



Residential Solar Energy Systems

Requirements for Building Permit Application

For the approval and issuance of permit(s) for solar thermal/photovoltaic energy installations, the following information is required to be submitted for review. Please note that additional information may be requested.

General Information

1. A fully completed building permit application, providing the following information:
 - Project Address
 - Owner's name, address, phone number
 - Plan preparer's name, address, phone number
 - Description of proposed work, including both solar equipment installation and all associated construction
2. Contractor's name and license #: _____
3. Name of installation company: _____
4. System information
 - For electric (photovoltaic) systems:
System's kW rating (DC): _____
System designation: (circle one) inter-tie stand alone
Does the system include battery backup or an uninterruptible power supply (UPS)?
(circle one) **Yes** **No**
If Yes, give number, size and location of the batteries:

 - Solar Energy systems are required to meet minimum standards outlined by the International Electrotechnical Commission (IEC), the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), ASTM International, British Standards Institution (BSI), International Organization for Standardization (ISO), Underwriters Laboratory (UL), and the Solar Rating and Certification Corporation (SRCC). There may be other requirements as specified by City Building Official. Have you met these minimum requirements to the best of your knowledge?
(circle one) **Yes** **No**

Required Drawings and Plans*: (See next three pages for examples)

8. Building cross detail (see example) with complete notation of method of fastening equipment to the roof of subject property, including the following details.
 - Identification of rafter size, spacing, and span dimension
 - Approximation of roof slope
 - Identification of style, diameter, length of embedment of bolts (i.e. 5/16th lags with minimum 3" embedment into framing, blocking, or bracing)

Is the system to be mounted according to panel and rack manufacturer's instructions?

(circle one)

Yes

No

***Please include the manufacturer's specifications for all equipment along with the building permit.

9. Elevation of structure illustrating the appearance of the proposed solar installation (see example) indicating the finished height of the system above roof surface.

***Please note that residential roof mounted systems must not exceed a height 18 inches above the rooftop to which it is attached, and must be installed parallel to the rooftop.
10. Site plan indicating the buildings and featured of the property (see example). The site plan shall show the following:
 - Property line locations
 - Location of all structures
 - Setback from property lines
 - Location of solar panel installations
 - Solar panel setback dimensions from the peak and all edges of the roof (to avoid turbulence and uplift, the suggested setback from edges/ridges is 2" per 1" lift from the roof surface. E.g., for an array which is mounted 4" off the roof surface, there would be an 8" setback)
 - Main service location
 - Solar easement across adjoining properties (of applicable)

