INDIANA COUNTY

Office of Planning and Development
801 Water Street
Indiana, PA 15701
(724) 465-3870 Fax (724) 465-3151

FOR OFFICE USE ONLY

Permit # _____
Date: _____

Building Permit Application ___Residential or ___Commercial

~Solar Panels~

*** All Drawings Must be Sealed by an Architect or an Engineer ***

Name of Home Owner or Business at Site Address _____

Site Address _____

City _____ State ___PA___ Zip _____

Municipality _____ Township / Borough

YOU MUST PROVIDE A TAX PARCEL NUMBER FOR THE PROPERTY AT THE SITE ADDRESS LISTED ABOVE

Tax Parcel # _____

Owner's Current Mailing Address _____ _____
(if different from site address)

City _____ State _____ Zip Code _____

Phone Number _____ Cell Phone _____

Fax Number _____

E-mail Address: _____

Estimated cost of the project $_____

Electricity provider _____

Contractor's Information

Contractor: _____

Address_____

City _____ State _____ Zip_____

Phone _____ Fax _____ Cell Phone _____

E-mail Address: _____

To be completed by the Design Professional in Responsible Charge

(Affix seal to the right of name and address)

Name: _____

Address: _____

_____

PA License # _____

E-Mail: _____

Phone: _____

Fax: _____

Applicant:

_____

Signature Date

SUBMITTAL REQUIREMENTS
FOR SOLAR PANEL PROJECTS

When submitting your application for a Solar Panel project please include the following:

1. Completed Building Permit Application

2. If you don't know your tax parcel number for your property, to put on your application, please contact the Tax Office at 724-465-3812.

3. Two (2) complete sets of drawings for your building project – if we don't receive to complete sets of drawings there will be a charge of .25 cents per page for copying.

4. Site Plan on 8 ½ x 11 sheet of paper – Only needed if it is not attached to an existing structure.

5. Your contractor's workman's compensation and liability insurance. If you are not using a contractor or your contractor doesn't have workman's compensation insurance, please complete the Workman's Comp form and have it notarized.

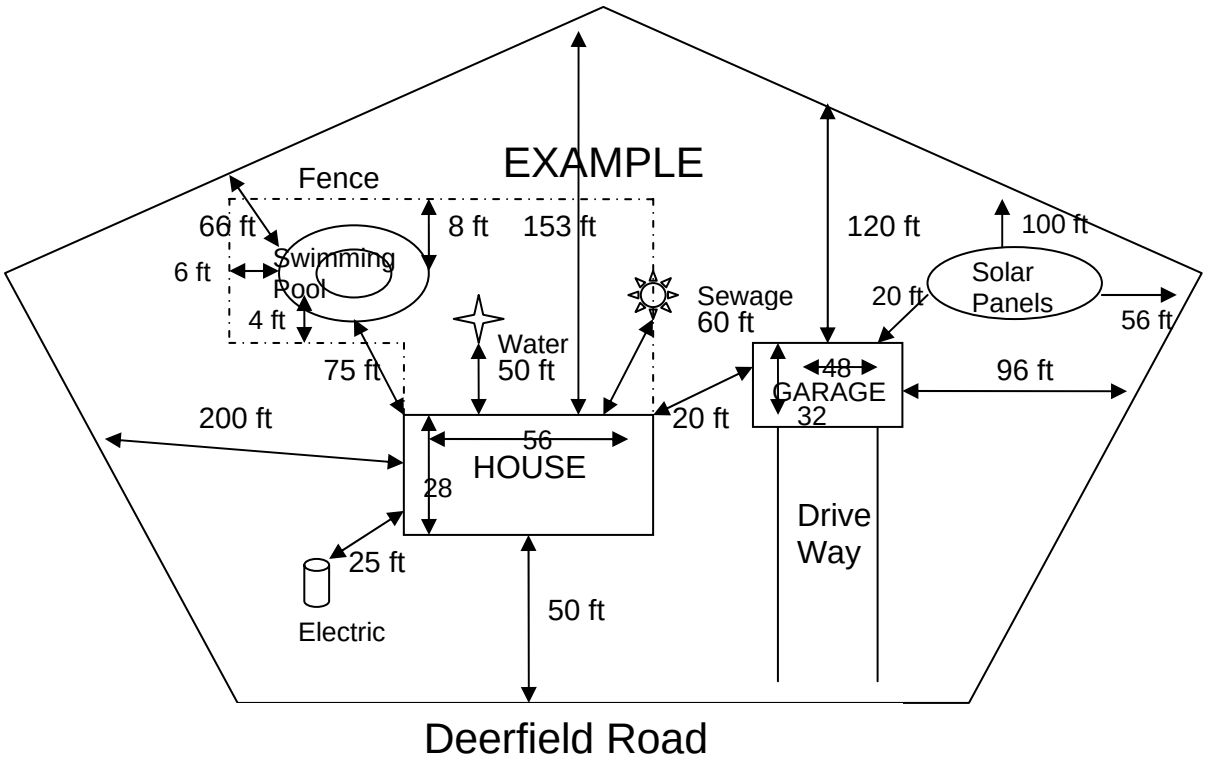
6. $25.00 non-refundable application fee for Residential or a $50.00 non-refundable application fee for Commercial – please make checks payable to ***Indiana County Code Division***

