present in New Mexico or have limited distribution. Preventing new infestations of these species and eradicating existing infestations is the highest priority.
- Class B species are limited to portions of the state. In areas with severe infestations, management should be designed to contain the infestation and stop any further spread.
- Class C species are widespread in the state. Management decisions for these species should be determined at the local level, based on feasibility of control and level of infestation.
- Watch List species are species of concern in the state. These species have the potential to become problematic, and more data is needed to determine if these species should be listed. If these species are encountered, their locations should be documented and appropriate authorities should be contacted.

## **1.2 Plan Development**

Development of this Plan included the use of resources from federal and state guidance, as well as industry and scientific papers, to identify proven methods for effective reclamation and noxious weed management. In addition, Rancho Viejo has developed resource-specific environmental protection measures as part of the Project’s Environmental Impact Report (SWCA Environmental Consultants [SWCA] 2023) to avoid and minimize significant impacts from the Project. Environmental protection measures relevant to vegetation and noxious weed management have been integrated into this Plan in appropriate sections, and all measures are summarized in Appendix B. This Plan was also designed to meet requirements and commitments included in the Project’s Stormwater Pollution Prevention Plan (SWPPP), issued under the National Pollutant Discharge Elimination System permit program.

## **2 PROJECT SETTING**

### **2.1 General Characteristics**

The biological resources in the Project area, including vegetation, wildlife species, and habitat, are typical of the grassland and pinyon (*Pinus* spp.)-juniper (*Juniperus* spp.) savanna-dominated ecoregion that is common throughout northern New Mexico. The Project area and surrounding landscape have been previously disturbed by two-track roads, cattle grazing, State Route 14, and transmission lines. No unique vegetation, wildlife, or habitat features were identified during the biological survey (April 4–11, 2022) of the analysis area (SWCA 2023). The analysis area includes the Project area plus an additional survey area buffer (see Figure A-2 in Appendix A).

The Project area is located in the North-Central New Mexico Valleys and Mesas ecoregion, which encompasses central New Mexico. The elevation in the Project area is approximately 6,420 feet above mean sea level. The climate for this area, based on the climatic records for the Santa Fe 2 station in Santa Fe County, New Mexico (COOP Station No. 298085), has an average annual maximum temperature of 64.9 degrees Fahrenheit (°F) and an average annual minimum temperature of 36.0°F. The average annual rainfall is 13.68 inches, with the majority occurring between May and October, while the average annual total snowfall is 21.0 inches, which largely occurs between November and March (Western Regional Climate Center 2024). Weather during the biological survey was approximately 41°F to 71°F, and sunny to cloudy with western, northwestern, and eastern winds of approximately 0 to 35 miles per hour (SWCA 2023).



## 2.2 Ecology

The Project area is located within the Arizona/New Mexico Plateau: North-Central New Mexico Valleys and Mesas U.S. Environmental Protection Agency Level IV ecoregion (Griffith et al. 2006). During the biological survey, SWCA biologists identified two distinct habitat types within the analysis area. Habitat 1 is grasslands dominated by blue grama (*Bouteloua gracilis*), prickly Russian thistle (*Salsola tragus*), and rubber rabbitbrush (*Ericameria nauseosa*) and features approximately 61% vegetative cover composed of approximately 1% shrub cover, 60% herb/grass cover, and approximately 39% bare ground (see Photographs 1 and 2 in Appendix C). Habitat 2 is pinyon-juniper savanna dominated by blue grama, twoneedle pinyon (*Pinus edulis*), oneseed juniper (*Juniperus monosperma*), and rubber rabbitbrush and features approximately 21% vegetative cover composed of approximately 15% tree cover, 20% shrub cover, 40% herb/grass cover, and 25% bare ground (see Photographs 3 and 4 in Appendix C). These habitats are typical of vegetative communities of the North-Central New Mexico Valleys and Mesas ecoregion, except for the dominance of prickly Russian thistle in Habitat 1.

## 2.3 Baseline Noxious Weed Observations

During the biological survey, no U.S. Department of Agriculture–listed noxious weed species or New Mexico Department of Agriculture (NMDA)–listed invasive or nonnative plant species were observed within or around the analysis area (NMDA 2020; U.S. Department of Agriculture 2010). Prickly Russian thistle was observed during the biological survey and was noted as a dominant species in Habitat 1. Prickly Russian thistle is not a designated noxious weed but is a nonnative and invasive species found throughout New Mexico (Natural Resources Conservation Service [NRCS] 2024a). Protection measures, such as noxious weed washing stations, can be utilized to reduce the introduction of noxious, invasive, and nonnative plants.