* Required drawings shall be scaled and dimensioned, readable, and legible

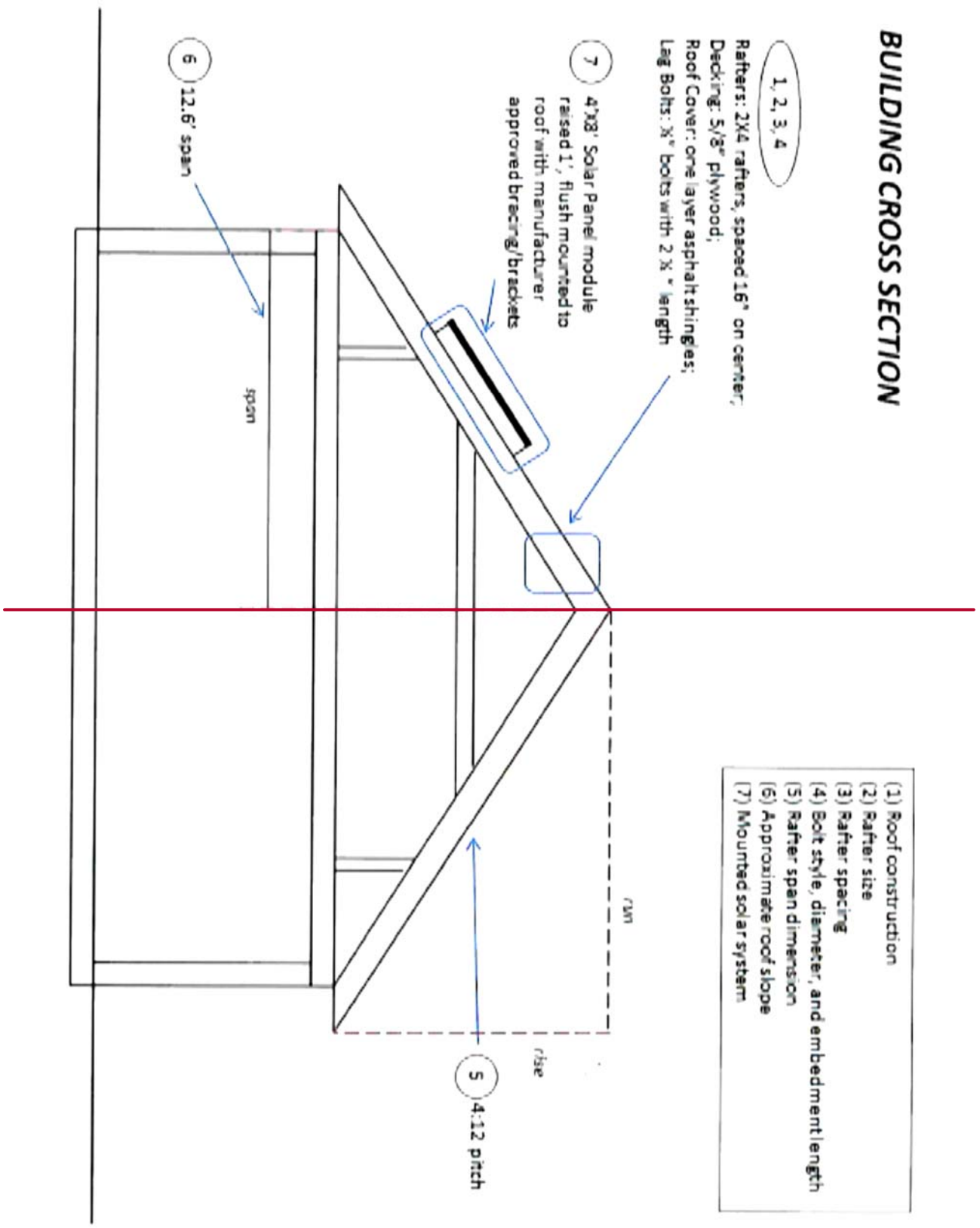
BUILDING CROSS SECTION

1, 2, 3, 4

Rafters: 2X4 rafters, spaced 16" on center,
 Decking: 5/8" plywood,
 Roof Cover: one layer asphalt shingles;
 Lag Bolts: 3/8" bolts with 2 3/8" length

7 4'X8' Solar Panel module
 raised 1" flush mounted to
 roof with manufacturer
 approved bracing/brackets

6 12.6' span



- (1) Roof construction
- (2) Rafter size
- (3) Rafter spacing
- (4) Bolt style, diameter, and embedment length
- (5) Rafter span dimension
- (6) Approximate roof slope
- (7) Mounted solar system

BUILDING CROSS SECTION

1, 2, 3, 4

Rafters: 2X4 rafters, spaced 16" on center;

Decking: 5/8" plywood;

Roof Cover: one layer asphalt shingles;

