

LIBERTY

**Requirements
for
Residential Electric
Vehicle Charger
Installation**



Liberty™

(800) 206 – 2300

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1. INTRODUCTION

Liberty constantly strives to maintain a high standard of service to all Customers. This booklet has been prepared for use by customers, architects, engineers, electrical contractors, and local inspecting authorities so they may receive full benefit from our service. Copies are available at Liberty's Corporate office, service centers, and web site. All holders of "Requirements For EV Charger" booklets are encouraged to submit comments to aid in future revisions. Please submit comments as follows:

1. Give section, paragraph, and page number to which the comment pertains.
2. Submit comments in writing, giving details, sketches, drawings, and all supporting pertinent information.
3. Mail via USPS to:

LIBERTY
Energy Services/Net Metering
P. O. BOX 127
602 South Joplin Avenue
Joplin, MO 64802

The impression generally prevails that compliance with the National Electrical Code (NEC), or the various electrical ordinances guarantees to the Customer a wiring installation complete and adequate for the full use of electric service now and in the future. This is not necessarily the case. The NEC and these guidelines are designed to provide the minimum requirements considered necessary for safety. **(The 2017 NEC, Article 90.1 B itself states, "Compliance therewith and proper maintenance will result in an installation essentially free from hazard, but not necessarily efficient, convenient or adequate for good service for future expansion of electrical use.")** Careful design and installation often results in a wiring system that exceeds NEC requirements.

LIBERTY, as a utility, must meet the requirements of the National Electrical Safety Code (NESC), which sometimes differ from the National Electrical Code (NEC).

The Company shall have the right to disconnect or refuse service to any installation which violates local, municipal, NEC or NESC regulations. The Company shall also have the right to disconnect or refuse service for installations that are hazardous to the public, or negatively impacts service to other Customers, or Company facilities.

Except for the installation and maintenance of its own property, Liberty does not install or repair wiring or equipment beyond the point of delivery. Therefore, Liberty is not responsible for the voltage levels beyond the point of delivery and does not assume any responsibility for Customer facilities beyond the point of delivery. Your cooperation will be greatly appreciated and will enable you to receive prompt and satisfactory service.

2. DEFINITIONS

Code	Any applicable code as referenced below.
EV Charging Station	The company owned and installed device for use with owner's electrical vehicle.
Company	Liberty.
Contractor	The licensed electrician responsible for the installation of the infrastructure from the branch panel to the location of installation of the electrical vehicle charging station.
Owner	The Liberty customer and person in legal possession of the property. This term is interchangeable with 'homeowner'

Many of the terms included may have slight variations in the intended specific meaning within the respective state jurisdictions. Terms as defined within the approved tariff will take precedence in the event of any conflict or confusion in meaning.

3. APPLICATION FOR PROGRAM

The applicant must submit to the Company the “Liberty Residential Smart Charge Program Application”. The Application/Agreement will contain contractual specifications and a survey of the installation conditions as well as a survey of the expected vehicle to utilize the charger.

The Customer must submit a separate application for each EV Charging Station whether or not it is at the current location or another location.

4. INSTALL INFRASTRUCTURE TO CHARGER LOCATION

4.1. GENERAL REQUIREMENTS

The listed requirements below are the minimum requirements for the installation. It is the responsibility of the owner, the owner’s contractor to comply with the below requirements, as amended and adopted by local jurisdiction. The references below are unamended references to the relevant codes.

4.2. GENERAL DISCRPTION OF RESPONSIBILTY – SEE DIAGRAMS FOR FURTHER INFORMATION:

4.2.1.Owner is responsible for all overcurrent protective devices (circuit breaker or fusing) from existing branch panel to the point of requested installation of EV Charger. This includes wiring and protection from physical damage if required based on installation methods. EV Charger must be on dedicated circuit.

4.2.2.All aspects of installation must be installed per local code as referenced below in sections 4.3 to 4.6.

