



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Bonifacio Drive, Port Area Manila



097.13 DPWH
07.15.2025

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DEPARTMENT ORDER)
NO. 135)
Series of 2025)

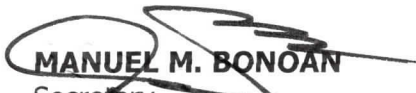
**SUBJECT: DPWH Standard Specification for
Item 1112 – Electric Vehicle
Charging Equipment**

7/15/2025

In line with the continuing efforts of the Department to update existing standard specifications, the attached revised **DPWH Standard Specification for Item 1112 – Electric Vehicle Charging System (EVCS)**, renamed as **Item 1112 – Electric Vehicle Charging Equipment**, is hereby prescribed for adoption in Government infrastructure projects.

The revised Pay Item Subscripts are now included in the Project and Contract Management Application (PCMA) and shall form part of the DPWH Standard Specifications for Highways, Bridges and Airports, Volume II.

This Order supersedes Department Order No. 105, Series of 2025, *Item 1112 – Electric Vehicle Charging System (EVCS)* and shall take effect immediately.


MANUEL M. BONOAN
Secretary

Department of Public Works and Highways
Office of the Secretary


WIN5U02177

DPWH Standard Specification for Item 1112 - Electric Vehicle Charging Equipment

1112.1 Description

This Item shall consist of installing, testing and commissioning of Electric Vehicle (EV) Charging Equipment in accordance with the Plans and this Specification.

1112.2 Material Requirements

1112.2.1 Electric Vehicle Charging Equipment, Alternating Current (AC), 7 kW

The EV charging equipment shall support a maximum current of 32 A and shall provide a minimum rated power of 7 kW, operating at $230\text{ V}\pm 10\%$, single-phase, 60 Hz. It shall include a one (1) user terminal LED display with an on-screen interface in English. The EV charging equipment shall be compatible with Type 2 to GB/T AC adapter and support Type 2 to CCS2 (EV inlet) connections for AC charging. It shall be enclosed in a casing made of anti-corrosion painted stainless steel, with a minimum ingress protection rating of IP54. The charging equipment shall utilize a Type 2 charging connector and a charging cable at least 5 m in length.

It shall include safety features to protect users, equipment, and connected electric vehicles. Overcurrent protection devices shall be appropriately rated based on system load and strategically installed to mitigate risks from short circuits and overloads. Ground fault protection shall be integrated in the charging equipment to detect leakage currents and automatically disconnect the system when thresholds are exceeded, preventing electric shock and equipment damage. The charging equipment shall include both manual and automatic emergency shutdown mechanisms to ensure immediate power isolation during fault conditions. Surge protection device shall be installed at input and output points to shield the system from voltage transients caused by lightning or grid disturbances.

To support real-time monitoring, remote diagnostics, and integration with digital platforms, the charging equipment shall be equipped with reliable and secure internet connectivity. It shall maintain consistent network access in accordance with service-level standards to ensure uninterrupted backend communication. Minimum bandwidth requirements shall be at least 5 Mbps per charging point for Modes 2 and 3, and 10 Mbps for Mode 4 (Direct Current fast charging), to accommodate higher data loads and ensure system responsiveness. It shall also utilize at least the 1.6 version of the Open Charge Point Protocol (OCPP), to enable seamless integration with the EV Industry Portal.

1112.2.2 Electric Vehicle Charging Equipment, Alternating Current (AC), 22 kW

The EV charging equipment shall support a maximum current of 32 A and a minimum rated power output of 22 kW, operating at $400\text{ V}\pm 10\%$, 3-phase, 60 Hz. It shall include a one (1) user terminal LED display with an on-screen interface in English. The EV charging equipment shall be compatible with Type 2 to GB/T AC adapter and support Type 2 to CCS2 (EV inlet) connections for AC charging. It shall be enclosed in a casing made of anti-corrosion painted stainless steel, with a minimum ingress protection rating of IP54. The EV charging equipment shall utilize a Type 2 charging connector and a charging cable at least 5 m in length.

It shall include safety features to protect users, equipment, and connected electric vehicles. Overcurrent protection devices shall be appropriately rated based on system load and strategically installed to mitigate risks from short circuits and overloads. Ground fault protection shall be integrated in the charging equipment to detect leakage currents and automatically disconnect the system when thresholds are exceeded, preventing electric shock and equipment damage. The charging equipment shall include both manual and automatic emergency shutdown mechanisms to ensure immediate power isolation during fault conditions. Surge protection device shall be installed at input and output points to shield the system from voltage transients caused by lightning or grid disturbances.