Your Certificate of Occupancy will be mailed regular mail unless you request to have it sent certified mail. If you would like to have your certificate mailed certified there will be a $6.00 charge added to the cost of your permit to cover the cost of mailing once your project is completed.

SITE PLAN REQUIREMENTS
FOR RESIDENTIAL PROJECTS

The Site Plan drawing shall be submitted on 8 ½ X 11 paper and shall include:

- Distance from property lines and roadway and any other structures on the property (setbacks) for all projects.
- Show the outside dimensions of the proposed dwelling.
- All utility layouts (including sewage, electric and water)
- Driveway layouts and specifics
- If this is for a proposed roof, show the existing structures outside dimensions.
- If this is for a proposed deck/porch, show the width and length of the deck, and where it will be placed on the existing structure along with its dimensions.
- If this is for a proposed swimming pool, show the proposed decks width and length, and where it will be placed on the swimming pool.
- If this is for a proposed fence, show the width and length of the fence.
- If this is for a proposed demolition of a structure, show the outside dimensions of the structure.

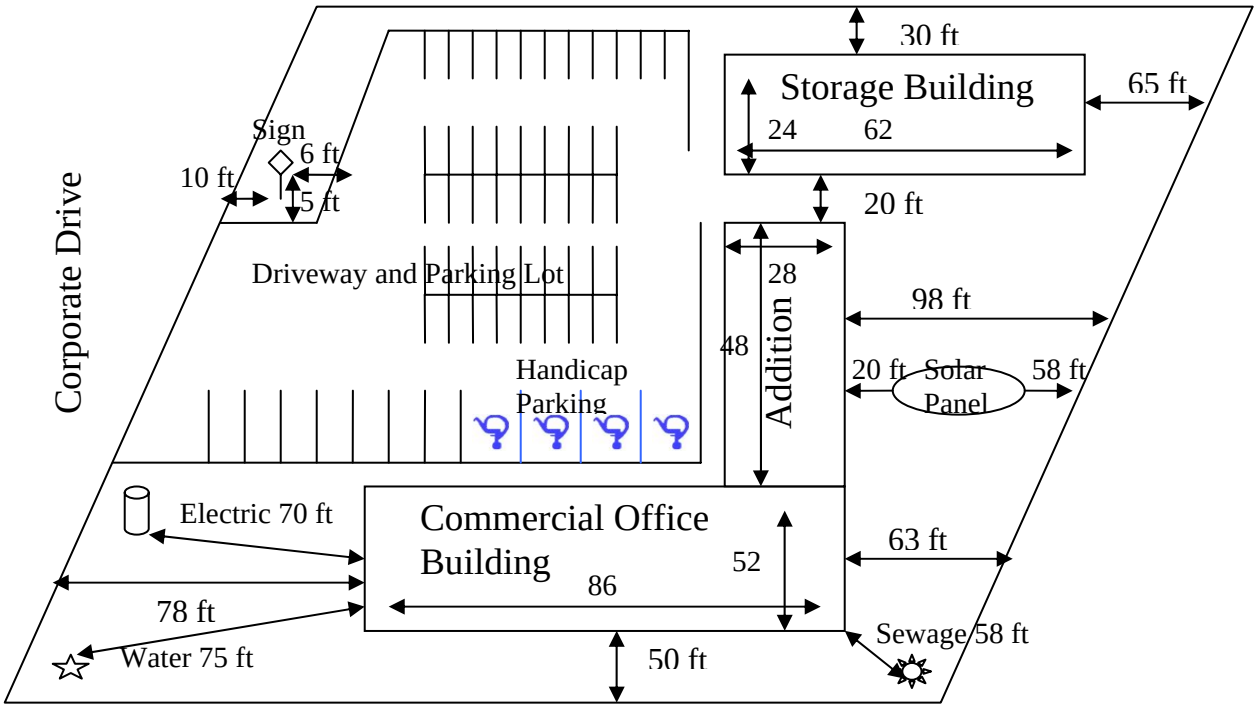


SITE PLAN REQUIREMENTS
FOR COMMERCIAL PROJECTS

The following is the requirements for all commercial projects. Drawings should be drawn to ¼" or 1/8" scale and shall provide the necessary information to verify compliance with the building code. **All drawings shall bear the stamp of the design professional responsible for the design, with their signature on the first page of each set of drawings.**

Three (3) sets of Site Plan drawings (1 of these drawings must be on 8 ½ X 11 paper to allow for faxing to the municipality) shall **be submitted and shall include:**

- Distance from property lines and roadway and any adjacent structures (setbacks).
- Show the outside dimensions of the proposed structure.
- Handicap parking and access (with dimensions, markings and signage indicated per ICC/ANSI A117.1 and the IBC).
- Designated fire lanes.
- Show all existing and proposed utility layouts (including water, sewage, and electric).
- Show all existing and proposed driveway layouts and specifics.
- Show all required parking and loading spaces and calculations.
- Show established street grades and proposed finished grades.
- Show accessible curb cuts, ramps and access ways to the building.
- If this is for a proposed demolition of a structure show the outside dimensions of the structure.
- If this is for a proposed fence, show the width and length of the fence.
