

electric

<https://www.agoramores.com/home/diy/electric/portal>

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Electric

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- **Utility provider account/setup**
 - **Service drop or lateral** (overhead or underground line from utility)
 - **Meter base and meter** (utility company typically provides the meter)
 - **Main service panel (breaker box)**
 - **Exterior disconnect** (now required by 2025 code for emergency shutoff)²
 - **Grounding system** (ground rods, bonding to water pipes/structural steel)¹²
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2. Main Distribution and Protection

- **Circuit breakers** (including AFCI and GFCI as required by code for fire and shock protection)¹⁵
- **Surge protector** (whole-home recommended)
- **Load center/subpanels** (for larger homes or outbuildings)
- **Proper labeling of all circuits**³

3. Interior Wiring and Outlets

- **Wiring** (Romex/NM cable, conduit as needed)
- **Electrical boxes** (junction, switch, outlet, fixture)
- **Outlets** (tamper-resistant, GFCI for kitchens/baths/garages/outdoors)
- **Light switches** (single-pole, three-way, dimmers)
- **Lighting fixtures** (LED recommended for efficiency)
- **Smoke and carbon monoxide detectors** (hardwired with battery backup)
- **Cable clamps, wire nuts, connectors, and electrical tape**³

4. Special Circuits and Modern Requirements

- **Dedicated circuits for major appliances** (HVAC, oven, dryer, water heater)
- **EV charging circuit** (required in new homes by 2025 code)¹²
- **Smart home readiness** (structured wiring, smart breakers, automation panels)¹⁵
- **Renewable energy integration** (solar-ready wiring, inverter connection points)¹²
- **Standby generator transfer switch** (if backup power is desired)²

5. Safety and Testing

- **Arc Fault Circuit Interrupters (AFCI)** in living areas, bedrooms, and now more locations per 2025 code¹⁵
- **Ground Fault Circuit Interrupters (GFCI)** in wet or damp locations¹⁵
- **Proper grounding and bonding** (per updated NEC guidelines)¹
- **Electrical inspection and permitting** (required at multiple stages)⁷⁸
- **Labeling and documentation of all work**³

6. Tools and Supplies

- Voltage tester
- Wire strippers
- Screwdrivers
- [Fish](#) tape
- Multimeter
- Drill and bits
- Ladder
- Safety gear (gloves, goggles, insulated tools)³

7. Energy Efficiency and Future-Proofing

- **LED lighting throughout**
- **Energy-efficient appliances**
- **Smart thermostats and load management**
- **Provision for future upgrades (empty conduit, extra panel space)**¹⁵⁶

8. Professional Support

- **Hire a licensed electrician** for main service, panel, and code-required work³⁵⁶
- **Schedule inspections** at rough-in and final stages⁷⁸

2025 Code Highlights

- Exterior disconnects now mandatory for all new homes²
- Expanded use of AFCI and GFCI protection¹⁵
- Required circuits for EV charging and smart home features¹²⁵
- Renewable energy integration and enhanced grounding/bonding practices

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