## 3 PROJECT DESCRIPTION

The Project includes the construction of an 680-acre, 96-megawatt solar generation facility, a 2.3-acre, 48-megawatt battery energy storage system, a 1-acre collector substation, a 2.3-mile-long generation tie-in transmission line (gen-tie), a 2.1-mile-long associated access road, a 26.3-foot diameter by 7.2-foot above ground water storage tank, and a 1,400-square-foot by approximately 18 feet above ground Operations Building (see Figure A-2 in Appendix A). Construction of the facility will include transportation of equipment, site preparation, clearing, grubbing, grading, and equipment installation. Interim reclamation would occur in areas not required for long-term operations and maintenance. Operations and maintenance of the facility would include routine maintenance and inspection. Maintenance of the facility may include periodic washing of solar panels, general equipment maintenance, and vegetation trimming.

### 3.1 Disturbance Types

This plan defines two types of disturbance conditions—permanent use and temporary use. Before beginning any construction activity or other ground-disturbing activity, all areas to be disturbed will have boundaries marked using stakes, flagging, and/or fencing spaced to maintain a sightline, and all disturbances will be confined to the marked areas in accordance with the Santa Fe County Sustainable Land Development Code (SLDC) (Ordinance No. 2016-9). All Project personnel will be instructed that their activities must be confined to the marked areas, and no grading is permitted within 1 foot of a property line, except for roads driveways and utilities in accordance with the Santa Fe County SLDC. Disturbance beyond the marked areas will be prohibited. If sensitive resources are observed within the

area to be disturbed, construction will proceed in a different area until an approved resource specialist has evaluated the find.

### **3.1.1 Permanent Use Areas**

The use of these areas is long term, and the landscape will be permanently altered as a result of removing vegetation, leveling the site, and constructing the facility, battery energy storage system, substation, gen-tie, water storage tank, and Operations Building. Permanent disturbance also includes constructing access roads needed for routine maintenance of the facility.

### **3.1.2 Temporary Use Areas**

Temporary use is defined as using an area only for the amount of time it takes to construct the Project. This will include using various types of heavy equipment movement within the Project area to install solar panels, fencing, and gen-tie poles, parking vehicles and equipment, and storing materials in designated staging areas. These areas will be restored following the completion of construction.

## **4 VEGETATION MANAGEMENT**

Vegetation management planning for the Project includes an evaluation of site conditions and development of site-appropriate revegetation approaches in accordance with the Project's Environmental Impact Report (SWCA 2023).

### **4.1 Revegetation Constraints**

Revegetation constraints within the Project include 1) shallow low-nutrient mineral soils that are readily mobilized by local eolian forces, 2) low average annual precipitation levels, and 3) high average summer temperatures.

### **4.2 Revegetation Approach**

In order to overcome the constraints identified in Section 4.1, appropriate native or similar species common within the ecoregion will be used to reseed the post-construction temporary use areas to the greatest extent practicable. Though soil stabilization will occur in accordance with the Project's associated SWPPP, compacted soils will be restored as closely as possible to preconstruction conditions as required for ground stabilization and erosion control. This also supports the success of revegetation activities following construction. Rancho Viejo will consult with local agencies, experts, or landowners to determine appropriate seed mixtures of native or similar species and seeding rates for the Project area. Seed mixes will be applied with mulch, organic amendment, and tackifiers to increase revegetation success. A recommended seed mix and application rates for the Project are provided in Table 1. The Project seed mix to be used will be approved by the Santa Fe County Administrator prior to application in accordance with the Santa Fe County SLDC.

**Table 1. Recommended Seed Mix and Application Rate**

Common Name	Scientific Name	Application Rate (Pure Live Seed/Acre)
Blue grama, Alma*	<i>Bouteloua gracilis</i>	2.54
Buffalograss, Texoka	<i>Bouteloua dactyloides</i>	1.905
Cool season cover crop "Smoothgrazer" wheat/triticale blend	<i>Pseudoroegneria spicata</i> and <i>X triticosecale</i>	7.0
Green sprangletop, Van Horn	<i>Leptochloa dubia</i>	1.905
Little bluestem	<i>Schizachyrium scoparium</i>	0.635
Plains bristlegrass	<i>Setaria leucopila</i>	0.635
Sand dropseed	<i>Sporobolus cryptandrus</i>	0.635
Sideoats grama	<i>Bouteloua curtipendula</i>	1.905
Warm season cover crop German millet	<i>Setaria italica</i>	7.0
Western wheatgrass	<i>Pascopyrum smithii</i>	2.54

\*Alma' blue grama is the preferred variety. If the necessary quantities are not available in the market at time of planting, New Mexico origin VNS blue grama will be used.