- If this is for a proposed addition, show the outside dimensions of the addition, where it will be placed on the existing structure and the outside dimensions of the existing structure.
- If this is for a proposed roof, show the existing structures outside dimensions.
- If this is for a proposed site development, show where work will be performed.
- If this is for a proposed ground mounted sign, show the outside dimensions of the sign.
- If this is for a proposed mounted sign on a building, show the outside dimensions of the building that the sign will be mounted on.



SOLAR PANEL SUBMITTAL AND CHECKLIST

Uniform Construction Code (UCC)

____ System Description
- ____ Type of PV and Inverter
- ____ How is it wired
- ____ How is it mounted

____ Specification sheets for all equipment
- ____ PV module
- ____ Inverter
- ____ PV mounting system
- ____ AC & DC disconnect
- ____ Combiner box
- ____ Battery
- ____ Charge controller

____ Mechanical drawings
____ Electrical drawings
____ Wind loading calculations
____ Weight of array
____ Structural information about roof
____ PV layout on roof
____ Rack drawing from manufacturer
____ Attachment plan
____ Attachment detail (if attaching to a truss it requires approval of a registered design professional)
____ electrical 3-line diagram

Is the array to be mounted on a defined, permitted roof structure? ☐ Yes ☐ No
If No due to non-compliant roof or a ground mount, submit completed worksheet for structure.

Roof Information:

1. Is the roofing type lightweight (Yes = composition, lightweight, masonry, metal, etc.) ☐ Yes ☐ No
   If No, submit completed worksheet for roof structure (No = heavy masonry, slate, etc.)

2. Does the roof have a single roof covering? ☐ Yes ☐ No
   If No, submit completed worksheet for roof structure

3. Provide method and type of weatherproofing roof penetrations (flashing, caulk) _____
   _____

Mounting System Information:

1. Is the mounting structure an engineered product designed to mount PV modules? ☐ Yes ☐ No
   If No, provide details of structural attachment certified by a design professional.

2. For manufactured mounting systems, fill out information on the mounting system below:

   a. Mounting System Manufacturer _____ Product Name and Model # _____
   b. Total Weight of PV Modules and Rails _____lbs
   c. Total Number of Attachment Points _____
   d. Weight per Attachment Point (b / c) _____lbs (if greater than 45 lbs, see worksheet
   e. Maximum Spacing Between Attachment Points on a Rail _____ inches (see product manual for maximum spacing allowed based on maximum design wind speed)
   f. Total Surface Area of PV Modules (square feet) _____ft^2
   g. Distributed Weight of PV Module on Roof (b / c) _____lbs/ft^2
   If distributed weight of the PV system is greater than 5 lbs/ft^2, see worksheet.

