Engineering and
Construction Services
100 N Midwest Boulevard
Midwest City, OK 73110
Office 405-739-1211 or 405-739-1210
Email commdev@midwestcityok.org

Solar Permit Application

PERMITS MUST BE PULLED BY MWC LICENSED ELECTRICAL CONTRACTOR

Property information:

Address:_____

Total SQFT of Panels _____ Total Cost of Project _____ Electrical Upgrade Required _____

Owner Information:

Name:_____

Address:_____

Email: _____ Phone: _____

Electrical Contractor Information:

Name: _____

Address:_____

Email: _____ Phone: _____

Solar Company Information:

Name: _____

Address:_____

Email: _____ Phone: _____

Submittal item:

Roof Assessment:_____ **Electrical Checklist**: _____

Permit or approval of plans shall not be construed as permission to violate any federal, state or local laws. Notice is given that additional requirements, notices and regulations will be printed on the permit, plans and that all additional requirements, notices and regulations and all laws and ordinances governing this type of work will be complied with whether specified herein or not. Notice is also hereby given that this permit becomes null and void if the authorized work or construction is not commenced, is suspended or abandoned after work is commenced, or if no inspections are obtained within a 6 month period. This permit requires final inspections.

Signature of Applicant:

Name: _____Date: _____

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Solar Roof Assessment:

Permit applicate affirmatively represent that a qualified or otherwise knowable individual has verified the onsite condition of the existing roof as set forth below. Where permit applicant is unable to provide this verification, or where onsite conditions are not as represented herein, a project specific drawing and assessment by an Oklahoma licensed professional engineer must be provided in place of or in addition to this verification.

1. Is the roof structure structurally sound without signs of alteration or structural deterioration or sagging, as illustrated in Figure 1.
2. Measured rafter size and spacing: 2x____ @ _____" on center
3. Is the size and spacing of the rafters greater than or equal to a 2 x 6 @ 24" on center?
4. Type of roof covering? _____
5. Will the dead load on the roof be less than 10 psf after the equipment is installed. (weight of equipment on roof plus weight of roof assembly) [__yes] [___no].
6. Are the rafters that the equipment is being installed on supporting anything other than (or in addition to) the roof?(ie. no ceiling loads are installed such as a cathedral ceiling) [__yes] [___no].
7. Are the anchor attachments for the roof equipment located at 4' centers or closer.

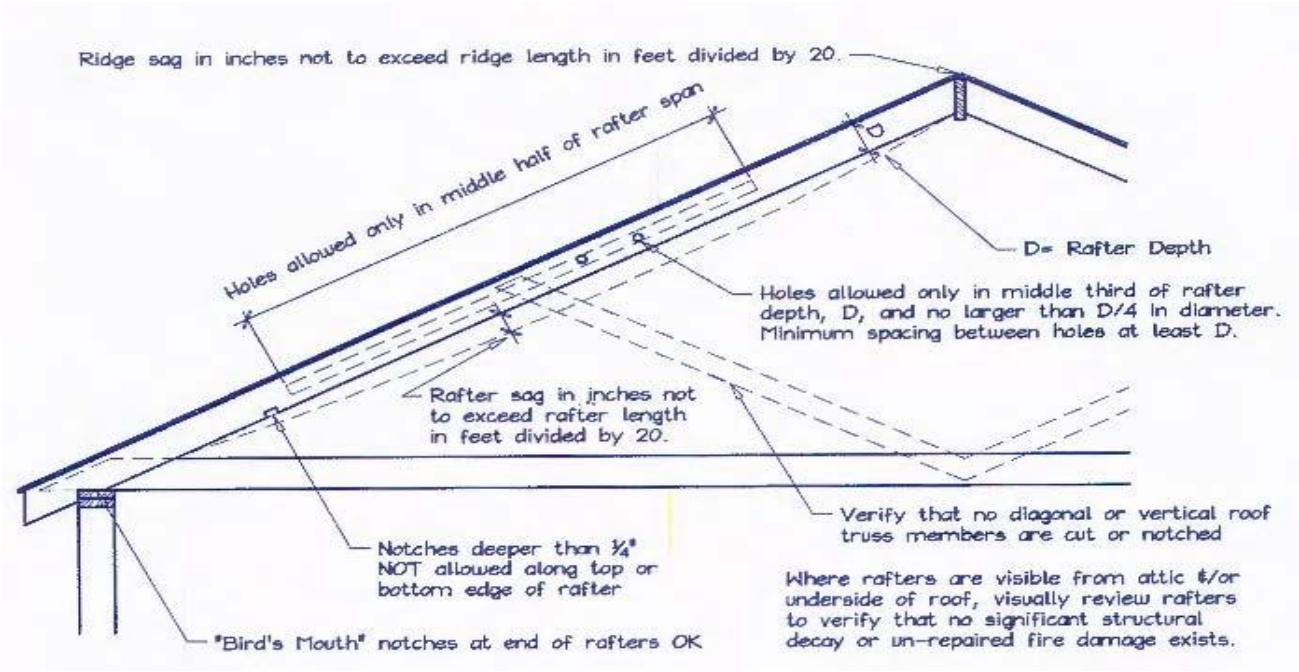

Figure 1. Roof Visual Structural Review (Contractor's Site Audit) of Existing Conditions.

The site auditor should verify the following.

1. No visually apparent disallowed rafter holes, Notches and truss modifications as shown above.
2. No visually apparent structural decay or unrepaired fire damage.
3. Roof sag, measured in inches, is not more than the rafter or ridge beam length in feet divided by 20.