Lag Bolts: 3/4" bolts with 2 1/4" length

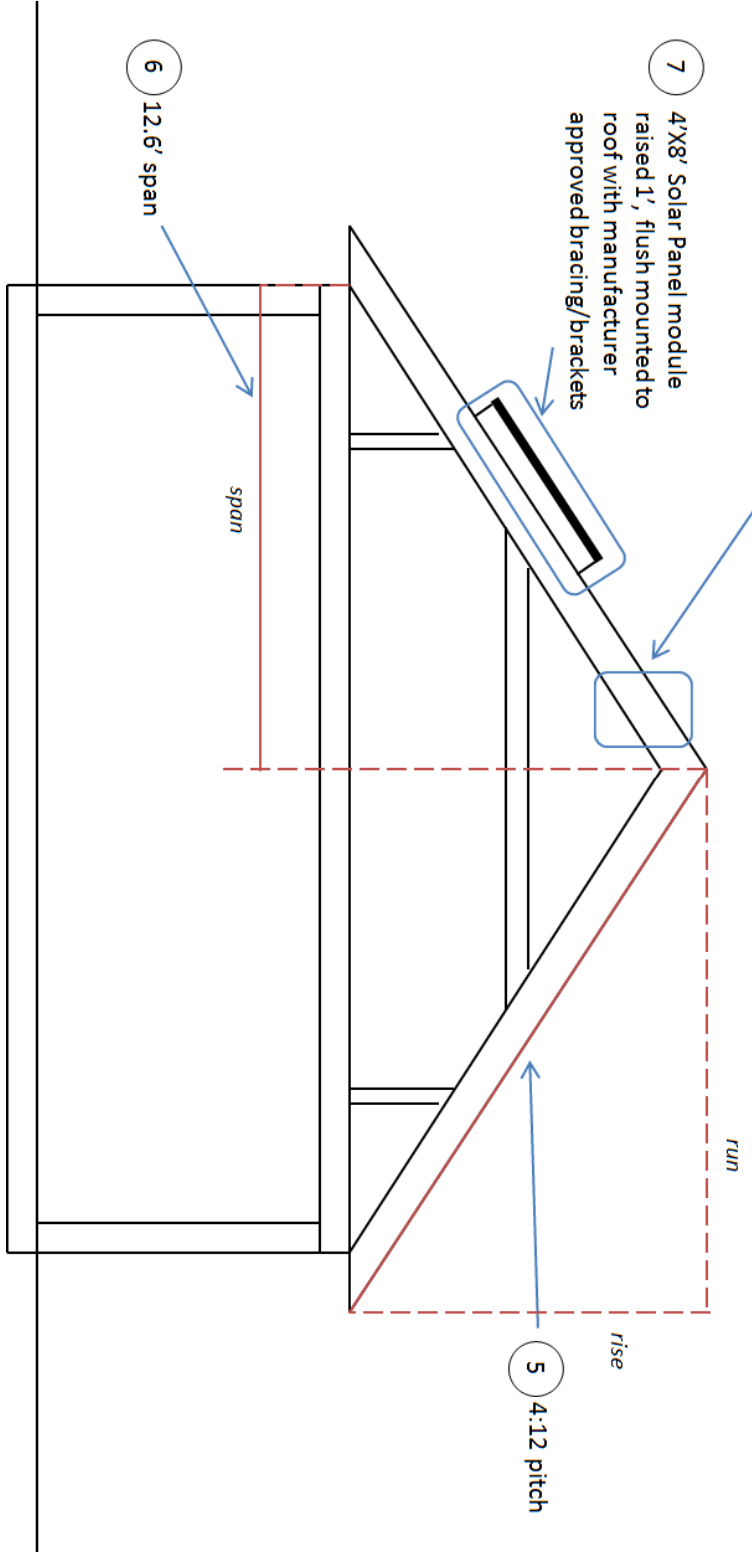
- (1) Roof construction
- (2) Rafter size
- (3) Rafter spacing
- (4) Bolt style, diameter, and embedment length
- (5) Rafter span dimension
- (6) Approximate roof slope
- (7) Mounted solar system

7

4'X8' Solar Panel module raised 1', flush mounted to roof with manufacturer approved bracing/brackets