### 4.3 Revegetation Methods

Topsoil will be placed separately from subsoils/bedrock during excavation to the greatest extent practicable. Rancho Viejo will aim to store native topsoil stockpiles on-site in sufficient quantity to ensure that all revegetation areas have enough native soil prior to hydroseed and mulch application, in accordance with the Santa Fe County SLDC. The topsoil should be scarified, tilled, or harrowed to a depth of approximately 3 to 4 inches below ground surface, creating a suitably roughened seedbed for germination and establishment of seed. All materials used for the Project will be certified weed-free. Seed, mulch, organic matter, and tackifier will be loaded into the hydroseeder tank and agitated based on manufacturer specifications. Residence time of seed within the hydroseeder tank will be minimized by only adding seed to the hydroseed tank immediately prior to initiation of hydroseeding. The hydroseeding slurry, including tackifier, mulch, organic matter, and seed, will be evenly applied as a slurry to the revegetation areas at the rates listed in Table 1.

### 4.4 Revegetation Watering

Supplemental watering will be conducted concurrently with hydroseeding and mulching application, which will utilize a minimum of 1,500 gallons of water per acre. Additional supplemental watering may also occur if the monthly precipitation falls below 60% of average during the first growing season (April–October) and/or if site inspection indicates that seeded plants are drought-stressed. In this case, supplemental watering will be administered to the revegetation areas at 1-week intervals and a maximum of 1 acre-inch per application, until indicators of plant drought stress are diminished or total water input (from precipitation and irrigation) equals the average precipitation. For example, if June precipitation is 0.5 inch below average and this precipitation shortfall is documented or anticipated to substantially decrease revegetation success, then a supplemental July watering event, equaling 0.5 acre-inch, will be planned for the Project.

Supplemental water will be provided by watering trucks equipped with a hose and/or spray gun to allow for administration of water within revegetation areas from outside of the revegetation areas. The rate of watering will not exceed the soil infiltration rate or cause surface water runoff, and supplemental watering will not be conducted after 3 years post-construction.

## **4.5 Revegetation Monitoring**

Monthly precipitation monitoring will be conducted during the first growing season to ensure the revegetation efforts are not adversely impacted by drought, as described in Section 4.4. Revegetation success monitoring will occur annually until the native vegetation cover and diversity within revegetation areas is equal to or greater than 70% of vegetation cover found in adjacent undisturbed areas. Additionally, in accordance with the Santa Fe County SLDC, disturbed areas not stabilized by landscaping shall be permanently revegetated to approximate the density and species or vegetation at the site prior to grading.

Monitoring results will be used to determine if the revegetation program is achieving success. Should the results show that changes need to be made to the Plan to advance toward achieving the Plan goals, a scientifically based adaptive management approach will be implemented. Annual evaluation of revegetation success and adaptive management methods during the post-construction monitoring efforts will be summarized in a brief report.

## **5 NOXIOUS WEED MANAGEMENT**

Many weed species are, by their nature, adapted to colonizing disturbed ground—whether disturbed by natural or anthropogenic processes—and thus it is no surprise that many large construction projects require some level of active weed management. However, an abundance of weed infestations or recurring infestations can be symptomatic of certain land management, project management, and/or environmental conditions. When facing a weed infestation, it is important to identify and correct (to the extent feasible) the underlying causes of weed infestation and take steps to counter them. If the factors permitting weed establishment and expansion are not addressed, weed problems will continue indefinitely. A single control technique is rarely sufficient to control a particular weed species. The best results in weed control are usually obtained by combining different control methods in a coordinated effort (Colorado Department of Agriculture 2000).

### **5.1 Best Management Practices**

The following measures will be implemented by Rancho Viejo and/or their contractor(s) to prevent the spread of weed propagules and inhibit their germination.