4.3. NATIONAL ELECTRIC CODE – NFPA 70

Free Access to this code is available at www.nfpa.org

- 4.3.1. General Requirements – Article 90 and Article 110
- 4.3.2. Branch Circuits – Article 210
- 4.3.3. Branch Circuit Calculations – Article 220
- 4.3.4. Outside Branch Circuits – Article 225
- 4.3.5. General Requirements for Wiring Methods and Materials – Article 300
- 4.3.6. Conductors for General Wiring – Article 310
- 4.3.7. Outlet, Device...Enclosures – Article 314
- 4.3.8. Armored Cable – Article 320
- 4.3.9. Metal Clad Cable – Article 330
- 4.3.10. Nonmetallic – Sheathed Cable (commonly known as “Romex”) – Article 334
- 4.3.11. Rigid Metallic Conduit – Article 344
- 4.3.12. PVC Conduit – Article 352
- 4.3.13. EMT – Article 358
- 4.3.14. EV Charging System – Article 625

4.4. INTERNATIONAL RESIDENTIAL CODE – Chapter 37

Free access to this code is available at codes.iccsafe.org

4.5. LOCAL JURISDICTION

Many local jurisdictions amend or modify the above codes to meet local requirements. The homeowner and their installing contractor shall ensure compliance with any local requirements.

4.6. LICENSED ELECTRICIAN

All installation work shall be performed by a licensed electrician. Where local jurisdictions specifically allow, a qualified electrician may be contracted.

4.7. PERMIT

It is the responsibility of the owner and owner’s electrician to complete all permits required by local jurisdiction for the infrastructure installed to the EV Charger location.

5. QUALITY CHECK AND COMPANY CONTRACTOR INSTALLATION

- 5.1. When the infrastructure required to the EV charging station are complete, the owner shall notify Liberty of readiness for inspection and installation.
- 5.2. Contact Liberty at the following address: electric.vehicles@libertyutilities.com
- 5.3. Liberty will schedule the installation date and time with the owner and Liberty contracted installing contractor.
- 5.4. Contractor will visit the residence to install the EV charger.
- 5.5. If the infrastructure does not meet the requirements listed here, the installer will give the owner a list of deficiencies to be rectified prior to a rescheduled installation date.
- 5.6. Upon completion of the installation, the installing contractor will provide basic user training to the owner.

6. INSTALLATION AGREEMENT COMPLETION

A date for conducting any necessary equipment modifications to accomplish the installation will be set. Often the same time can be utilized to witness the final installation. Once the installation is complete, a satisfactory witness of the installation is completed, and payment of any previously explained costs are made, the formal application/agreement phase will be considered complete. The application/agreement requires that all required documentation which is completed by the Owner be maintained on site. Also, the Company shall be notified of any proposed alterations or modifications to the current system.

