



# Zoning Ordinance *(excerpts)*

## SECTION 13. SPECIAL AREA AND USE REGULATIONS

**13-105 Small Solar Energy Systems**—Small Solar Energy Systems are permitted in all zoning districts as follows:

A. Accessory Use. A Small Solar Energy System is allowed as an accessory use in all zoning districts.

B. General Standards. Small Solar Energy System devices must be designed and located to avoid glare or reflection onto: (i) neighboring properties, inclusive of properties across an alley, easement, or street, and (ii) adjacent roadways. The devices shall not interfere with traffic or create a safety hazard, and must meet the following applicable requirements:

(1) Ground-Mounted.

(a) Ground-mounted Small Solar Energy Systems are considered structures and must meet applicable setbacks for the zoning district, and shall be located in the rear yard.

(b) The solar panel collector and supporting framework of the Small Solar Energy System cannot extend more than six (6) feet above the existing grade.

(2) Roof-Mounted.

(a) Roof-mounted Small Solar Energy Systems located on pitched roofs shall be mounted as flush as possible to the roof, but in any case, shall not extend more than twelve (12) inches above the point of attachment.

(b) Roof-mounted Small Solar Energy Systems on flat roofs cannot extend more than six (6) feet above the roof surface.

(c) Roof-mounted Small Solar Energy Systems must also be in compliance with the maximum building height for the applicable zoning district.

(d) Roof-mounted Small Solar Energy Systems shall not be visible from any street.

## SECTION 22. GENERAL DEFINITIONS

**22-100** CERTAIN WORDS IN THIS ORDINANCE NOT HERETOFORE DEFINED ARE DEFINED AS FOLLOWS:

WORDS USED IN THE PRESENT TENSE INCLUDE THE FUTURE; WORDS IN THE SINGULAR NUMBER INCLUDE THE PLURAL NUMBER AND WORDS IN THE PLURAL NUMBER INCLUDE THE SINGULAR NUMBER; THE WORD “BUILDING” INCLUDES THE WORD “STRUCTURE”; THE WORD “LOT” INCLUDES THE WORDS “PLOT” OR “TRACT”; THE WORD “SHALL” IS MANDATORY AND NOT DISCRETIONARY.

(49A) *Small Solar Energy System*—Any device that relies upon direct sunlight as an energy source - including, but not limited to, any device that collects sunlight for generating energy for use on site -- used to produce power for the same property/building on which the system is located. A Small Solar Energy System may also include the use of Building Integrated Systems (BIS) which are defined as photovoltaic materials used in place of conventional building materials (such as the roof or skylights) and may also be referred to as Building-Integrated Photovoltaics (BIPV).



4700 Drexel Drive, Highland Park, TX 75205  
214-521-4161 office 214-559-9335 fax

## SOLAR PHOTOVOLTAIC (PV) SYSTEM PERMIT APPLICATION CHECKLIST

### GENERAL REQUIREMENTS:

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- 1) Type of application:
  - Residential
  - Commercial
  
- 2) Type of Solar PV System:
  - Roof Top
  - Ground Mount (multiple supports)
  - Other: \_\_\_\_\_
  
- 3) All construction documents and plans for the installation of the solar photovoltaic (PV) system have been reviewed or designed, and sealed by a licensed professional engineer, if determined to be necessary by the building official or their appointed designee.
  - Two sets of manufacturer cut sheets, plans and/or documents submitted
  
- 4) Completed permit application(s) and supplemental information sheet, if required. Select all of the following that apply: (Please contact the Building Department for standards.)
  - Roof Top Systems:** Building and electrical permits are required.
  - Ground Mounted Systems:** Building and electrical permits are required.
  - Other Systems:** Building and/or electrical permits may be required.
  
- 5) The applicants verified that the proposed installation complies with Town's Zoning Ordinance with respect to location, visibility, and height. Subject to plan review.

### RESIDENTIAL APPLICATION REQUIREMENTS:

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#### EQUIPMENT SPECIFICATIONS:

- 1) Two copies of equipment manufacturer's data sheets for inverters, collectors, battery storage, charge controllers, combiner boxes, and all major equipment that provide a listing by a Nationally Recognized Testing Laboratory.

2) Solar PV system components to be installed:

- Module - make, model, and quantity: \_\_\_\_\_
- Inverter - make, model, and quantity: \_\_\_\_\_
- Racking System - make, model, and quantity: \_\_\_\_\_
- Other: \_\_\_\_\_

**CONSTRUCTION PLANS:**

3) Two copies of site specific stamped engineering drawings for attachment details to the structure or to the ground mount. Construction documents shall include, framing plans, connection details to the building, and any structural modification(s) as determined by the engineer.

4) Location of solar PV system equipment. A site plan shall be provided to include the PV array layout in compliance with the design criteria of the Town of Highland Park (roof plan [3-ft minimum setback from roof edge], street view elevation or photo of structure relative to placement of roof panels, existing site easements, and a typical section view detail of the solar PV system mount on the roof).