5 4:12 pitch

6 12.6' span



ELEVATION

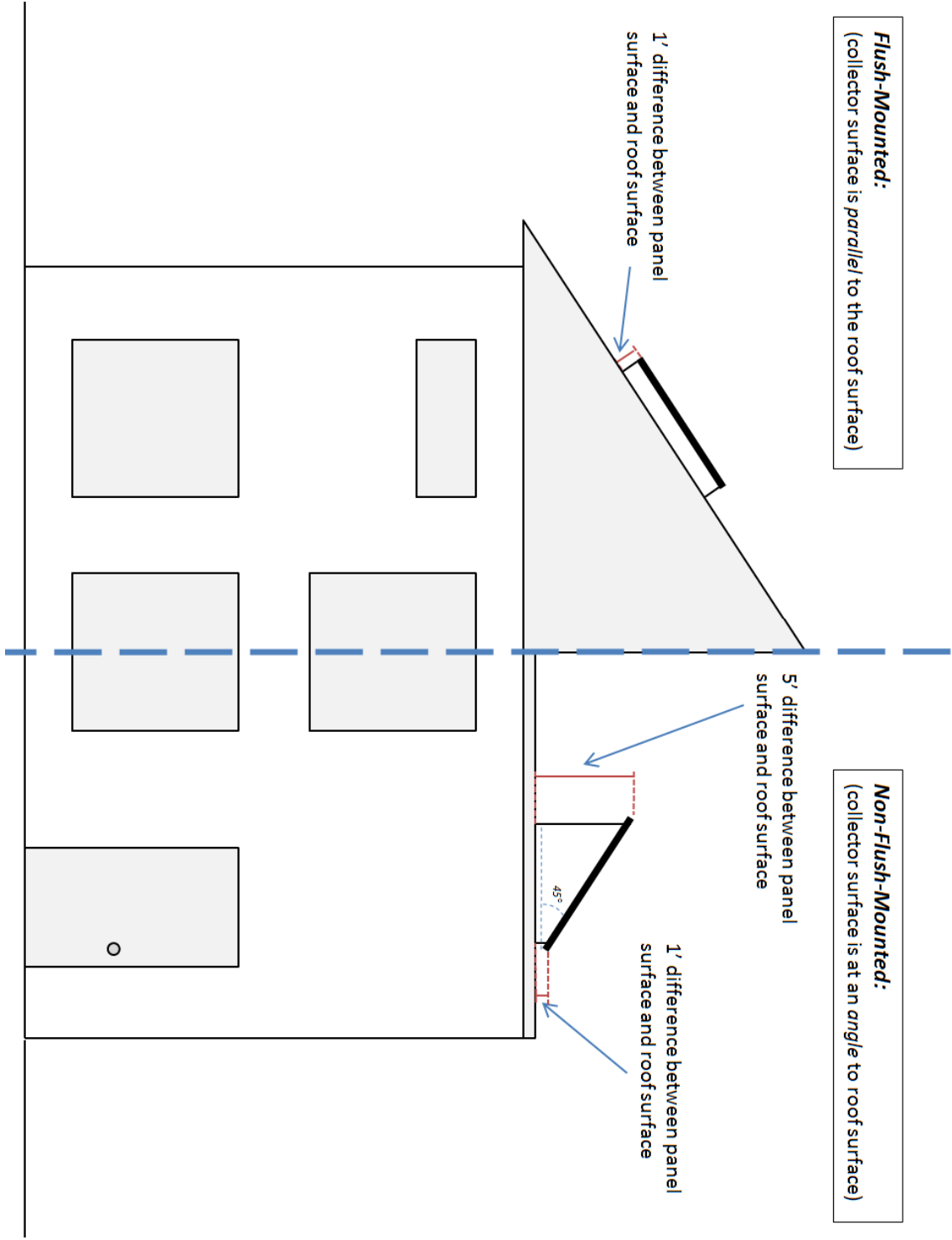
Flush-Mounted:
(collector surface is parallel to the roof surface)