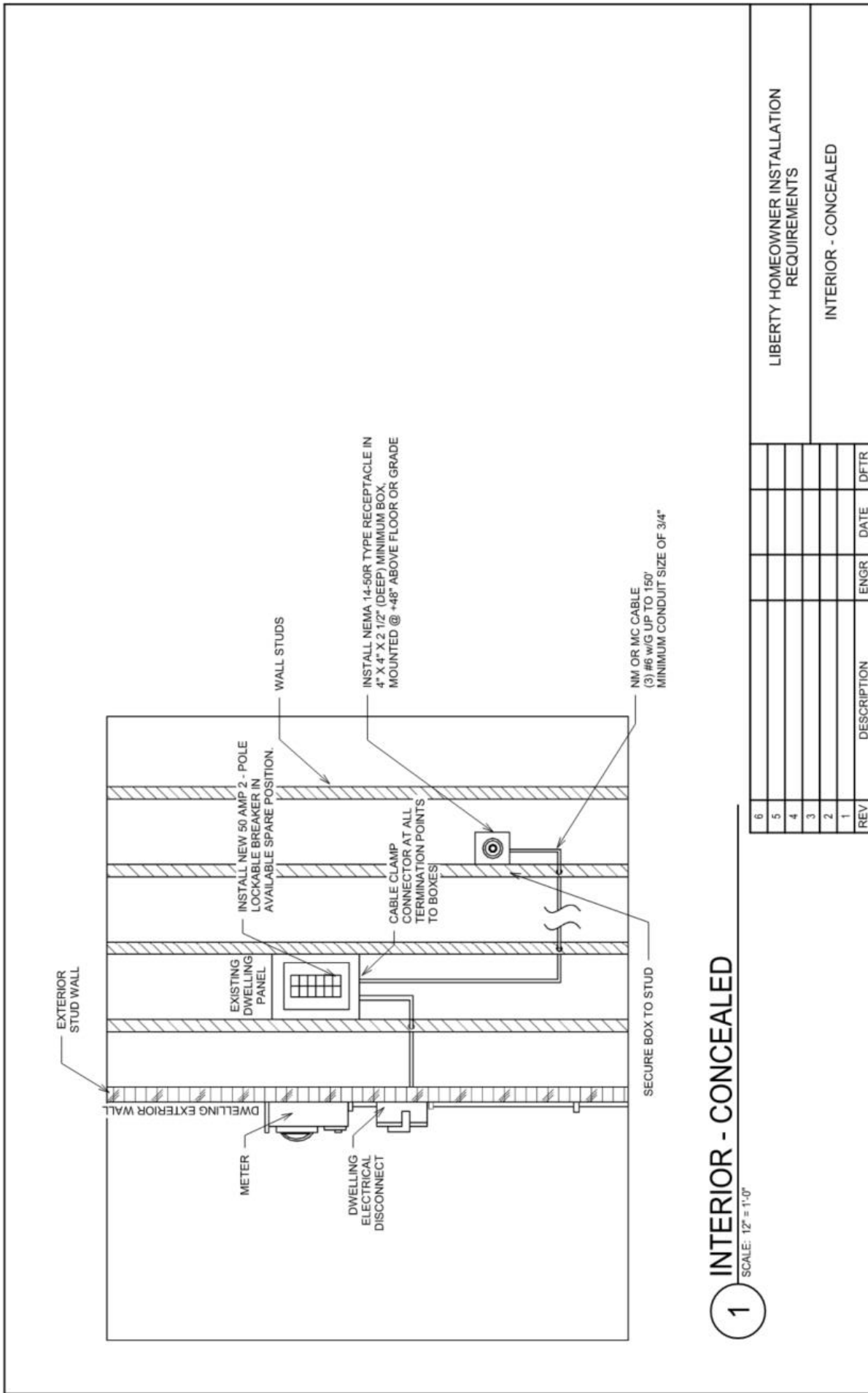


Figure 1: General diagram of indoor installation with branch circuitry installed within walls