#### **5.1.1 *Equipment Cleaning***

To prevent the spread of noxious weed species into new habitats, Rancho Viejo or their contractor(s) will ensure that construction equipment is cleaned of dirt and mud that could contain weed seeds, roots, or rhizomes. Prior to entering the Project work areas, equipment will be inspected by Rancho Viejo or their contractor(s) to ensure it is free of dirt or mud that could contain weed seeds. Prior to construction, all equipment tracks, feet, tires, and undercarriage will be carefully washed, and special attention will be paid to axles, frames, cross members, motor mounts, underneath steps, running boards, and front bumper/brush guard assemblies. Other construction vehicles (e.g., pick-up trucks) that will be frequently entering and exiting the site will be inspected and washed on an as-needed basis prior to entering the Project area.

All vehicles will be washed off-site by Rancho Viejo or their contractor(s). However, if necessary, an on-site cleaning station will be set up to clean equipment before entering the work area. Cleaning stations would use high-pressure water and/or air to remove dirt and mud from equipment and vehicles and would be located away from any sensitive plant populations.

Additionally, ingress and egress of equipment and vehicles will be limited to designated routes.

### **5.1.2 Site Soil Management**

Soil will be managed by limiting ground disturbance to the minimum feasible and implementing fugitive dust mitigation measures to minimize the spread of noxious weed seeds. Cleared vegetation and salvaged topsoil will be stockpiled adjacent to the area from which they are stripped to eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes. Dust palliatives (e.g., water) will be used during construction to minimize the spread of airborne noxious weed seeds, especially during very windy days, a characteristic of the Project vicinity. As appropriate, temporary drift fences may be installed to help control sand movement during construction. Because sand accumulating along these fences will provide a hospitable microsite for noxious weed seed germination, as well as capture higher densities of seeds, concentrated control measures will be implemented along such structures (and any others that trap sand and seeds) to prevent establishment of noxious weed populations.

Additionally, Rancho Viejo or their contractor(s) will limit disturbance areas to the minimum required to perform work to conserve natural vegetation and ground covers, keeping soils naturally stabilized to the extent possible.

### **5.1.3 Weed-Free Products**

Rancho Viejo or their contractor(s) will ensure that any straw or hay bales used for sediment barrier installations are obtained from sources that are certified free of primary noxious weeds. Other products, such as gravel, mulch, and biosol or compost, may also carry noxious weeds. Such products will be obtained from suppliers who can provide certified weed-free materials. Where feasible, mulch will be generated from native vegetation cleared from the Project area. Soil will not be imported into the Project area.

### **5.1.4 Personnel Training**

Noxious and invasive weed management will be incorporated as a part of mandatory site training for groundskeepers and maintenance personnel. Training will include weed identification and the impacts on agriculture, livestock, wildlife, and fire frequencies. Training will also cover the importance of preventing the spread of noxious weeds.

## **5.2 Infestation Containment and Control**

While no State of New Mexico or federal noxious weeds were observed during field surveys of the Project area in April 2022, prickly Russian thistle (a nonnative and invasive species) was observed as a dominant species in Habitat 1. In addition, development activities may introduce noxious weeds to the site. Weed species should be controlled before they set seed and before they shade and outcompete desirable and native plants in the Project area. The following measures will be implemented in order to prevent their establishment and spread in areas of soil disturbance, if encountered.

### **5.2.1 Manual Treatment**

Where noxious weeds are encountered, Rancho Viejo or their contractor(s) will remove plants or seed heads with hand tools. Certain specialty hand tools may be used as well, such as those reviewed by The Nature Conservancy (2011). This treatment technique is considered ideal because it has the least potential for unwanted impacts on the natural environment. Special care will be taken to find tools that will remove

weeds effectively, while not disturbing desirable and native vegetation. Both vegetative and root systems will be removed where feasible. Removal efforts will be timed appropriately for each species, before seed set. Timing will also be flexible to reflect rainfall events and other factors that may speed up or delay population maturation for a given year. Multiple removal events may be necessary to ensure that late-germinating plants are also removed. Invasive plants will be disposed of by bagging and will either be incinerated (if permitted by air quality standards) or transported to a permitted waste facility.

## **5.2.2 Mechanical Treatment**

Rancho Viejo may implement mechanical treatment to control noxious weed populations, such as hand weed trimmers or mowing, only where manual treatment techniques are ineffective. Mechanical treatment would take place only where terrain allows for safe handling of machines; heavy equipment will not be used in natural, undisturbed areas. Mechanical methods will not be used during periods of high fire risk and will only be used with implementation of fire prevention measures. Timing of efforts will ideally coincide with manual treatment, and when possible, areas where weeds have been removed will be revegetated to hinder a future reemergence of weeds in the same location.