1' difference between panel surface and roof surface

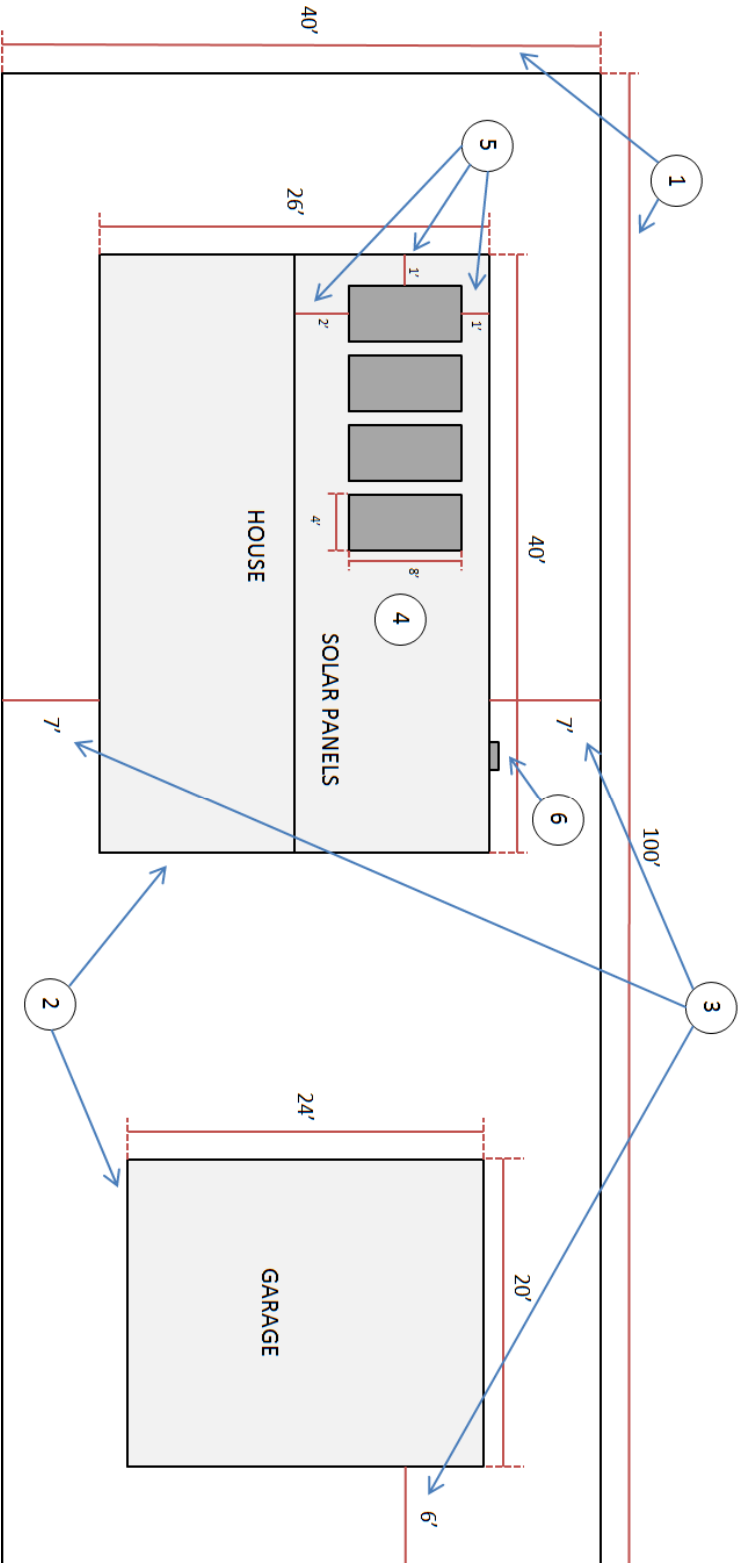
Non-Flush-Mounted:
(collector surface is at an angle to roof surface)

5' difference between panel surface and roof surface

1' difference between panel surface and roof surface



SITE PLAN



- (1) Property line locations
- (2) Location of all structures
- (3) Setback from property lines
- (4) Location of solar panel installations
- (5) Solar panel setback dimension from roof peak and edges
- (6) Main service location

Additional Information

- In addition to the building permit, an electrical permit will be required. Electrical permits are issued by the State of Minnesota, Department of Labor and Industry's Electrical Division. For more information, call (651) 284-5026 or go to http://www.dli.mn.gov/CCLD/etrakit_electrical.asp. Further permitting may be required.
- Building integrated solar installations, where the solar collector replaces or substitutes for an architectural or structural component of a building, such as a roof, shingle, or awning, do not require completion of this checklist separately from the permit application for the building, structure, or building modification.

Ground-Mounted Solar Installations

For ground-mounted solar energy systems, the installation must meet property line setback standards for solar accessory structures, as identified in the Jordan Zoning Code section 154.394 – Solar Energy Systems.

Required Drawings and Plans: (see previous examples)

1. Elevation of structure illustrating the appearance of proposed solar installation (see example) indicating the finished height if the system above ground.
2. Site plan indicating the buildings and features of the property (see example). The site plan shall show the following:
 - Property line locations
 - Location of all structures
 - Setback from property lines
 - Location of panel installations
 - Main service location
3. Property lines and setbacks are required to be verified.
 - Provide a completed survey
 - or-
 - Denote *property pins* on site plan, as located by homeowner or contractor.