Ground Mounts:

____ PA One Call
____ Find customer-owned underground utilities (septic, phone, electric wiring (yard lights, pool, etc.), pool plumbing
____ Rack manufacturer can supply footer designs based on your soil conditions and wind zone.
____ For multiple ground-mounts, space them far enough apart to avoid shading each other.

PV ARRAY INFORMATION (Guide Sec. 6)

NUMBER OF MODULES IN SERIES _____

NUMBER OF PARALLEL CIRCUITS _____

LOWEST EXPECTED AMBIENT TEMP _____ºC

HIGHEST CONTINUOUS TEMPERATURE _____ºC

OCPD = OVERCURRENT PROTECTION DEVICE
(IF NO OCPD–PUT "N/A" IN RELEVANT BLANKS)

NATIONAL ELECTRICAL CODE® REFERENCES
SHOWN AS *(NEC XXX.XX)*

SOURCE-CIRCUIT COMBINER RATINGS (IF USED)

MAX OCPD RATING = _____ A

OCPD AMP RATING =_____ A

OCPD VOLT RATING = _____ V

DC DISCONNECT RATINGS
(See Guide Appendix B)

DISCO AMP RATING = _____A

DISCO VOLT RATING = _____V

INVERTER RATINGS (Guide Sec. 4)

INVERTER MAKE_____

INVERTER MODEL # _____

MAX DC VOLT RATING = _____V

MAX POWER @ 40ºC = _____W

NOMINAL AC VOLTAGE = _____V

MAX AC CURRENT = _____A

MAX OCPD RATING = _____A

AC DISCONNECT RATINGS (IF USED)
(See Guide Appendix B)

DISCO AMP RATING = _____A

DISCO VOLT RATING = _____V

UTILITY SERVICE

_____ MODULES IN SERIES SOURCE-CIRCUIT

_____ MODULES IN SERIES SOURCE-CIRCUIT

_____ MODULES IN SERIES SOURCE-CIRCUIT

_____ MODULES IN SERIES SOURCE-CIRCUIT

ROOFTOP J-BOX (IF USED)

COMBINER

DC DISCONNECT

INVERTER

AC

DC

AC DISCONNECT

SEE NOTE 1 FOR INVERTER CIRCUITS

PV OUTPUT METER
(SEE NOTE 2 FOR INVERTER CIRCUITS)

M

M

MAIN OCPD

INVERTER OCPD

MAIN SERVICE PANEL

GROUNDING ELECTRODE

SEE NOTES FOR ARRAY CIRCUIT WIRING (Guide Sec. 8)
CONDUIT TYPE_____
CONDUIT SIZE_____
CONDUCTOR TYPE (SEE BELOW)
CONDUCTOR SIZE_____AWG
NUMBER OF CONDUCTORS____
(____Red,____ White, 1 Green)
EGC SIZE____AWG (*NEC* 250.122)

SEE NOTE 3 FOR INVERTER CIRCUITS (Guide Sec. 8–disregard if integral with inverter)
CONDUIT TYPE_____
CONDUIT SIZE_____
CONDUCTOR TYPE_____
CONDUCTOR SIZE_____AWG
NUMBER OF CONDUCTORS____
(____Red,____ White, 1 Green)
EGC SIZE____AWG (*NEC* 250.122)

DC GROUNDING ELECTRODE CONDUCTOR SIZE_____AWG (*NEC* 250.166, Guide Sec. 10)

SEE NOTE 4 FOR INVERTER CIRCUITS (Guide Sec. 8)
CONDUIT TYPE_____
CONDUIT SIZE_____
CONDUCTOR TYPE_____
CONDUCTOR SIZE_____AWG
NUMBER OF CONDUCTORS____
(____Black, ____Red, ____ White, _____Green)
EGC SIZE____AWG (*NEC* 250.122)

SERVICE PANEL RATINGS

BUS AMP RATING = _____A

SERVICE VOLTAGE = _____V

MAIN OCPD RATING = _____A

INVERTER OCPD AMPERE RATING = _____A

(SEE NOTE 5 FOR INVERTER OCPDs BELOW, ALSO SEE GUIDE SECTION 9)

FOR UNUSED SERIES STRINGS
PUT "N/A" in BLANK ABOVE

SEE GUIDE SECTION 10 FOR INFORMATION ON MODULE AND ARRAY GROUNDING

PV MODULE RATINGS @ STC (Guide Sec. 5)