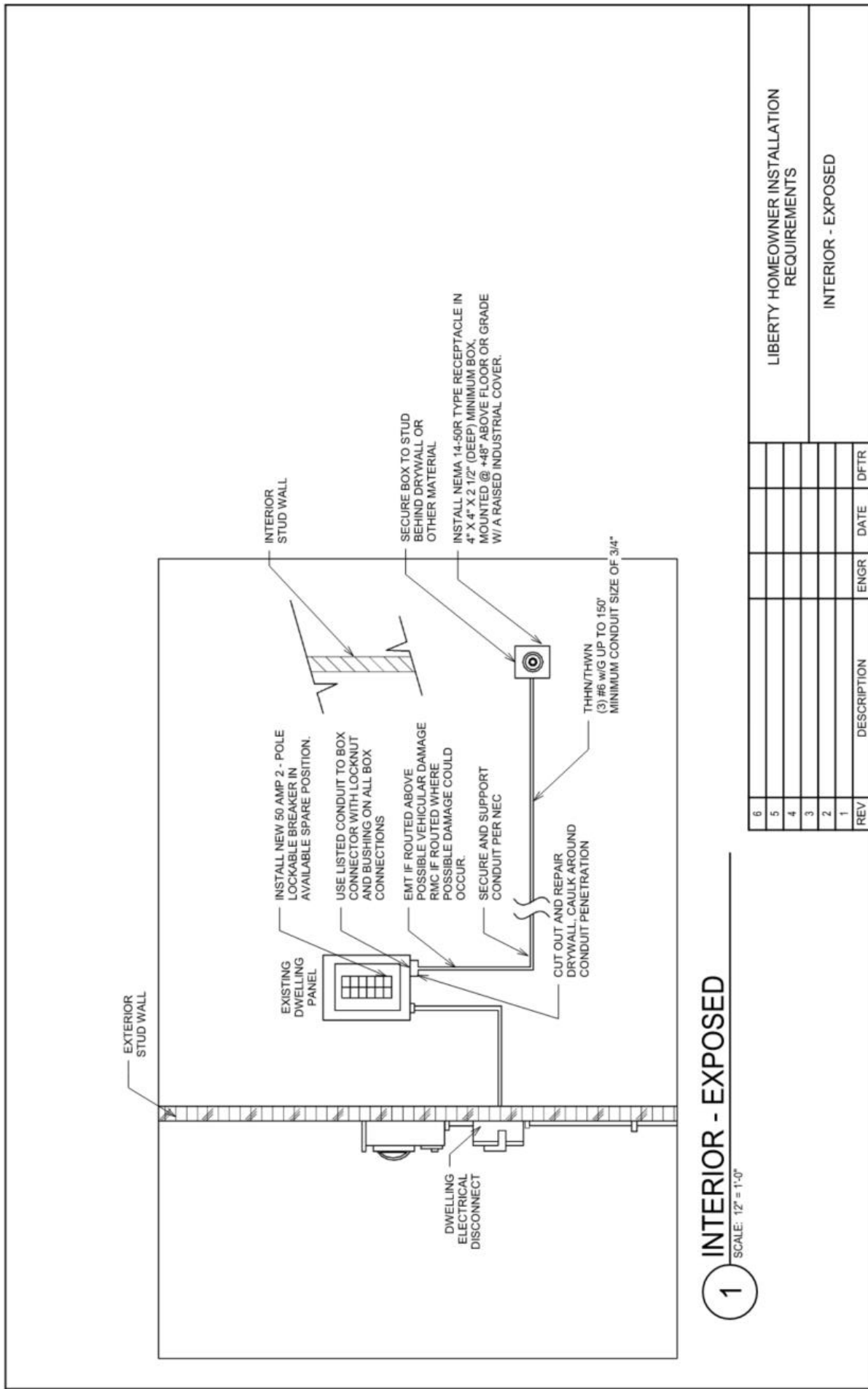


Figure 2: General diagram of indoor installation with branch circuit in exposed conduit

