Site Prep Guide

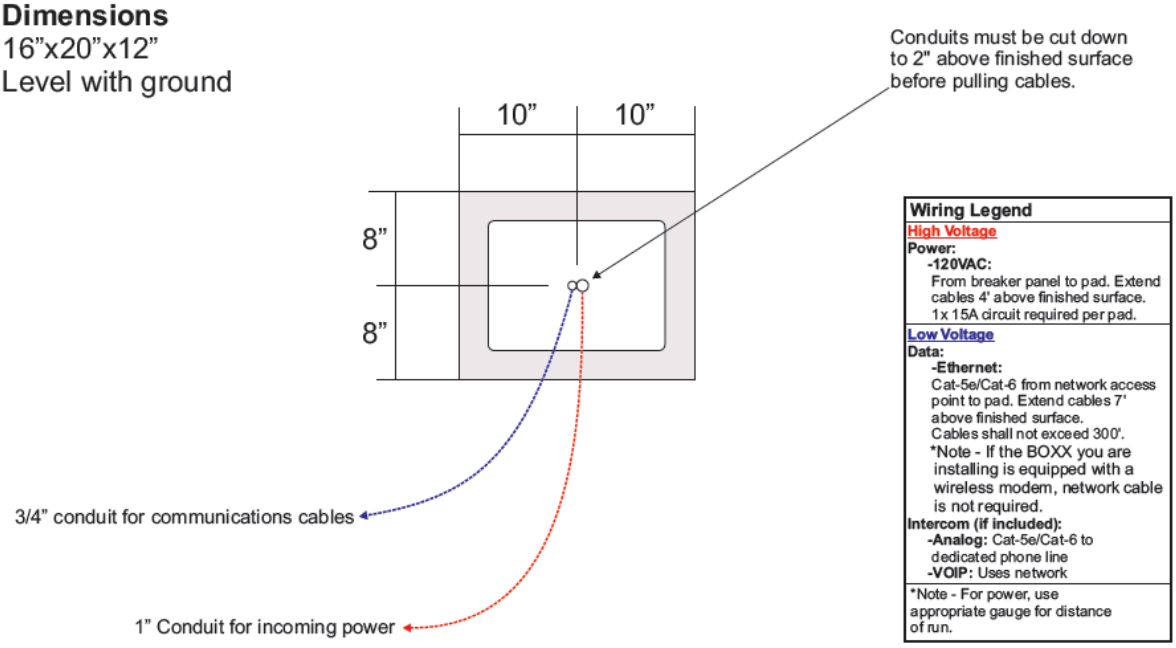
Smart Parking Meters

Civil Work Photos & Instructions

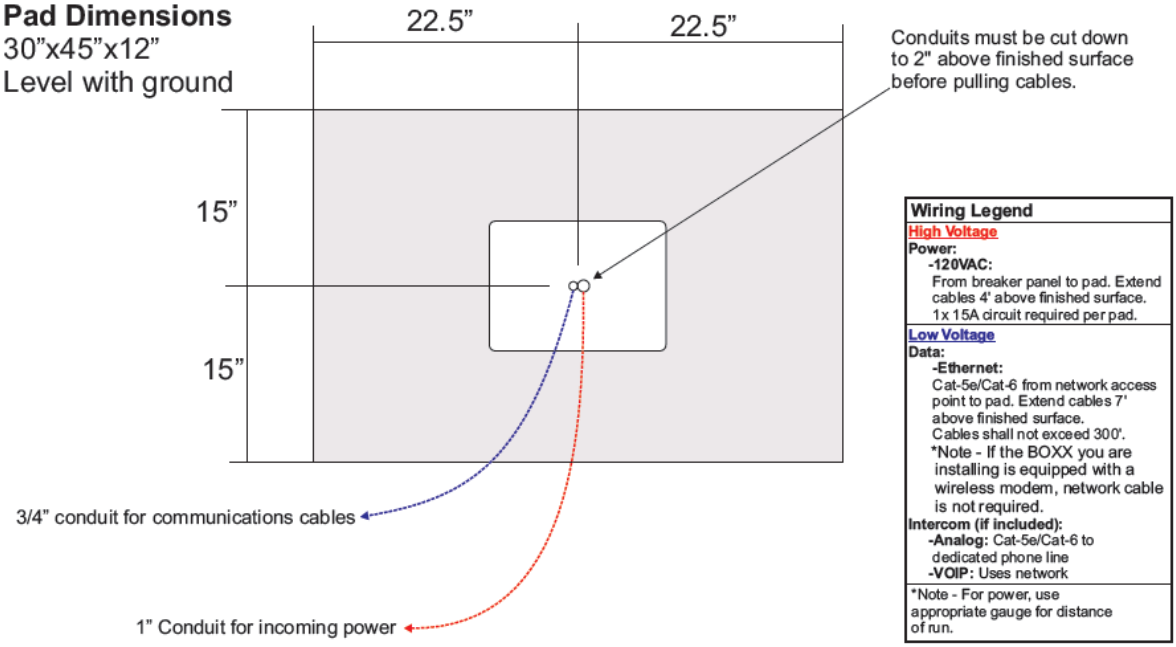
Contents

Overview

Minimum Pad Dimensions
16”x20”x12”
Level with ground



