



Configuring Wireless Site Maps

Cisco[®] Prime Infrastructure 3.2

Job Aid



Copyright Page

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Cisco and the Cisco Logo are trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and other countries. A listing of Cisco's trademarks can be found at www.cisco.com/go/trademarks. Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1005R)

THIS DOCUMENT IS CONSIDERED CISCO PROPERTY AND COPYRIGHTED AS SUCH. NO PORTION OF COURSE CONTENT OR MATERIALS MAY BE RECORDED, REPRODUCED, DUPLICATED, DISTRIBUTED OR BROADCAST IN ANY MANNER WITHOUT CISCO'S WRITTEN PERMISSION.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

Configuring Wireless Site Maps Job Aid

© Copyright 2017 Cisco Systems, Inc. All rights reserved.

Contents

Basics	1
Overview.....	1
Introduction	1
Wireless Site Map Concepts	3
<i>The Map View Page Layout</i>	3
<i>Site Level Hierarchy Containers</i>	4
<i>Hierarchy Relationships in the Application</i>	6
<i>Site Level Default Settings</i>	11
<i>Graphical Maps and Internet Connectivity</i>	13
<i>Building and Outdoor Area Positioning at a Site</i>	14
<i>Outdoor Area and Floor Configuration</i>	15
<i>Defining Access Point Antenna Orientation by Azimuth and Elevation</i>	16
Map Archive File Concepts	18
Preparing to Configure Maps Manually	19
<i>Adding Devices in the System</i>	19
<i>Preparing Map and Floor Plan Image Files</i>	19
<i>Gathering Layout Details</i>	20
Skills	20
Proficient	20
Expert.....	20
Terms.....	21
Campus (Site)	21
Civic Location.....	21
Fault	21
Location.....	22
Overlays	22
Service Domain	22
Site Map Hierarchy.....	22
The Manual Map Configuration Process	23
Process Overview.....	23
Process Steps	24
Task 1: Add the Top Level Site	24
Task 2: Add a Building or Outdoor Area to the Site.....	28
Task 3: Add Floors or Basements in the Building.....	34
Task 4: Configure Outdoor Areas or Floors.....	36
<i>Subtask 1: Open the Map or Layout</i>	36
<i>Subtask 2: Add Access Points to the Map or Floor Layout</i>	37
<i>Subtask 3: Position AP Radios on the Map or Floor Layout</i>	40
The Map Archive File Configuration Process	46
Process Steps	46



Frequently Asked Questions	53
Map Configuration	53
Have Another Question?	53
Links	57
To Product Information	57
To Training	57
To Contact Us.....	57