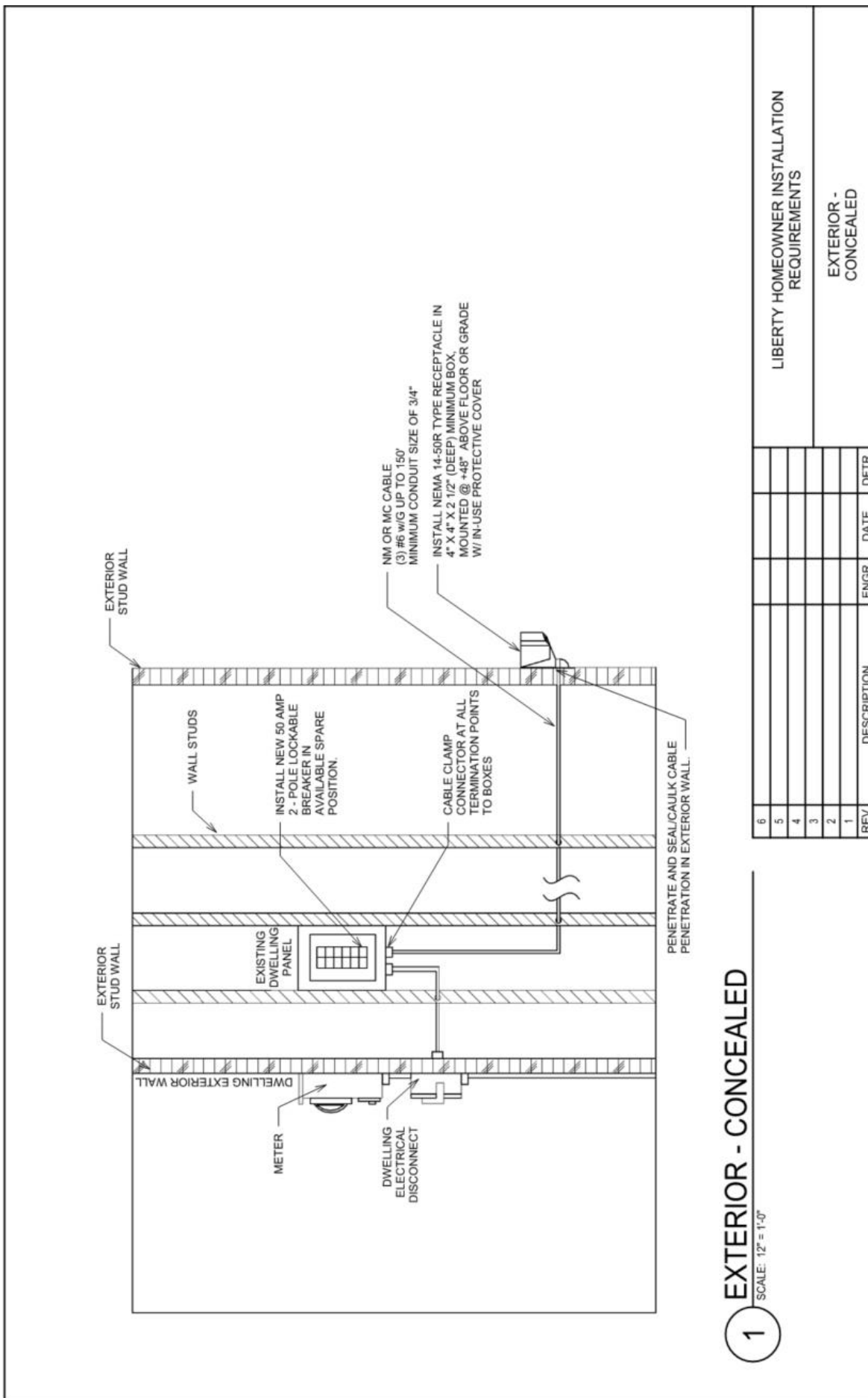


Figure 3: General diagram of outdoor installation with branch circuitry installed within walls

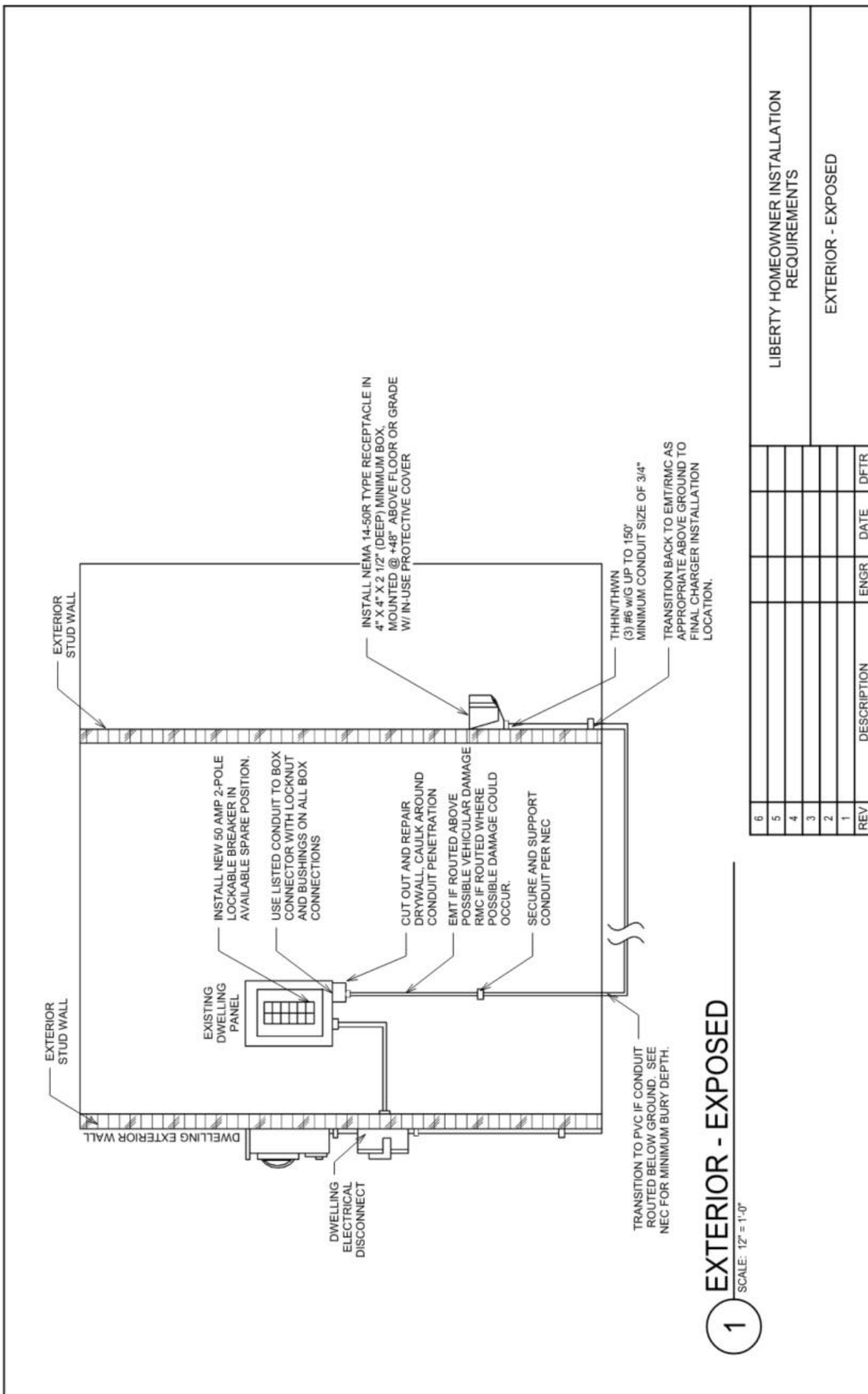


Figure 4: General diagram of outdoor installation with branch circuit in exposed conduit