## **5.2.3 Chemical Treatment**

Herbicide chemical control methods may also be used to control noxious weed populations. If herbicides are required, a state-certified herbicide applicator will be contracted and herbicides will be selected and applied in accordance with the New Mexico Pesticide Control Act, Chapter 76 Article 4 NMSA.

Chemical treatment will be used judiciously in reclaimed areas as an adjunct to manual treatment. Timing is critical for both pre-emergent and post-emergent herbicide application. In the Project area, pre-emergent herbicides would be applied prior to weed germination. Post-emergent herbicides must be applied while the weed is actively growing, most effectively in the early seedling stage, but always prior to seed set. Herbicides will be used along with manual and mechanical means for post-emergent elimination. When possible, selective herbicides will be used to target specific weed species, rather than all vegetation.

Herbicide spray drift (drift) can be an unwanted side effect of the chemical treatment techniques. Drift can occur as vapor or particle drift. Vapor drift can be minimized by selecting product formulations resistant to vaporizing and applying herbicides at ideal temperature and humidity conditions. Generally, high temperatures and low relative humidity increase vapor drift, and so any herbicide application should ideally occur in the early morning during most of the year. Particle drift is a function of application method and equipment. Droplet size and pressure of the herbicide applicator will be controlled carefully to minimize particle drift. Herbicides will also, to the extent practicable, be applied on low-wind days (below 10 miles per hour or less as required by law or local regulations).

## **5.3 Monitoring**

### **5.3.1 Noxious Weed Survey Methods**

Rancho Viejo or their contractor(s) will conduct noxious weed surveys throughout the Project area and targeting the perimeter fence and all roadways of the Project area during the growing season. The approximate growing season in the region is April 30 through October 17 according to the NRCS Wetlands Climate Tables (WETS Station: Santa Fe 2, New Mexico) (NRCS 2024b). Monitoring for noxious weeds will occur at least quarterly from the start of construction for a minimum of 3 years post-construction or until the success standard is met (see Section 5.4), and to the lesser of 50 meters beyond

the facility perimeter or the boundary of the Rancho Viejo–owned property during the growing season. All noxious weed populations encountered will be mapped and, to the extent practical, will be treated or removed immediately with the control methods described in Section 5.2 above.

### **5.3.2 Construction Monitoring**

During construction, Rancho Viejo or their contractor(s) will review the New Mexico Noxious Weed List (NMDA 2020) and plant identification materials monthly during the growing season to be aware of the noxious weed species that have a potential to occur within the Project area. Monitoring will be conducted as described in Section 5.3.1, and any noxious weed populations observed will be documented and mapped. In accordance with New Mexico’s Noxious Weed Management Act, particular noxious weed species will be reported to the appropriate authorities as required if observed during monitoring. A management strategy and methods will be developed for each specific noxious weed species observed in the Project area. Observations of noxious weed populations during construction monitoring efforts, as well as any treatment methods performed, will be summarized in a brief report.

### **5.3.3 Post-construction Monitoring**

Noxious weed monitoring and control will be ongoing for the life of the Project. Noxious weed monitoring will continue quarterly during the growing season for 3 years post-construction. If Plan success is determined after the initial 3 years of operations post-construction, the weekly growing-season monitoring frequency may be reduced appropriately. Noxious weed monitoring will continue to include recording observed noxious weed infestations and reporting observations to the appropriate authorities as required for the life of the Project. Observations of noxious weed populations, treatment locations, and treatment methods during the 3-years of post-construction monitoring efforts will be summarized in a brief report. If additional years of monitoring and treatments are conducted, these efforts will also be reported.

## **5.4 Success Standard Thresholds**

No plant species from the 2020 New Mexico Noxious Weed List (NMDA 2020) were observed during field surveys of the Project area in April 2022; however, prickly Russian thistle was observed. While it should be noted that these surveys are not considered comprehensive weed inventories, the overall goal for the Project is containment of noxious weed species to a degree that desirable and native plants can establish on-site and stay in compliance with applicable noxious weed regulations. Noxious weed species can interfere with the establishment and growth of desirable and native plants and affect ecosystem processes like soil cover, nutrient cycling, fire regimes, and hydrology. These ecosystem changes can result in biodiversity loss and eventually extinction (Weidlich et al. 2020). Noxious weed species will be managed, but if noxious weed species establish in the Project area, total eradication may not be feasible given the possibility of infestation from nearby and potentially uncontrolled sources. Noxious weed species are likely to be transported between sites by vehicle traffic and personnel during construction and operation, as well as from wind, water, and avian distribution.

