



Fire Prevention and Protection Plan

Palmer Solar Project and Williams
Creek Substation Project

El Paso County, CO

June 2018



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MANAGEMENT

1.0 GENERAL SITE INFORMATION

1.1 *Site Description & Ownership*

The site is located 0.84 miles East of the intersection of Old Pueblo Rd. and Birdsall Rd. The parcels are owned by Woodmoor Water and Sanitation District No. 1 (Woodmoor) and City of Colorado Springs in El Paso County, CO.

The area pertaining to the Palmer Solar Project and the Williams Creek Substation Project is approximately 686 acres. The site is categorized as vacant land and is zoned as Rural-Residential. The Solar Project site is bounded on the north by Calhan Reservoir, to the east by existing high-voltage transmission infrastructure and property owned by Colorado Springs Utilities, and to the south and west by private property, including vacant land and low-density residential development.

1.2 *Historical and Current Site Use*

The site has historically been an undeveloped piece of property utilized for grazing purposes. The site currently has some grazing activity and is otherwise kept in an open rangeland condition.

1.3 *Existing Groundcover Conditions*

The existing groundcover at the site consisted of cholla cactus, native shrubs and grasses, and noxious grasses (particularly cheatgrass). It is in a non-forested area of El Paso county. The site is identified as having moderate to high wildfire susceptibility in the Community Wildfire Protection Plan for Unincorporated El Paso County.

2.0 FIRE PREVENTION PLAN

2.1 *Fire Prevention Plan Overview*

The Fire Prevention Plan for the Palmer Solar Project and Williams Creek Substation during construction consists of policies which are incorporated in JSI Construction Group LLC's ("JSI") Safe Works Practices and reviewed by all construction parties in the mandatory site orientation. In addition, it is developed to adhere to the El Paso County Land Development Code Section 6.3.3 Fire Protection and Wildfire Mitigation Standards.

Site personnel are trained to enforce these policies and site safety inspections are documented on a weekly basis during on-site activities. All personnel are instructed to call 911 in case of an emergency, and all personnel are issued a sticker with the site address to be placed on their hard hat in order to notify emergency services of the precise site location.

Fire Prevention policies include:

1. Employees must know how to recognize and report hazardous conditions and fire hazards associated with the materials and processes to which employees are exposed.
2. Good housekeeping must be practiced in all buildings and vehicles to prevent the accumulation of flammable and/or combustible material.
3. Flammable liquids must be stored in properly labeled approved containers in designated cabinets or storage areas away from sources of ignition.

4. Smoking shall be prohibited at or in the vicinity of operations that constitute a fire hazard and shall be conspicuously posted “No Smoking or Open Flame”.
5. Personnel must know and follow the site’s requirements for the use and handling of oily rags.
6. Unused wooden pallets must be taken to the designated outside storage area.
7. Flammable liquids must not be transferred into containers unless the nozzle and container are electrically interconnected (bonded).
8. Flammable liquids must not be dispensed by gravity from tanks, drums, barrels, or similar containers except through a listed self-closing valve or self-closing faucet. (Listed means tested and listed by a recognized testing laboratory, such as UL or FM).
9. Flammable or combustible liquids are not to be used for general cleaning purposes.
10. Compressed gas cylinders must not be stored with flammable or combustible purposes.
11. No objects or materials that restrict clear access shall be placed in front of electrical panels or disconnects.
12. Electric control panel covers must remain in place and/or with the doors closed.
13. Portable space heaters may not be used without prior approval from a supervisor and site management.

Fire Protection policies include:

1. Fire extinguishers shall be present in all site vehicles and trailers and must be nearby when there is any potential for fire ignition.
2. Any damaged or spent portable fire extinguishers must be reported to supervisor or local safety personnel.
3. Access to fire extinguishers or other fire protection equipment must not be blocked or restricted.
4. Employees shall not use fire extinguishers or other fire protection equipment unless they are trained and designated to do so.
5. Equipment will only be filled at compacted basecourse non-vegetated areas.

In addition to the policies above, there will be lightning protection equipment located at the substation, fire extinguishers will be installed and maintained at all accessory structures (i.e., storage shed), and site roads will be kept serviceable for emergency equipment.