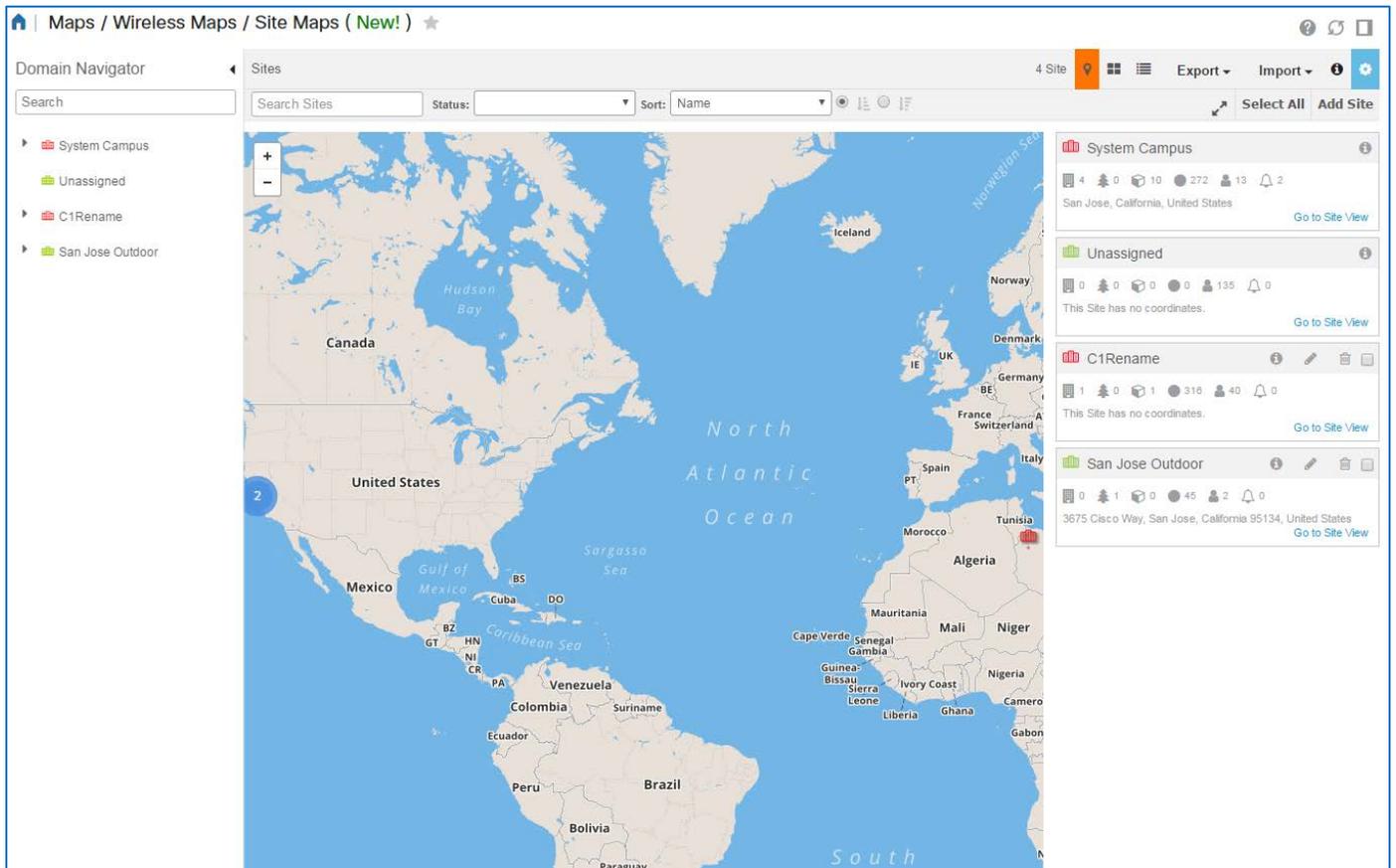
Basics

Overview

Introduction

Wireless site maps organize access points, and other wireless network-related items, based on the relationships of the enterprise's physical locations and their associated devices, clients, and other trackable objects that you can place on maps, the device relationships at those locations, and the clients using the network.

To monitor and manage the wireless network and its access points by using site maps, you first must configure each area in which you need to place and position access points, and then add and position the access points at those locations.

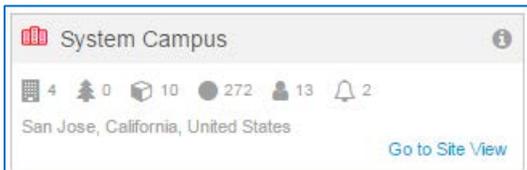


Maps organize locations by site (campus), building, floor, and outdoor areas. At each map level, the system indicates the number of dependent locations, assets, and clients associated with each site and uses color-coding to indicate [the most critical fault severity level that a device is reporting](#) at that location.

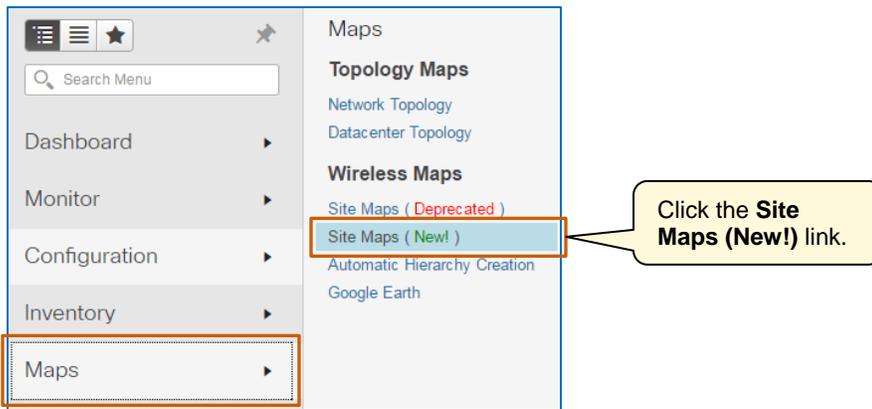


Note: Before working with maps, it is helpful to recognize map navigation, features, and functions; map organization and its location hierarchies; and how you can control map display properties based on your preferences.

For more information, [refer to the Prime Infrastructure 3.2 Wireless Site Maps Overview job aid](#).



You access the tools to configure wireless site maps on the **Maps** menu under **Wireless Maps**.



This job aid introduces you to the **Site Maps (New!)** wireless map configuration process and the tasks that you can perform to add wireless site maps, including adding maps manually and by importing map archive files.



Note: When you make changes to site maps, those changes appear on both the new and deprecated site map types.

Understanding best practices on preparing for and configuring wireless site maps helps ensure that system users can monitor the network and respond to issues effectively.