Recommended Pad Dimensions
30”x45”x12”
Level with ground



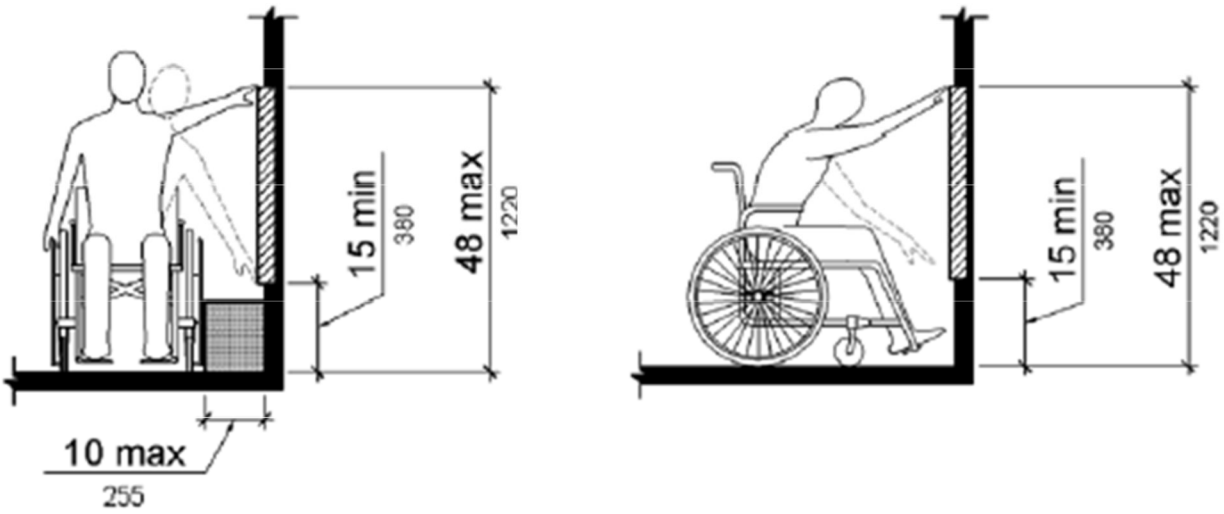
Concrete Pad

Parking BOXX equipment must be mounted on a concrete pad. See above drawings for standard layout and conduit placement.