2.2 *Palmer Solar Specific Fire Prevention Policies*

At the site, Palmer Solar LLC and JSI Construction Group LLC will coordinate with the Hanover Fire Department by implementing the following policies. Hanover Fire Department is recognized as the main service provider for fire and wildland fire services: both prevention and emergency response.

2.2.1 *Project Training*

In advance of construction, education on project specifics and construction operations will take place on site with Hanover Fire Department crew and any other relevant emergency responders.

2.2.2 *Smoking Plan:*

Two (2) 50' x 50' smoking areas will be designated during the construction of the Palmer Solar site. These areas will be marked throughout the duration of construction and will be located on areas noted as “Staging Areas” which feature a compacted basecourse suitable for vehicular traffic and have minimal to no ability for vegetation to take root. See Appendix A for the planned locations.

2.2.3 *Hot Work Plan:*

All welding activities during construction will follow the requirements of JSI's Safe Work Practices. These standard requirements include the discussion of daily Hot Work activities during the Daily Tailboard, and the completion of a Hot Work Permit by all operators performing hot work on a weekly basis. The Hot Work Permit requires operators to carry an extinguisher, wet down the ground or install fire-resistant tarpaulins when performing work, and have dedicated and trained fire watch personnel. See Appendix B for a blank Hot Work Permit form.

In the event of a Red Flag Warning, no hot work will be permitted.

In the event of a Stage 1 or greater Fire Restriction, JSI will coordinate with the Hanover Fire Department to implement a fire watch crew or an acceptable advisory operation to ensure compliance.

2.2.4 *Fire Department Rapid Entry Provisions:*

Each independently fenced section of the Palmer Solar site will have a box with a key that allows for rapid entry by fire department personnel. The locations of these boxes are noted on Appendix A.

3.0 PLANNED VEGETATION MANAGEMENT FOR FIRE MITIGATION

3.1 *Site Preparation*

To prepare for civil construction activities and future solar racking installation, the civil subcontractor will mow the existing vegetative cover at the site within the lease boundary. This effort will minimize site preparation issues upon the start of construction. The civil subcontractor will also use mechanical methods to perform grubbing activities, removing cholla cactus and other small bushes. If ground-nesting birds are discovered at the site during preconstruction environmental surveys, the Operator will minimize mowing efforts to maintain, on average, a grass height of no less than 10 inches to accommodate local environmental restrictions during the bird nesting period which is typically from May through June. Mowing will take place in these areas once surveys confirm nest vacancy.

The subcontractor will disc mowed areas and drill seed the site with a custom seed mix. Any weeds or involuntary vegetation will get mowed a second or third time before the solar racking foundation installation to both combat weeds and to ease installation efforts.

several areas of the site will require overlot grading to bring the site into the correct tolerances for the solar racking installation. These disturbed areas as well will be drill seeded and hydromulched after grading activities are complete.

3.2 *Planned Groundcover*

Our team has worked diligently with both local landowners and seed suppliers in the area to determine the appropriate groundcover for the site. Palmer Solar will utilize a low growth grass seed mix that resembles the native portfolio in this portion of El Paso County and with input from the County, will likely include the following species: Blue Grama, Crested Wheatgrass, Sheep Fescue, Perennial Ryegrass, Chewings Fescue, and Canada Bluegrass. Palmer Solar LLC chose this mix given its ability to provide fast growth groundcover initially and to ultimately establish a low growth grass

cover that will require less frequent maintenance, yet provide the necessary soil stabilization to combat erosion at the site. The chosen seed mix can be found in Appendix C below.

3.3 *Maintenance Schedule*

Palmer Solar LLC plans to mow the site approximately 3 to 5 times per year. Given the low and slow growth characteristics of the selected grass species, this maintenance schedule should suffice, although depending on the weather and moisture conditions, this rate may fluctuate.. Additionally, the grass will not be mowed unless it interferes with modules during this season or if the Operator of the facility determines mowing is necessary for other reasons. Typical maintenance for the 20 feet around the perimeter of the site between the solar arrays and the security fence will include mowing at the same rate and minimizing weed growth. Any larger vegetation in this buffer will be sprayed and killed or removed as necessary.