Note: This job aid uses [the geographical map available with Internet connectivity in site level](#) screenshots and demonstrations.

When map images are not uploaded, the site map view displays a generic background.

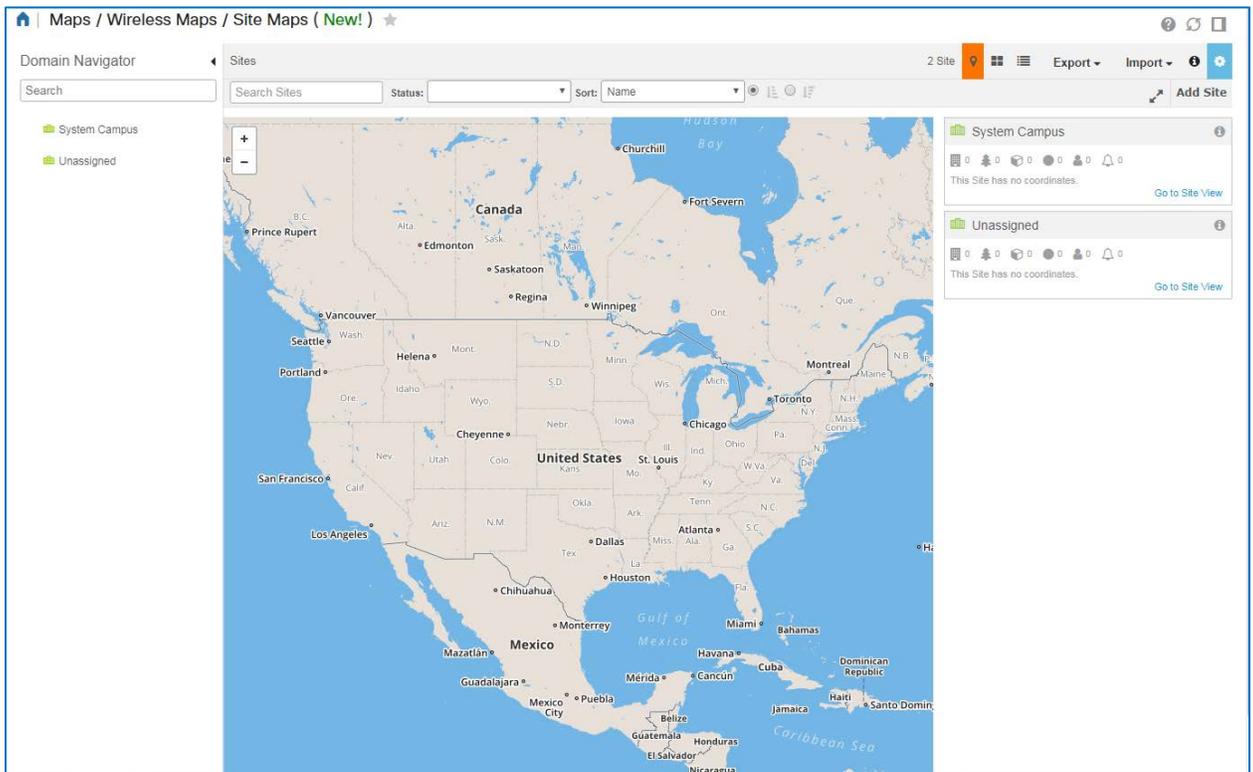
Based on the installation, users also can upload location layout or map images.

Wireless Site Map Concepts

The Map View Page Layout

The **Map View** page displays an interactive location layout based on whether Prime Infrastructure has Internet connectivity or a system user has uploaded an image file that represents the location.

When the system has Internet connectivity, then Prime Infrastructure automatically connects to a separate map server. The map server provides an interactive world map that you can use to indicate a site's physical (geographical) location, identified by its civic address or its latitude and longitude coordinates.