The Project goal is to eradicate infestations or at a minimum, minimize establishment and spread of noxious weeds in the Project area that can be attributed to Project activities. If at 3 years of operation the noxious weed densities in the Project area are eradicated or establishment is minimized, the Plan will be considered successful. If the Plan is not successful after 3 years of operation, continued monitoring and control, with modified techniques as necessary, will be implemented through an adaptive management process.

## 6 LITERATURE CITED

- Colorado Department of Agriculture. 2000. *Creating an Integrated Weed Management Plan: A Handbook for Owners and Managers of Lands with Natural Values*. Available at: <https://spl.cde.state.co.us/artemis/nrmonos/nr4202w412000internet/>. Accessed May 2024.
- Griffith, G.E., J.M. Omernik, M.M. McGraw, G.Z. Jacobi, C.M. Canavan, T.S. Schrader, D. Mercer, R. Hill, and B.C. Moran. 2006. Ecoregions of New Mexico (two-sided color poster with map, descriptive text, summary tables, and photographs). Scale 1:1,400,000. Reston, Virginia: U.S. Geological Survey.
- Natural Resources Conservation Service (NRCS). 2024a. The PLANTS Database. Available at: <http://plants.usda.gov>. Accessed May 2024.
- . 2024b. Wetlands Climate Tables. Available at: <https://www.nrcs.usda.gov/programs-initiatives/sswsf-snow-survey-and-water-supply-forecasting-program/wetlands-climate-tables>. Accessed May 2024.
- The Nature Conservancy. 2011. *Tools of the Trade*. The Global Invasive Species Team. Available at: <http://www.invasive.org/gist/tools.html>. Accessed May 2024.
- New Mexico Department of Agriculture (NMDA). 2020. Memorandum to the General Public from Director/Secretary Jeff Witte: New Mexico Noxious Weed List Update. Available at: <https://nmdeptag.nmsu.edu/apr/noxious-weeds.html>. Accessed May 2024.
- SWCA Environmental Consultants (SWCA). 2023. *Environmental Impact Report for the Rancho Viejo Solar Project in Santa Fe County, New Mexico*. Albuquerque, New Mexico: SWCA Environmental Consultants.
- U.S. Department of Agriculture. 2010. Federal Noxious Weed List. Updated March 21, 2017. Available at: [http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/weeds/downloads/weedlist.pdf](http://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/downloads/weedlist.pdf). Accessed May 2024.
- Weidlich, E.W.A, F.G. Florido, T.B. Sorrini, and P.H.S. Brancalion. 2020. Controlling invasive plant species in ecological restoration: A global review. *Journal of Applied Ecology*. Volume 57, Issue 9: 1806–1817.
- Western Regional Climate Center. 2024. New Mexico Climate Summaries: Santa Fe 2, New Mexico (COOP Station 298085). Available at: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?nm8085>. Accessed May 2024.