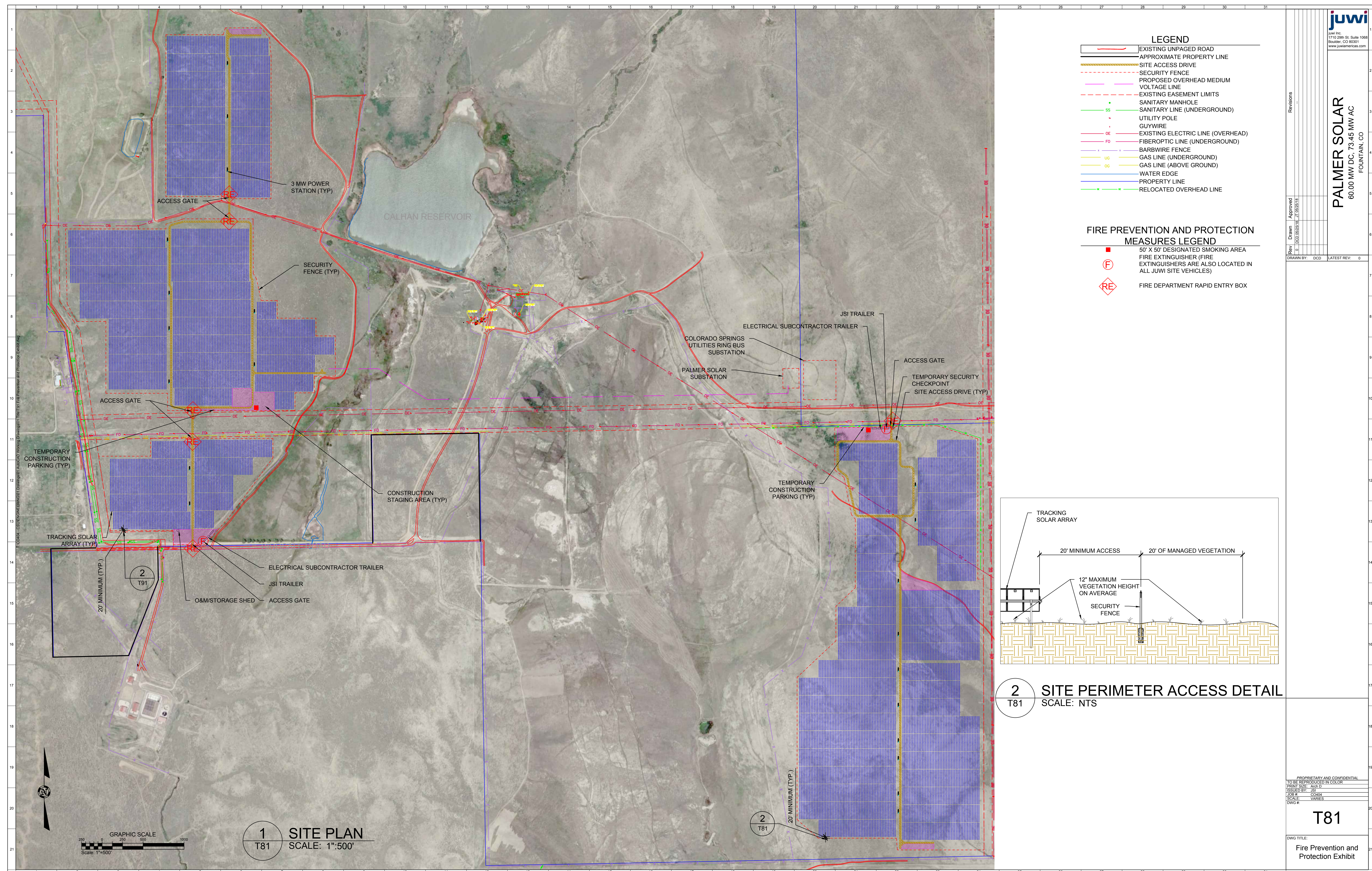
3.4 *Invasive Plant Species Management*

Given the current site conditions, special attention should be made to invasive weed species. Palmer Solar LLC will develop a Noxious Weed Management Plan that meets El Paso County Environmental Department standards. All required components of the Noxious Weed Management Plan will be undertaken during construction and operational phases

3.5 *Maintenance Obligations and Future Coordination*

The Operator of the solar site shall adhere to the Vegetation Management Plan guidelines provided within this plan as approved by the Hanover Fire Department for the ongoing vegetation management of the Palmer Solar site. Furthermore, and for the duration of the solar arrays' operational lifespan, the Operator will work with the Hanover Fire Department to meet current IFC requirements as they relate to site maintenance per Section 605.11.2, as well as evaluate and incorporate any substantive changes put forth by the IFC in future code revisions as they pertain to vegetation management of ground-mounted solar arrays. Refer to Appendix D for photos depicting acceptable and non-acceptable conditions for vegetation maintenance.