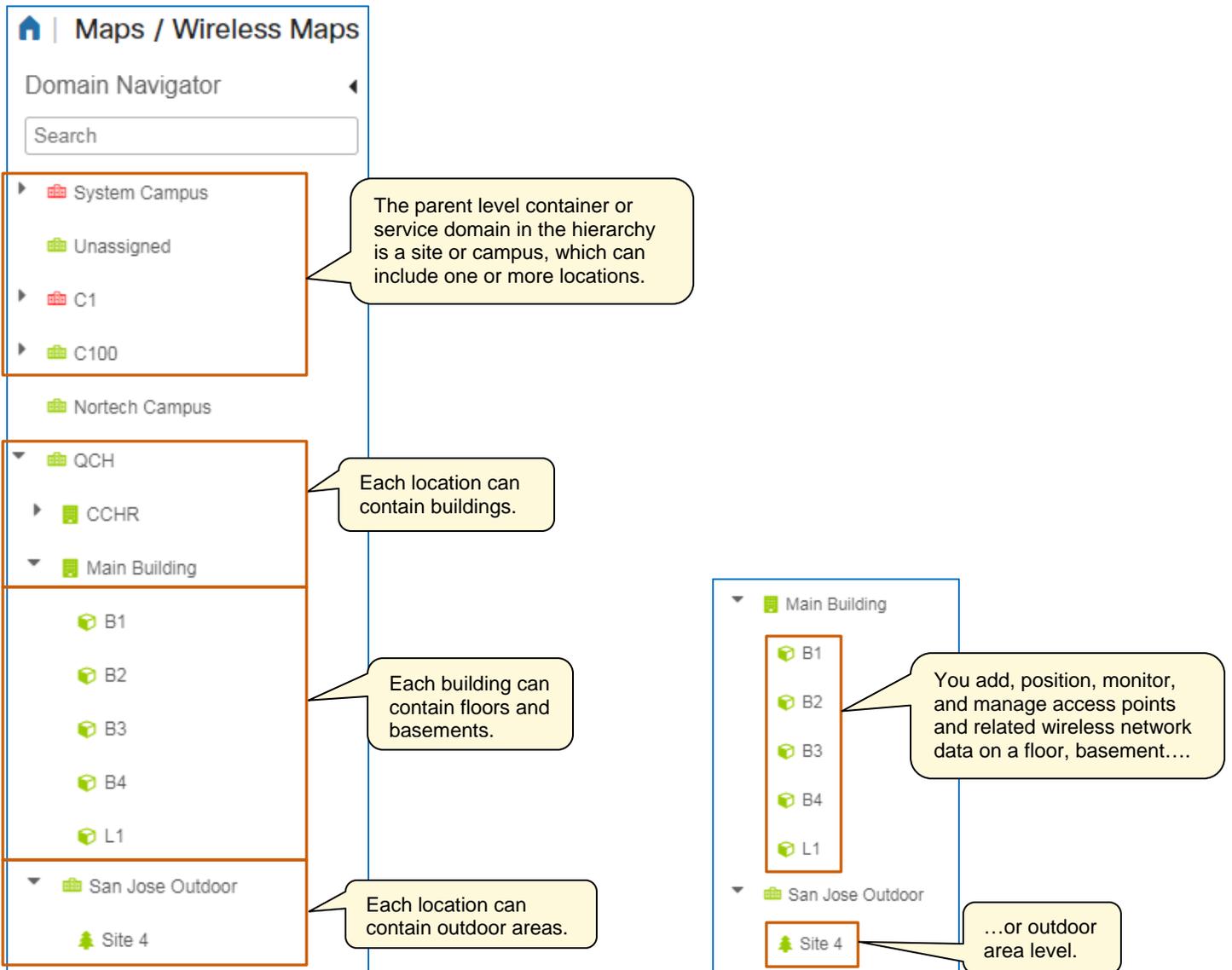


Site Level Hierarchy Containers

You add, monitor, and manage access points in outdoor areas and on the floors or basements of buildings. You organize these areas by using a location hierarchy.

The **Domain Navigator** provides navigation among the hierarchical levels and illustrates the relationships of floors and outdoor areas in their containers, which are at a parent (site or campus) level or a building level.

Collectively a site container and its associated hierarchy can be referred to as [a service domain](#).



When access points are added to the Prime Infrastructure inventory, the system generates the **System Campus** site by default, which is available for configuration.



Tip: Depending on enterprise needs, you can use the **System Campus** default container to configure locations or areas that you need to monitor.