## **APPENDIX A**

### **Figures**

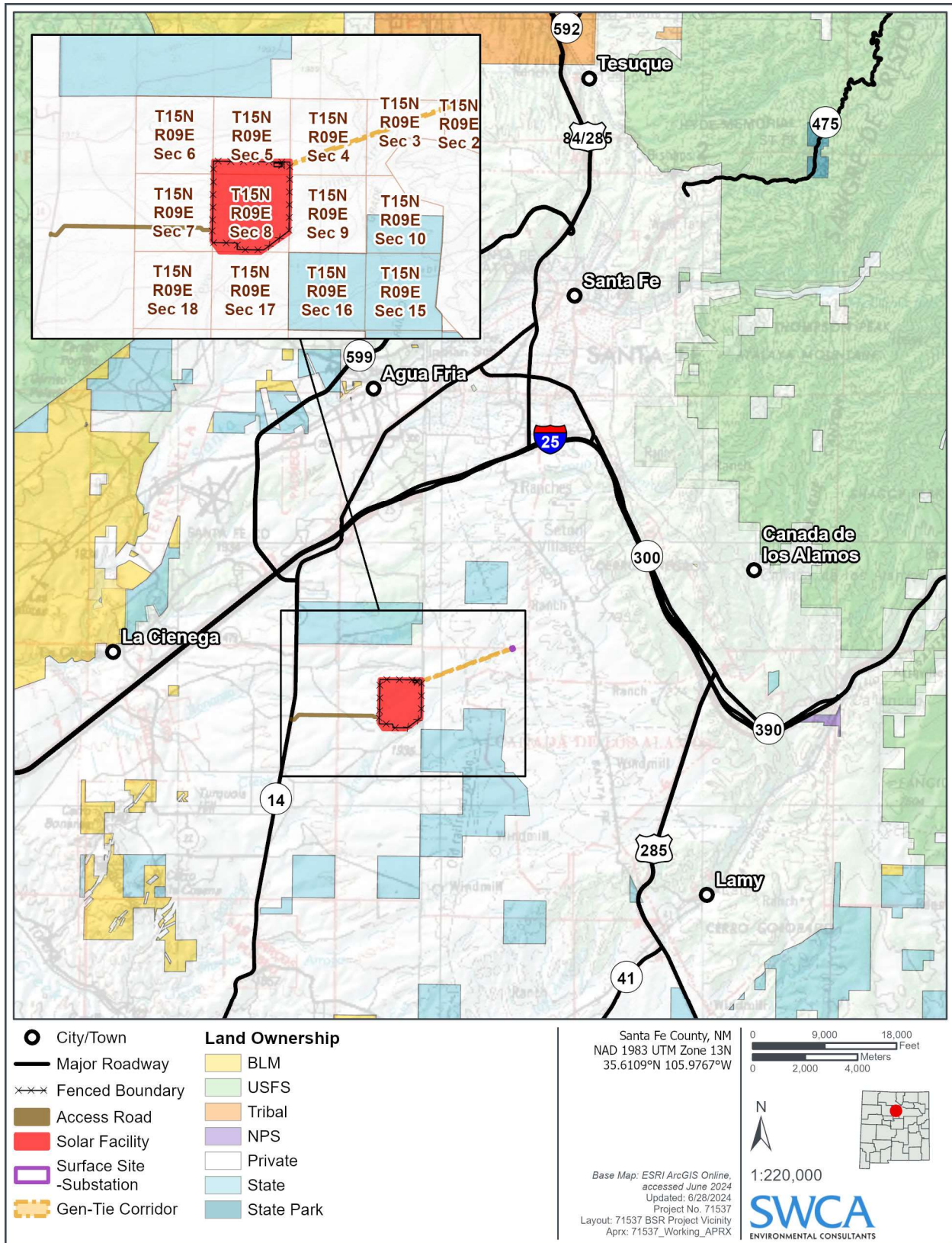


Figure A-1. Project vicinity map.