Appendix A
Fire Prevention Plan, Site Plan



Appendix B

Hot Work Permit Form

SAFE OPERATING PLANS & REQUIREMENTS <i>ALL EMERGENCIES CALL 911</i>		NUMBER: ISSUED: REVISED:	
BEFORE INITIATING HOT WORK, ENSURE PRECAUTIONS ARE IN PLACE!! MAKE SURE AN APPROPRIATE FIRE EXTINGUISHER IS READILY AVAILABLE!!			
THIS HOT WORK PERMIT IS REQUIRED FOR ANY OPERATION INVOLVING OPEN FLAMES OR PRODUCING HEAT AND OR SPARKS. THIS INCLUDES BUT IS NOT LIMITED TO: WELDING, CUTTING, GRINDING, SOLDERING, ETC.			
INSTRUCTIONS A. Verify precautions listed at right (or do not proceed with work) B. Complete, Post and retain this Permit		REQUIRED PRECAUTIONS CHECKLIST ___ Available extinguishers are in service and operable ___ Hot work equipment in good repair REQUIREMENTS WITHIN 10M (35 FT) OF WORK: ___ Flammable liquids, dust, lint and oil deposits removed. ___ Explosive atmosphere in area eliminated ___ Floors swept clean ___ Combustible floors wet down, covered with damp sand or fire-resistant sheets ___ Remove other combustibles where possible ___ All wall and floor openings covered ___ Fire-resistant tarpaulins suspended beneath work WORK ON WALL AND FLOOR OPENINGS: ___ Construction is noncombustible and without combustible covering or insulation ___ Combustibles on other side of walls moved away ___ Endosed equipment cleaned of all combustibles ___ Containers purged of flammable liquids/vapors FIRE WATCH/HOT WORK AREA MONITORING: ___ Fire watch personnel will be provided during all phases of the work activity, including any coffee or lunch breaks ___ Remain on scene 30 min after welding complete. ___ Fire watch personnel must have suitable extinguisher ___ Fire watch personnel are trained in use of equip. and in sounding alarm ___ Additional fire watch personnel may be required for adjoining areas above and below OTHER PRECAUTIONS TAKEN: ___ Confined space permit ___ Ample ventilation ___ Lockout/Tagout	
HOT WORK BEING DONE BY: Employee: _____ Contractor: _____			
DATE:	LOCATION:		
TYPE OF HOT WORK:			
DESCRIPTION OF JOB:			
NAME OF PERSON DOING WORK:			
SIGNATURE OF PERSON PULLING PERMIT:			
<i>I verify the above location has been examined, the precautions checked on the checklist have been taken to prevent fire, and permission is authorized for work</i>			
SIGNATURE OF JSI SITE REPRESENTATIVE:			
NAME OF FIRE WATCH (IF REQUIRED):			
PERMIT EXPIRES:	DATE:	TIME:	
HOT WORK COMPLETED:			
SIGNED:	DATE:	TIME:	

Appendix C

Example El Paso County Grass Seed Mix

<u>Species</u>	<u>Lbs/acre</u>
Sandberg bluegrass	0.25
Streambank wheatgrass	1.25
Crested wheatgrass	2.00
Blue grama	0.25
Buffalograss	2.50
Sideoats grama	1.25
Green needlegrass	1.25
Sheep fescue	1.25
Total	10



Appendix D
Examples of Acceptable and
Non-Acceptable Vegetation Management



Photo 1. Acceptable Vegetation



Photo 2. Acceptable Vegetation

Appendix D, cont'd



Photo 3. Non-acceptable vegetation management



Photo 4. Non-acceptable vegetation management