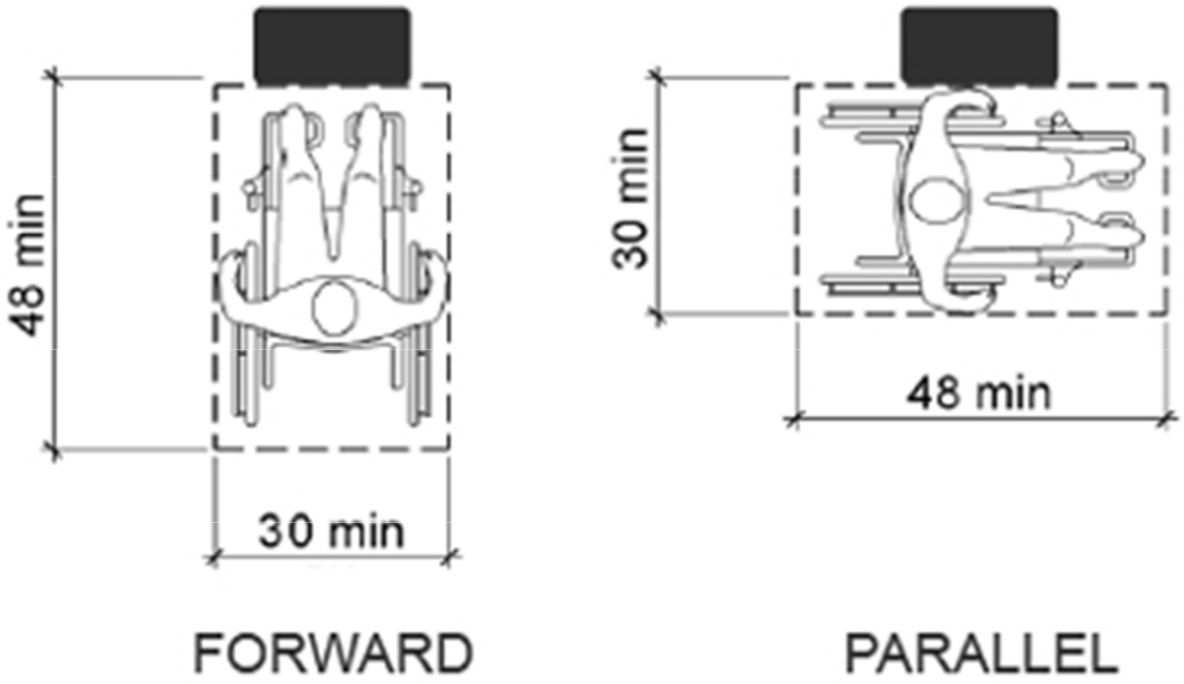
ADA Compliance

When installing Parking BOXX equipment that is not in the vehicle laneway, please ensure the following ADA requirements are met:

a. Should be ground level to ensure that all station components are within the acceptable reach ranges. If kiosks are not flush mounted they will not be ADA compliant.



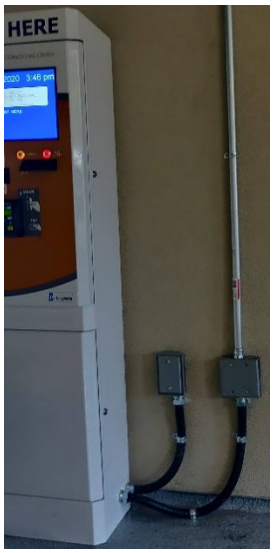
b. Should be positioned to allow for either foreward or parallel approach to the machine.



Conduits: Type and installation

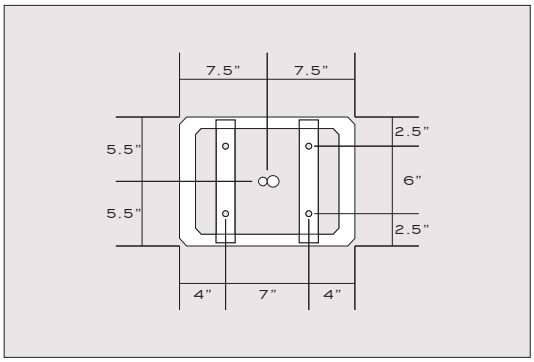
Parking BOXX recommends installing machines directly on top of conduit stub-ups (see next section for conduit stub-up locations). For retrofit installations, external conduit may be required. If using external conduits to machines:

- Ensure install location has appropriate 120v power and network connection junction boxes within proximity (preferably 2' from machine) and no more than 4' above the ground (or depending on local regulations).
- 120v power and network connections must be run through separate conduits into machine
- BOXX recommends using an armored liquid-tite conduit whip (or similar) for termination to Parking BOXX machine.
- All conduit terminations to Parking BOXX machines must be on the back or sides of the unit within 8" of the base.
- See below examples.

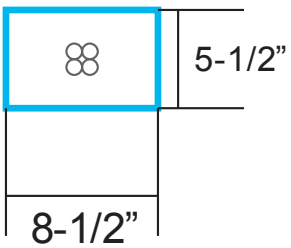


Bolt patterns and conduit stub-up allowances

It is not necessary to set any anchor bolts ahead of installation of Parking BOXX machines. Parking BOXX installs include mounting bars and bolts. The purpose of the below diagrams is to show **WHERE** the bolts will be, as well as the mounting bars so that the conduit clusters are kept within the specified dimensions.