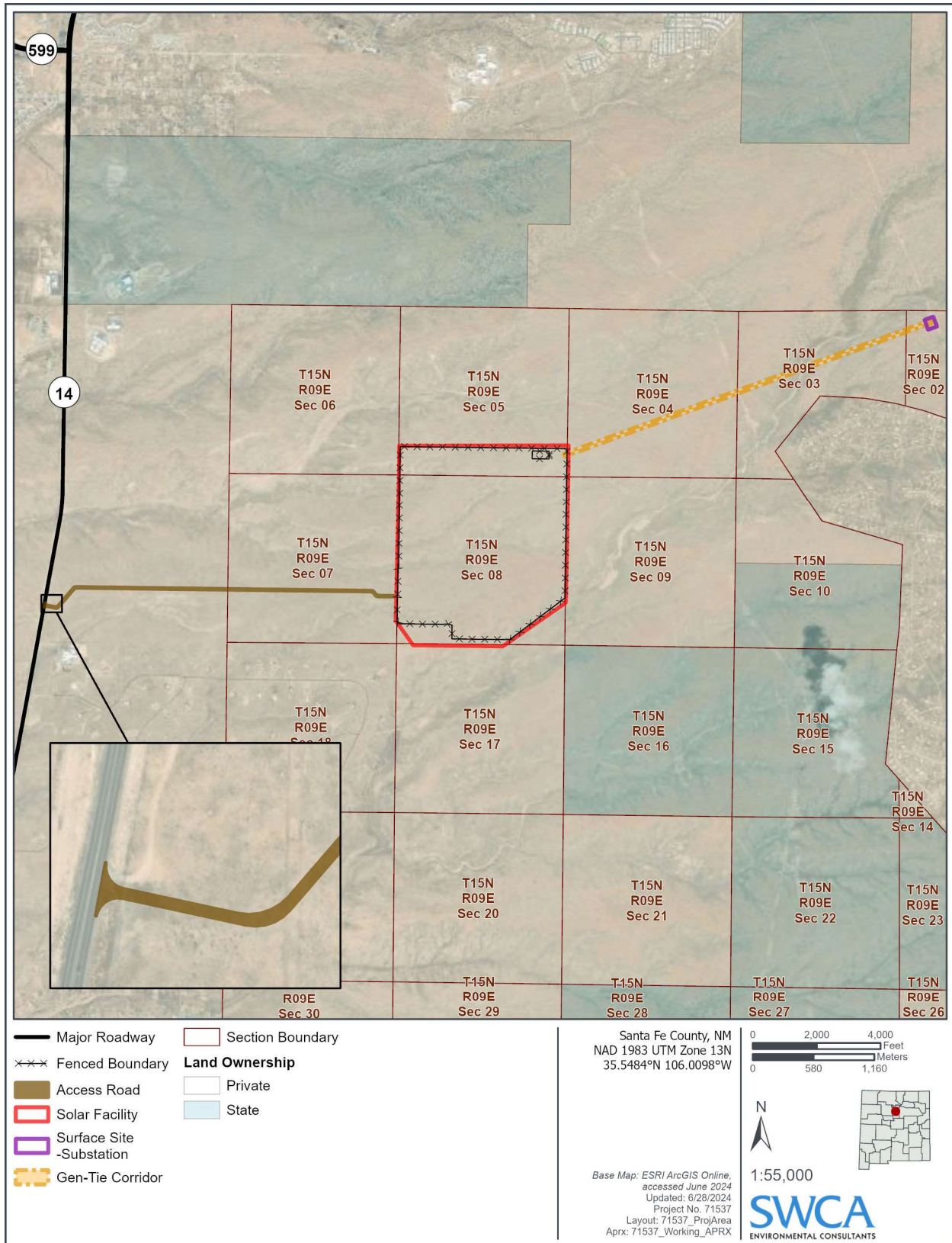


Figure A-2. Project area disturbance footprint.

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## **APPENDIX B**

### **Environmental Protection Measures**



## **Environmental Protection Measures**

The following Environmental Protection Measures identified in the Project Environmental Impact Report (SWCA 2023) are related to vegetation and noxious weed management and will be implemented to avoid and minimize impacts to resources:

- Temporarily disturbed areas will be revegetated to the extent practicable in order to meet SWPPP requirements and performance standards for runoff and erosion control. Seed mixture and seeding rates will be developed through consultation with the local agency, experts, or landowner.
- Compacted soils will be restored as closely as possible to preconstruction conditions as required for ground stabilization and erosion control.
- Rancho Viejo will develop and implement the Vegetation and Noxious Weed Management Plan for the control of noxious weeds and invasive species that could occur as a result of new surface disturbance activities at the site. Performance standards will be used to evaluate the success of the Vegetation and Noxious Weed Management Plan.
- If required as part of the SWPPP, a native seed mixture will be applied to all temporary disturbance areas, followed by applications of mulch as required to provide additional erosion control.
- To the extent practicable, topsoil will be placed separately from subsoils/bedrock during excavation and not commingled and will be replaced in reverse order of excavation.
- Erosion will be reduced by applying and maintaining standard erosion and sediment control methods. These may include using certified weed-free straw wattles and bale barriers and silt fencing. Specific erosion and sediment control measures will be specified in the SWPPP. The SWPPP will include performance standards to evaluate the success of erosion control measures.
- Rancho Viejo will implement appropriate erosion control measures in areas with slopes, as provided in the SWPPP. To the extent practicable, temporary access roads will be designed following existing landform contours, where practicable, and revegetated with native or similar grasses, shrubs, or forbs, or as agreed to with the landowner.

## **APPENDIX C**

### **Photographs**



**Photograph 1. View of Habitat 1 (grasslands) within the Project area, facing north.**



**Photograph 2. View of Habitat 1 (grasslands) within the Project area, facing east.**





**Photograph 3. View of Habitat 2 (pinyon-juniper savanna) within the Project area, facing north.**



**Photograph 4. View of Habitat 2 (pinyon-juniper savanna) within the Project area, facing west.**