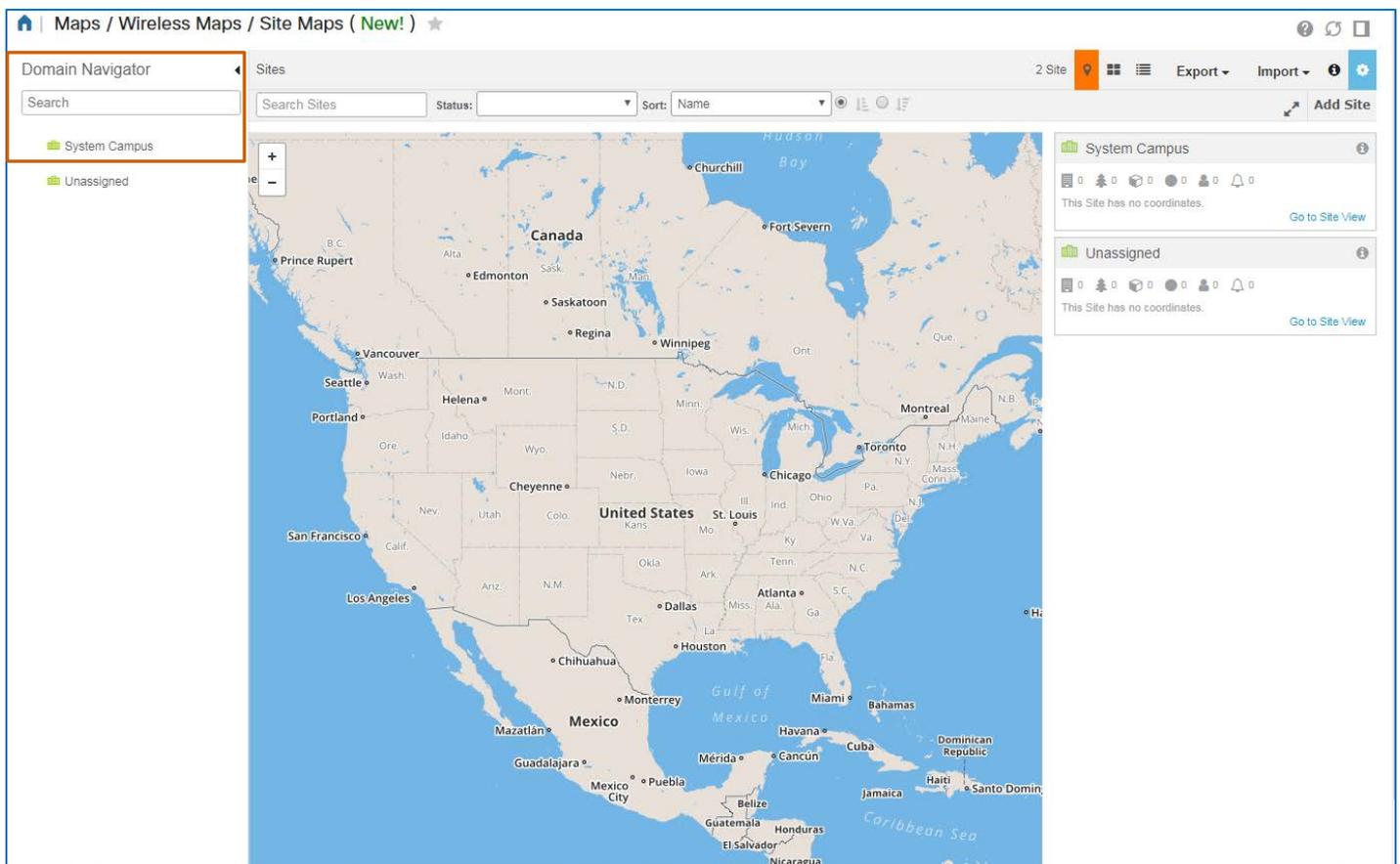
The **System Campus** container does not have geographical coordinates, and the dependent location containers and outdoor areas or floors that you add to it are relative to the hierarchical relationship in the container.

You can apply geographical coordinates or [civic locations](#) to the buildings or outdoor areas that you add when they are applicable.

In some cases, such as single university campuses or municipal locations, this container might meet all of your needs for organizing the enterprise hierarchy.



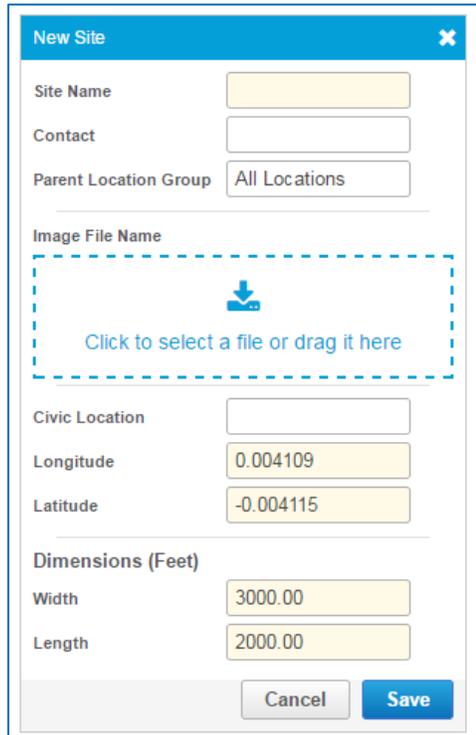
Note: The **Unassigned** site is a legacy item that is unavailable for use.