NOTE: If weight distribution of the array exceeds 5 lbs. per square foot, then an engineer's design is required for the structural mounting and support.

NOTE: Plumbing vent termination is not allowed to remain under solar installations. Vent termination must be relocated or modified.

5) Engineered construction documents or sealed assembly/installation plans of the solar PV system (if determined to be necessary by the building official or their appointed designee).

**ELECTRICAL PLANS:**

6) Line Diagram - Include a three line diagram. Engineered stamped three line diagram, PV equipment manufacturer's engineered three line diagram, or three line diagram prepared by master electrician licensed by TDLR. The three line diagram should include:

- Inverter listed UL 1741, with Arc-Fault protection (AFCI)
- Location of combiner box, disconnect switch location, and size of source circuit overcurrent protection, if required
- Service panel bus rating and main circuit breaker/fuse ampere rating
- Storage batteries, if used; type of batteries (Lead acid – Gel cell glass mat); battery disconnect; and overcurrent protection
- Utility disconnect
- Circuit diagram with conduit, wire type and sizes and/or cable type and wire sizes for use in PV applications
- Equipment grounding and bonding conductors and grounding electrode conductor if applicable
- Provide a list of all appropriate labels and marking per National Electric Code and International Fire Code requirements

## **COMMERCIAL APPLICATION REQUIREMENTS:**

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- 1) Solar PV system application:
  - Generate electrical power
  - Provide hot water
  - Both
  - Other: \_\_\_\_\_
  
- 2) Building code information about the building the solar PV system will be attached to, if applicable:
  - Occupancy group: \_\_\_\_\_
  - Number of stories: \_\_\_\_\_
  - Construction type: \_\_\_\_\_
  - Building square footage: \_\_\_\_\_
  - Roof type: \_\_\_\_\_
  - Fire sprinkler system (select for fully sprinklered building only)

## **SYSTEM EQUIPMENT SPECIFICATIONS:**

- 3) Two copies of equipment manufacturer's specifications.
  - If applicable, battery storage cut sheet information and site location including type of batteries.
- 4) Two copies of manufacturer's installation instructions.
- 5) Equipment must be listed and labeled.
- 6) Data cut sheets for inverters and modules that provides listing by Nationally Recognized Testing Laboratory.
- 7) Data cut sheet if mounting (racking) system is listed to UL 2703 for grounding.

## **CONSTRUCTION PLANS:**

- 8) Number of solar PV system equipment/components to be installed (i.e. 12 modules, 2 ground mounts):
  - Component(s) (i.e. number of modules, inverters): \_\_\_\_\_
  - Location of solar PV System Equipment: \_\_\_\_\_
  
- 9) All documents submitted for review must have a minimum text size of 3/32" and a minimum drawing sheet size of 11" X 17" and a maximum drawing sheet size of 24" X 36", "D" size. Two (2) sets of fully dimensioned construction plans of the following items drawn to scale and legible:
  - A detailed site plan that shows all property lines, that is scaled in dimensions, indicating metes and bounds, building setback lines, easements, and north arrow. Also, show the location of all existing structures and proposed PV system equipment including, but not limited to, modules, disconnects, inverters, panel boards, combiner boxes, storage batteries, utility meters, etc.

- A roof plan that shows the location of proposed equipment.
- Fire Setback on plans
- Building elevations showing the total building height with the proposed PV system equipment.
- If determined to be necessary by the building official or their appointed designee, construction documents of the solar PV system's connection to the structure of the building which have been designed and sealed by an engineer shall be submitted for review. Construction documents shall include, but are not limited to, framing plans, connection details to the building and any structural calculations or load diagrams.
- Include a three line diagram that is prepared by a master electrician licensed by TDLR, designed and sealed by an engineer, if required by the Texas Engineering Practice Act, or PV equipment manufacturer's engineered three line diagram. The three line diagram should include:
  - PV array with listed UL 1703 modules
  - Combiner box(es)
  - PV source disconnect and overcurrent protection size
  - Service panel rating and main circuit breaker/fuse ampere rating and the PV source circuit breaker/fuse ampere rating
  - Listed inverter with Arc-Fault protection (AFCI)
  - Inverter output AC disconnect and overcurrent protection size
  - Utility disconnect
  - Circuit diagram with conduit, [wire] insulation type and conductor sizes, and/or cable type and conductor sizes
  - Equipment grounding conductors and bonding conductors and grounding electrode conductor, if applicable

NOTE: Additional information required by the Building Official may be necessary for the issuance of the permit.

I, \_\_\_\_\_ have read the above information and acknowledge that all required documents have been provided.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Contractor Company Name: \_\_\_\_\_

Is this company registered as a Solar Contractor with the Town of Highland Park?  Yes  No

To register visit: <http://tx-highlandpark.civicplus.com/Index.aspx?NID=583>

or [www.hptx.org](http://www.hptx.org) > Departments > Building Inspection > Online Permits & Inspections