MODULE MANUFACTURER _____

MODULE MODEL # _____

MAX POWER-POINT CURRENT (Imp) = _____A

MAX POWER-POINT VOLTAGE (Vmp) = _____V

OPEN-CIRCUIT VOLTAGE (Voc) = _____V

SHORT-CIRCUIT CURRENT (Isc) = _____A

MAX SERIES FUSE (OCPD) = _____A

MAXIMUM POWER (Pmax) = _____W

MAX SYSTEM VOLTAGE (typ 600Vdc) = _____V

Voc TEMP COEFF = _____ mV/ºC or %/ºC
(IF SUPPLIED, CIRCLE TYPE OF COEFF)

ROOFTOP JUNCTION BOX
NEMA 3R MINIMUM REQUIRED
WITH WATERPROOF SPLICES
OR OTHER APPROVED
TERMINATION METHOD
(*NEC* 110.14; 300.6; 314)

SOURCE-CIRCUIT CONDUCTORS
OUTSIDE CONDUIT–MINIMUM 12 AWG
AND TWO TYPE OPTIONS–(CIRCLE ONE)
USE-2; PV WIRE/CABLE

SIGNS–SEE GUIDE SECTION 7

SIGN FOR DC DISCONNECT

PHOTOVOLTAIC POWER SOURCE

RATED MPP CURRENT = _____A

RATED MPP VOLTAGE = _____V

MAX SYSTEM VOLTAGE =_____V

MAX CIRCUIT CURRENT= _____A

WARNING: ELECTRICAL SHOCK HAZARD–LINE AND LOAD MAY BE ENERGIZED IN OPEN POSITION

SIGN FOR AC DISCONNECT (if used)

SOLAR AC DISCONNECT

AC OUTPUT CURRENT = _____A

NOMINAL AC VOLTAGE = _____V

SIGN FOR INVERTER OCPD

AC POINT OF CONNECTION

AC OUTPUT CURRENT = _____A

NOMINAL AC VOLTAGE = _____V

NOTES FOR INVERTER CIRCUITS (Guide Sec. 8):

1) IF UTILITY REQUIRES A VISIBLE-BREAK SWITCH, DOES THIS SWITCH MEET THE REQUIREMENT? YES/NO (CIRCLE ONE)

2) IF GENERATION METER REQUIRED, DOES THIS METER SOCKET MEET THE REQUIREMENT? YES/NO (CIRCLE ONE)

3) SIZE PHOTOVOLTAIC POWER SOURCE (DC) CONDUCTORS BASED ON MAX CURRENT ON 690.53 SIGN OR OCPD RATING AT DISCONNECT (IF SUPPLIED)

4) SIZE INVERTER OUTPUT CIRCUIT (AC) CONDUCTORS ACCORDING TO INVERTER OCPD AMPERE RATING.

5) TOTAL OF _____ INVERTER OCPD(s), ONE FOR EACH INVERTER. DOES TOTAL SUPPLY BREAKERS COMPLY WITH 120% BUSBAR EXCEPTION IN 690.64(B)(2)(a)? YES/NO (CIRCLE ONE)

NOTES FOR ARRAY CIRCUIT WIRING (Guide Sec. 8):

1.) THREE OPTIONS FOR SOURCE CIRCUIT CONDUCTOR TYPE (INSIDE CONDUIT–CIRCLE ONE) THWN-2; XHHW-2; RHW-2

2.) 2005 ASHRAE FUNDEMENTALS 2% DESIGN TEMPERATURES DO NOT EXCEED 47ºC IN THE UNITED STATES (PALM SPRINGS, CA IS 44.1ºC). FOR LESS THAN 9 CURRENT-CARRYING CONDUCTORS IN ROOF-MOUNTED SUNLIT CONDUIT AT LEAST 0.5" ABOVE ROOF AND USING THE OUTDOOR DESIGN TEMPERATURE OF 47ºC OR LESS (ALL OF UNITED STATES),
a) 12 AWG, 90ºC CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH Isc OF 7.68 AMPS OR LESS WHEN PROTECTED BY A 12-AMP OR SMALLER FUSE.
b) 10 AWG, 90ºC CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH Isc OF 9.6 AMPS OR LESS WHEN PROTECTED BY A 15-AMP OR SMALLER FUSE.

Contractor Name and Address:

Standard Electrical Diagram for Small-Scale, Single-Phase PV Systems

Site Name:_____

Site Address:_____

System AC Size:_____

Drawn By:	SIZE	FSCM NO	DWG NO	REV
			E1.1	0
Checked By:	SCALE NTS	Date:	SHEET	