Hierarchy Relationships in the Application

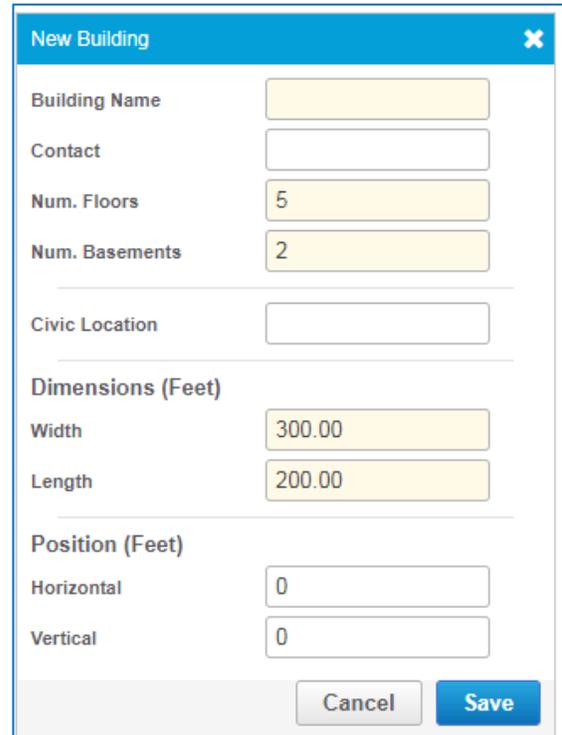
When you initially add a site or a dependent site location on a wireless map, you can add:

- ❖ A contact name or contact e-mail address of a site or facility manager, for example.
- ❖ An image file that illustrates the site level location.
- ❖ The civic location or geographical coordinates.
- ❖ The physical dimensions of the location, and for a building or outdoor area, its position in relationship to that of the parent site.



The 'New Site' form includes the following fields and sections:

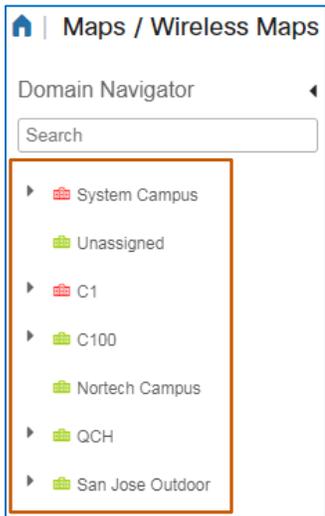
- Site Name:
- Contact:
- Parent Location Group:
- Image File Name: A dashed box containing a download icon and the text "Click to select a file or drag it here".
- Civic Location:
- Longitude:
- Latitude:
- Dimensions (Feet):
 - Width:
 - Length:
- Buttons: Cancel, Save



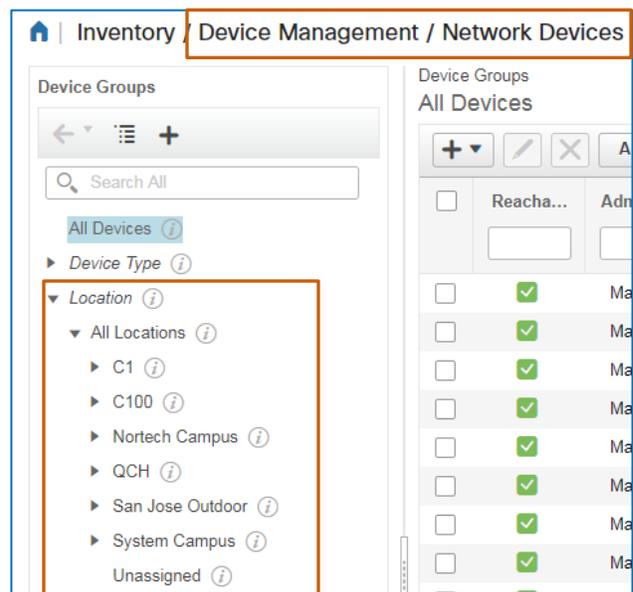
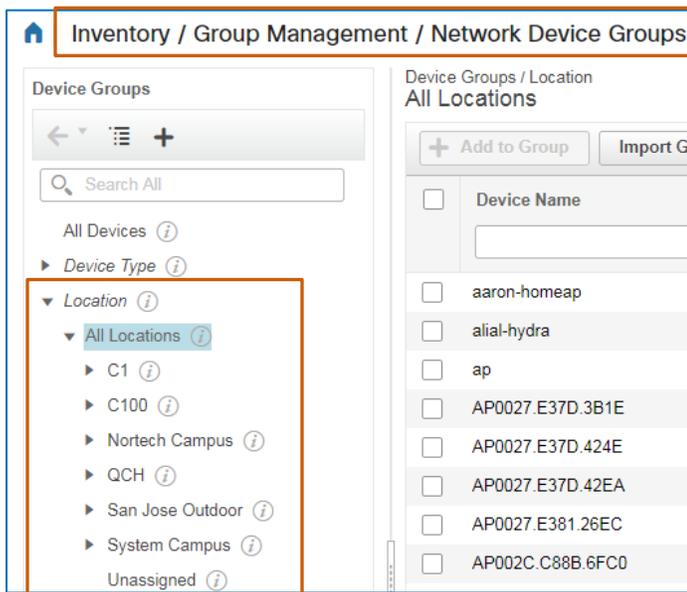
The 'New Building' form includes the following fields and sections:

- Building Name:
- Contact:
- Num. Floors:
- Num. Basements:
- Civic Location:
- Dimensions (Feet):
 - Width:
 - Length:
- Position (Feet):
 - Horizontal:
 - Vertical:
- Buttons: Cancel, Save

When you add and organize site hierarchies on wireless site maps...

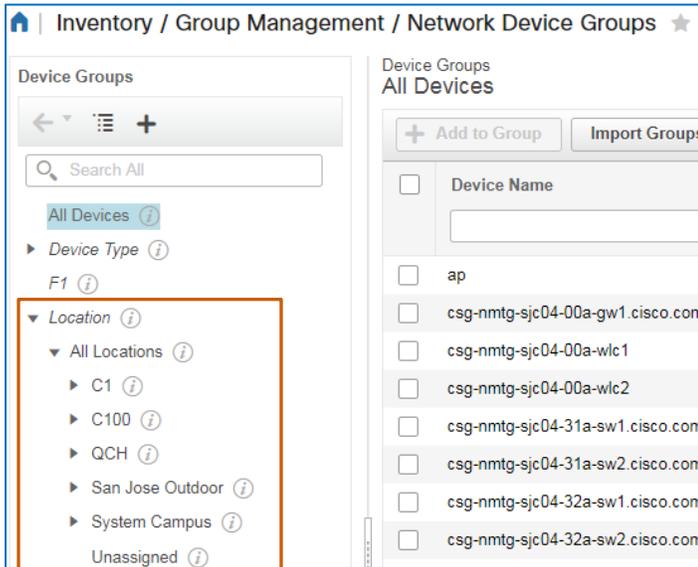


...the system also saves those hierarchies in the **Network Devices Groups** and **Network Devices Location** categories under **All Locations**. When you configure the geographical coordinates or civic location for the hierarchy, the system captures that information, also.

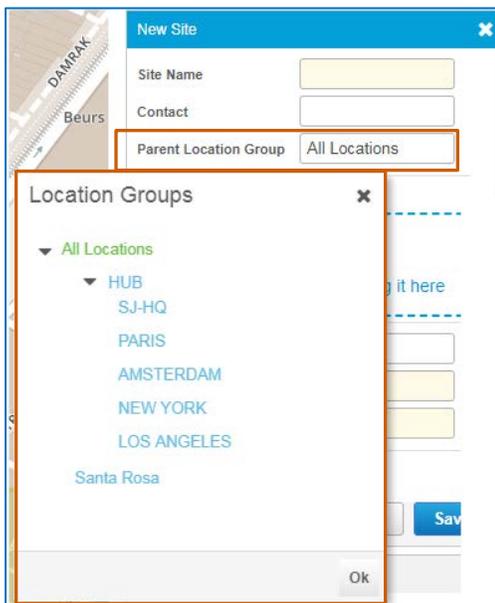


System users who are configuring wireless site maps for highly complex organizational hierarchies can configure site level containers and their hierarchies in the **Location** category of **Network Devices** or **Network Device Groups** before adding them to wireless site maps.

The **Location** category includes the **All Locations** parent container by default. You add the site level containers below it.



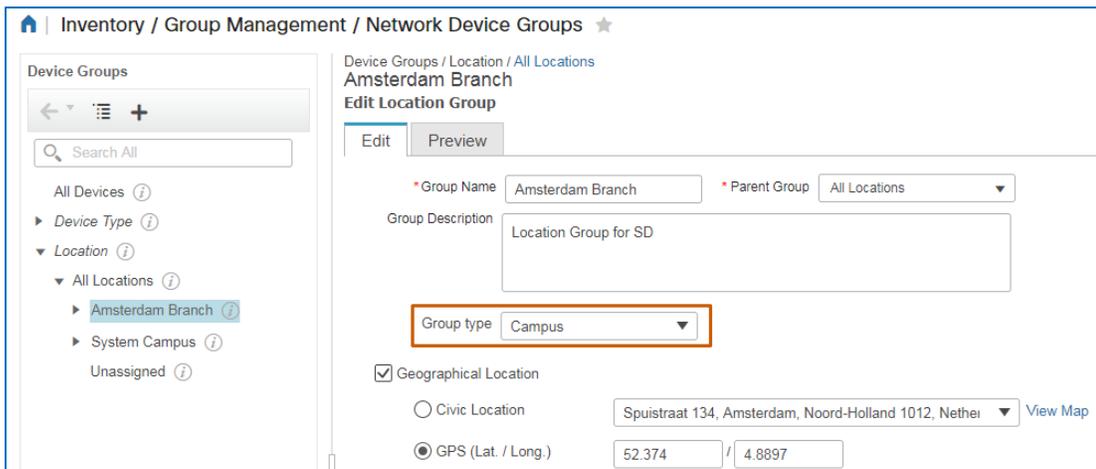
The container hierarchies that you add are available for selection in the **Parent Location Group** drop-down list on the **Wireless Site Maps** page when you add a new site.