Maximum conduit cluster area represented by blue box*



If you are planning on mounting your own equipment, the most effective method is by using wedge anchors. Refer to Smart Parking Meter Installation document for further details. Below are the basic guidelines:

Smart Parking Meter - ½" x 5-½" wedge anchor SIMPSON Strong-Tie STB2-505124SS

Low Voltage Conduit

Low voltage conduit should be ¾" schedule-40 PVC unless otherwise specified by specific site drawings or required by local code. Conduits should be stubbed directly up at the locations indicated in the drawings; tied tightly together and capped/taped before pouring concrete to avoid the introduction of debris or foreign objects. After the concrete is set, but before cables are pulled, all conduits on the island need to be cut down to 2-3" high. **If the conduits are left too tall, the machines will not fit properly. It's much more difficult to cut down conduit when cable has already been run.**

Power Conduit

For most standard installations, power conduits will be 1" schedule-40 PVC. Though we specify 1" conduit for the feeders, you may need to increase the conduit size for runs that will have a higher than typical number of data cables, thicker gauge power cables to account for voltage drop over longer distances, or fiber optic cable with minimum conduit size requirements, etc. Consider all of the cabling required for your project scope before selecting your conduit size. Though we specify schedule-40 PVC, your building code/fire code/environmental code may impose other requirements.

Schedule-40 PVC 1"

Cabling Requirements: Power & Communications

Power wires must extend 3' above the surface. Data cables must extend 6' above the surface.

Power

- All Parking BOXX machines run on 120VAC single-phase @ 60 Hz.
- We specify a single 15A circuit for smart parking meters.
- This circuit should be dedicated and not shared with light posts or other equipment.
- We do not specify the gauge of wire required since it will depend on the distance of the run which is site specific.
- Power connections are made in base of the machine, so please leave minimum of 3' of power cable above the surface,

Communications/Network (for machines without wireless modem)

- Cat-6 (UTP) cable is recommended.
- Cables must be less than 300' in length, and terminated at the switch/patch panel/router end. If Parking BOXX technicians are installing, they will terminate the cable in the machine.
- If there is a cable run that will be longer than 300', alternate means must be employed such as fiber-optic cable and media converters or copper ethernet extenders.
- If physically running cable to a location is not possible, you will need to employ a wireless solution. Modem options are available from Parking BOXX, please contact sales@parkingboxx.com to discuss adding a modem hardware if necessary.
- Network connection is made roughly 4' above ground in the machine, so please leave minimum of 6' of network cable above the surface.

Phone line (if applicable)

- Most BOXX systems are now utilizing VoIP intercoms which use the network cables as specified above and no additional cabling is required.
- If you requested analog intercoms for your system, you will need to run analog phone cables from the phone service panel to each device that will have an analog intercom. Terminations at the phone service panel will need to be done by the service provider. BOXX will terminate the cables at the machines. Cat-3/5/6 cable or any telecom cable may be used as the analog phone line medium.

Bollards

The best way to protect your parking equipment is with steel bollards. Specific measurements for bollard locations are provided and must be followed to ensure proper protection of the equipment and to avoid mounting conflicts. There are a few different types of bollards which are shown below:

Concrete-Filled Steel Pipe
This method is only possible before pouring concrete. We recommend SCH40 4"O.D. stainless steel pipe. For added security, you can upgrade to SCH80 or 6"O.D. pipe. If you cannot source stainless, you can use regular steel pipe, but it may rust if it is exposed. It is recommended to paint all bollards for visibility, especially non stainless bollards to prevent against rust. BOXX recommends 'traffic yellow' paint, however there is no regulation, so you can be creative and match the property décor/color scheme if you wish.

To install, drive the steel pipes into the dirt/gravel in the locations as indicated by the laneway drawings. Ensure they are plumb. Typical height for bollards is 4-5' above the finished surface of the concrete island. It is common to drive the pipes into the ground, leaving them higher than the finished height, and then cutting them down to uniform size after concrete is poured. After the pipes have been cut to finished height, fill them with concrete and paint them.

Manufactured Bolt-Down Bollards

If the concrete has already been poured, or you do not want to take on the project of installing concrete-filled steel pipe bollards, you may want to install manufactured bolt-down bollards (These can be purchased from BOXX in standard yellow or black). If you are installing these yourself, refer to the laneway drawings provided for placement. It is very important that the bollards are mounted in the correct positions to maximize their effectiveness and ensure there are no spatial conflicts.

To install, place the bollards in the correct locations and mark the 4 mounting holes. For standard 4" O.D. steel bolt-down bollards, furnish with 4-½" wedge anchors. Only 1" of the anchor should be above the surface.