To support real-time monitoring, remote diagnostics, and integration with digital platforms, the EV charging equipment shall be equipped with reliable and secure internet connectivity. It shall maintain consistent network access in accordance with service-level standards to ensure uninterrupted backend communication. Minimum bandwidth requirements shall be at least 5 Mbps per charging point for Modes 2 and 3, and 10 Mbps for Mode 4 (Direct Current fast charging), to accommodate higher data loads and ensure system responsiveness. It shall also utilize at least the 1.6 version of the Open Charge Point Protocol (OCPP), to enable seamless integration with the EV Industry Portal.

1112.2.3 Electric Vehicle Charging Equipment, Direct Current (DC), 60 kW

The EV charging equipment shall deliver a minimum rated power output of 60 kW, supporting a voltage range of 200-1000 V and a maximum current of 200 A. It shall operate on a 400 V $\pm 15\%$, 3-phase, 60 Hz input supply and shall be compatible with electric vehicles that follow the same charging protocols. The EV charging equipment shall be equipped with one (1) user terminal LED display with an on-screen interface in English. It shall be enclosed in a casing made of anti-corrosion painted stainless steel, with a minimum ingress protection rating of IP54. The charging equipment shall operate at a maximum noise level of 65 dB. It shall utilize a CCS Combo 2 charging connector and equipped with a charging cable of at least 5 m in length.

It shall include safety features to protect users, equipment, and connected electric vehicles. Overcurrent protection devices shall be appropriately rated based on system load and strategically installed to mitigate risks from short circuits and overloads. Ground fault protection shall be integrated in the charging equipment to detect leakage currents and automatically disconnect the system when thresholds are exceeded, preventing electric shock and equipment damage. The charging equipment shall include both manual and automatic emergency shutdown mechanisms to ensure immediate power isolation during fault conditions. Surge protection device shall be installed at input and output points to shield the system from voltage transients caused by lightning or grid disturbances.

To support real-time monitoring, remote diagnostics, and integration with digital platforms, the EV charging equipment shall be equipped with reliable and secure internet connectivity. It shall maintain consistent network access in accordance with service-level standards to ensure uninterrupted backend communication. Minimum bandwidth requirements shall be at least 5 Mbps per charging point for Modes 2 and 3, and 10 Mbps for Mode 4 (Direct Current fast charging), to accommodate higher data loads and ensure system responsiveness. It shall also utilize at least the 1.6 version of the Open Charge Point Protocol (OCPP), to enable seamless integration with the EV Industry Portal.

1112.3 Construction Requirements

1112.3.1 Delivery, Handling, and Storage

Electric vehicle charging equipment delivered on site shall have protective packaging for freight and handling purposes. It shall be handled carefully to prevent damage, breaking or denting. Prior to storage, all damaged components shall be rejected. It shall be stored in a clean and dry place, and protected from dirt, fumes, construction debris, and physical damage.

1112.3.2 Installation

The installation of the EV charging equipment shall be carried out under the supervision of the Engineer and shall adhere to the latest applicable codes, safety standards, and regulatory guidelines.

The charging equipment shall be installed within a covered, secure area, such as an existing garage, shed, or enclosed building. In cases where a suitable existing structure is not available, a weatherproof enclosure for the equipment shall be constructed.

To mitigate the risk of water ingress and ensure equipment safety during flood events, the charging equipment shall be securely mounted on an elevated platform. The platform shall have a minimum height of 0.2 m above the highest recorded flood level at the installation site.

1112.3.3 Testing, Commissioning and Acceptance

Upon completion of installation, the EV charging equipment shall be subjected to testing and commissioning under the supervision of the Engineer to verify its performance. The EV charging equipment shall be accepted if it has been confirmed to be fully functional, safe, and compliant with the applicable codes, standards and regulatory guidelines.

1112.4 Method of Measurement

The work under this Item shall be measured in set of installed and accepted Electric Vehicle Charging Equipment as indicated on the Plans.

1112.5 Basis of Payment

The accepted quantity, measured as prescribed in Section 1112.4, Method of Measurement, shall be paid for at the Contract Unit Price which price and payment shall be full compensation for the installation of the Electric Vehicle Charging Equipment, including all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this Item.

Payment shall be made under:

Pay Item Number	Description	Unit of Measurement
1112 (1) a1	Electric Vehicle Charging Equipment, AC, 7 kW	Set
1112 (1) a2	Electric Vehicle Charging Equipment, AC, 22 kW	Set
1112 (1) b	Electric Vehicle Charging Equipment, DC, 60 kW	Set