Rafters that fail the above criteria should not be used to support solar arrays unless they are first Strengthened.

Site Auditor (print) _____ (signature) _____

Email _____ Phone # _____

Resident (print) _____ (signature)_____

Email _____ Phone # _____

Electrical Contractor (print)_____ (signature) _____

Email _____ Phone # _____

Solar Company (print) _____ (signature) _____

Email _____ Phone # _____

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Electrical Checklist:

Checklist for preparing and submitting solar permit applications. Applicant shall review the checklist, confirm each item is being submitted and provide information accordingly. Exclusion or incomplete information of any of these items could result in the rejection of the submittal.

Solar Permitting checklist:

- Copy of inverter manufacturer information sheets.
- Copy of combiner panel information sheets.
- Copy of module manufacturer information sheets.
- Copy of rail/racking system manufacturer information sheets and attachment method.
- Copy of PV system labeling/signage details and location, as required by 2017 NEC, Sections 690 & 705.
- Plan showing system installed on property. Site plan must include the following:

  Modules, inverters(s), combiner boxes, all AC & DC disconnects, utility disconnect and meter(s), service panel board. (Roof plan may be required). Clear access pathways and approximate locations of electrical disconnecting means and roof access points is completed and attached.

- Copy of one-line or three-line diagrams (include conductor/raceway/cable type and size)
- Busbar ampre rating _____. (provide when solar system is connected at a panel)
- Connection to utility grid _____ . Supply side connection _____. Back Feed breaker _____ Amps.
- DC system configuration: Positive ground _____. Negative ground _____. Ungrounded _____.
- Are batteries being installed? _____Yes, ___ No. (if yes include battery and transfer switch manufacturer information sheets).
- Size of electrical service _____ Was upgrade required _____ if so, What Size _____

PERMIT Applicant should not rely upon this assessment in place of official regulations and/or policies, or any necessary verification by a qualified professional. The city of Midwest City makes no representations, guarantees, or warranties as to the accuracy, completeness, currency, or suitability of the provided verification, and related construction. Contractors and citizens are personally responsible for complying with all local, state and federal laws pertaining to the projects within the city. The currently adopted codes are listed online at the city of Midwest City's web site and the Oklahoma Uniform Building Code Commission web site.

- Equipment grounding conductors used for grounding arrays smaller than #6 AWG Copper shall be installed in a suitable raceway. All exposed equipment grounding and bonding conductors shall be solid copper or UV rated.
- Devises (Lugs) used for grounding arrays shall be suitable for use in wet locations (Tin plated copper) and attachment hardware shall be stainless steel with star washers.
- Provide all appropriate warning labels at disconnects and equipment.
- Plastic UV rated cable ties shall not be used to secure exposed wiring between modules. Approved clips, stainless steel cable ties, or stainless steel pipe clamps with rubber inserts are acceptable.
- Conductors and conduit run on rooftops may be require additional ambient temperature adjustments per table 310.15(B)(3)(B).
- PV direct current system conductors shall be identified by system to comply with NEC 2020 section 690.31 (B). direct current conductors are installed on or in building s must be enclosed by metal raceways.
- PV Source and output circuits run inside the building shall not be installed within 10" of the roof decking unless installed directly below the roof surface covered by PV modules and associated equipment. 690.31(G)(1).
- Metal junction boxes, raceways, or other wiring methods supplying dc circuit writing shall be labeled designating "Photovoltaic Power Source". 690.31. (G)(3) & (4).

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Where the Spirit Flies High

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Sketch or Attachment:

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Submittal requirements:

1. Completed permit application form.
2. Solar roof assessment including site pictures must be stamped by a state licensed design professional.
3. Show a sketch of the locations of main service or utility disconnect
4. Provide total number of modules, number of modules per string and the total number of strings.
5. Make and model of the inverter(s) and or combiner box if used.
6. One line diagram of system
7. Specify grounding/bonding conductor type and size, conduit type and size and number of conductors in each conduit
8. If batteries are to be installed, include them in the diagram and show their locations, venting, and battery transfer switch – cut sheets.
9. Equipment cut sheets including inverters, modules, AC and DC disconnects, combiners and wind generators.
10. Labeling of equipment as required by 2020 NEC, Sections 690 & 705.
11. A roof plan showing roof layout, PV panels and the following fire safety items: Approximate location of roof access point, location of code-compliant access pathways, PV system fire classification and the locations of all required labels and markings.
12. Completed expedited Structural Criteria along with required documentation.
    a. For non qualifying systems provide structural drawings and calculations with an engineers stamp.
13. Provide all manufacturer specifications showing all items listed by a Nationally Recognized Test Laboratory. CE in NOT recognized.
14. R324.3 Photovoltaic Systems
    Photovoltaic systems shall be designed and installed in accordance with Sections R324.3.1 through R324.6.1 and NFPA 70. Inverters shall be listed and labeled in accordance with UL 1741. Systems connected to the utility grid shall use inverters listed for utility interaction.
15. R324.3.1 Equipment Listings
    Photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703.

The solar panel array is roof-mounted on one or two family dwelling or accessory structure.

Solar system is utility interactive and without attached battery storage.

Permit applications is completed and attached.

PV system is connected to the load side of the utility distribution equipment.

A solar PV standard plan and supporting documentation is completed and attached

Completed Structural Criteria and supporting Documentation is attached.

Clear access pathway provided

Fire classification solar system is provided

All required marking and labels are provided

A diagram of the roof layout of all panels, modules Clear access pathways and approximate locations of electrical disconnecting means and roof access points is completed and attached.