Diagram 1 Generic Installation Process

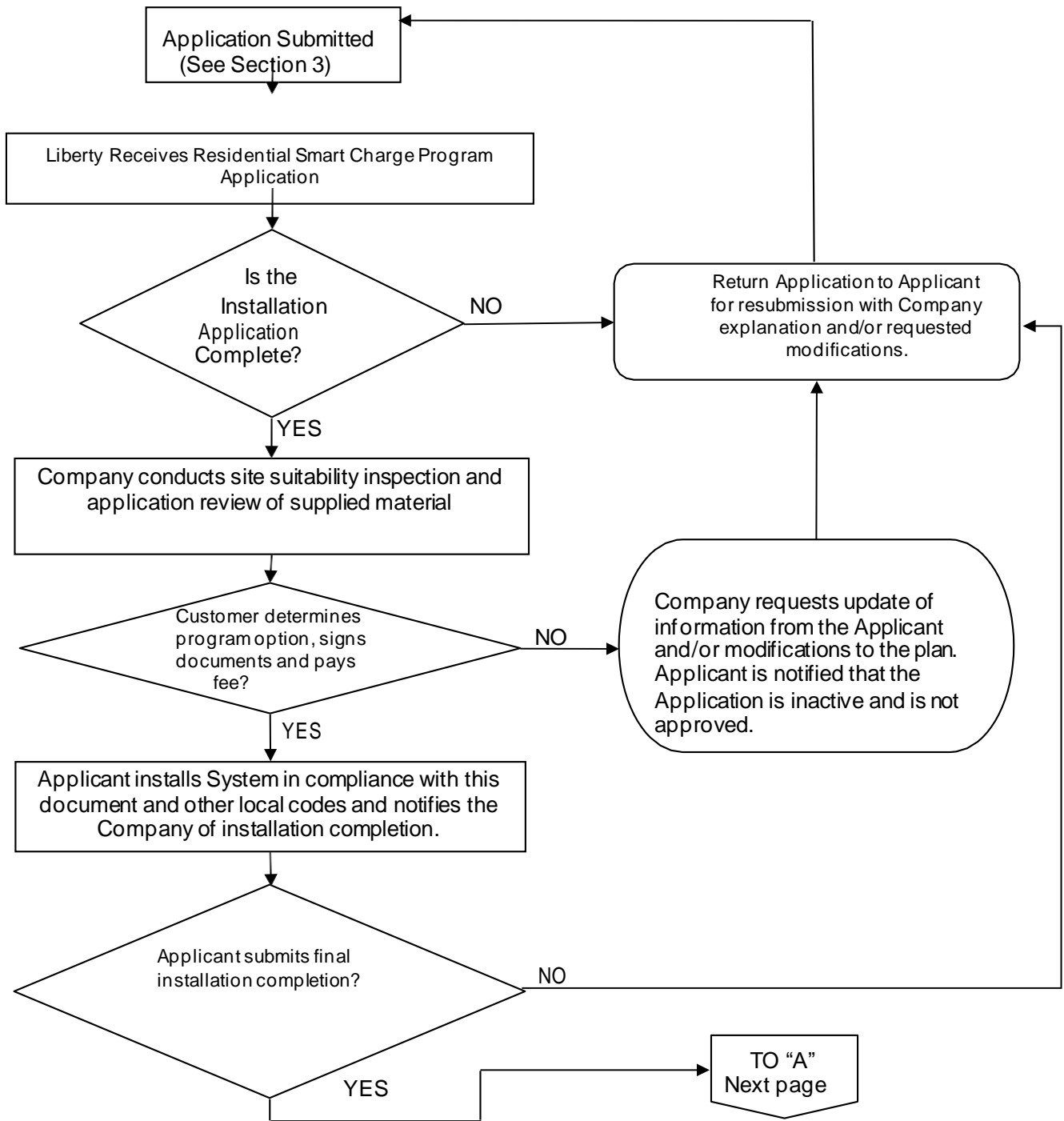


Diagram 1 (Continued) Generic Installation Process