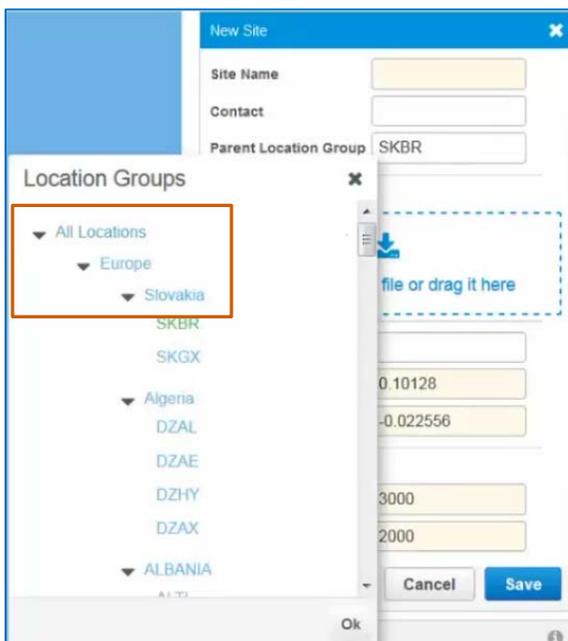
When you add a group, you can define its group type as **Default** or **Campus**.



Note: The hierarchical references in the system also affect the naming conventions of groups, sites, buildings, and floors or outdoor areas. For more information and to avoid naming conflicts, [refer to the FAQ](#).



A **Default** group type will generate a container that you can select in the **Parent Location Group** drop-down list.



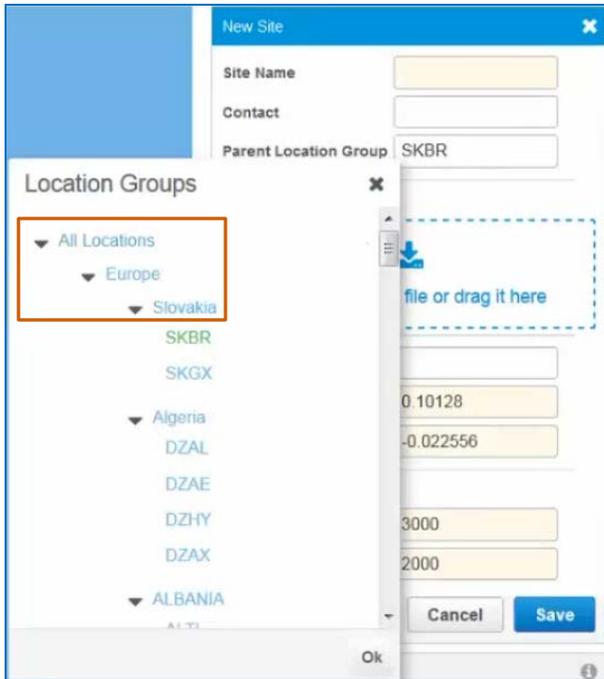
A **Campus** group type adds a site level container on **Wireless Site Maps**. It also enables the system to save any hierarchical structure below it when users export map archive files.

When you add a site container hierarchy of network device groups of the default type, the hierarchy appears in the **Parent Location Group** drop-down list, but do not appear in the **Domain Navigator**.

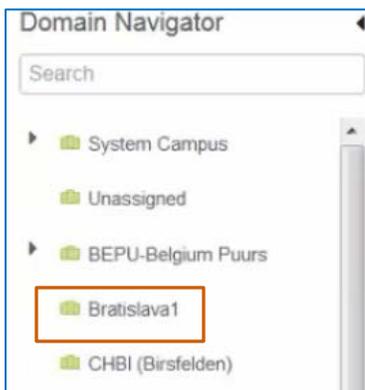
...continued next page

Then, when you add a dependent group to that site hierarchy, the dependent group appears at the root level of the **Domain Navigator** list.

For example, if you add the **Bratislava1** site in the **Europe | Slovakia** container...



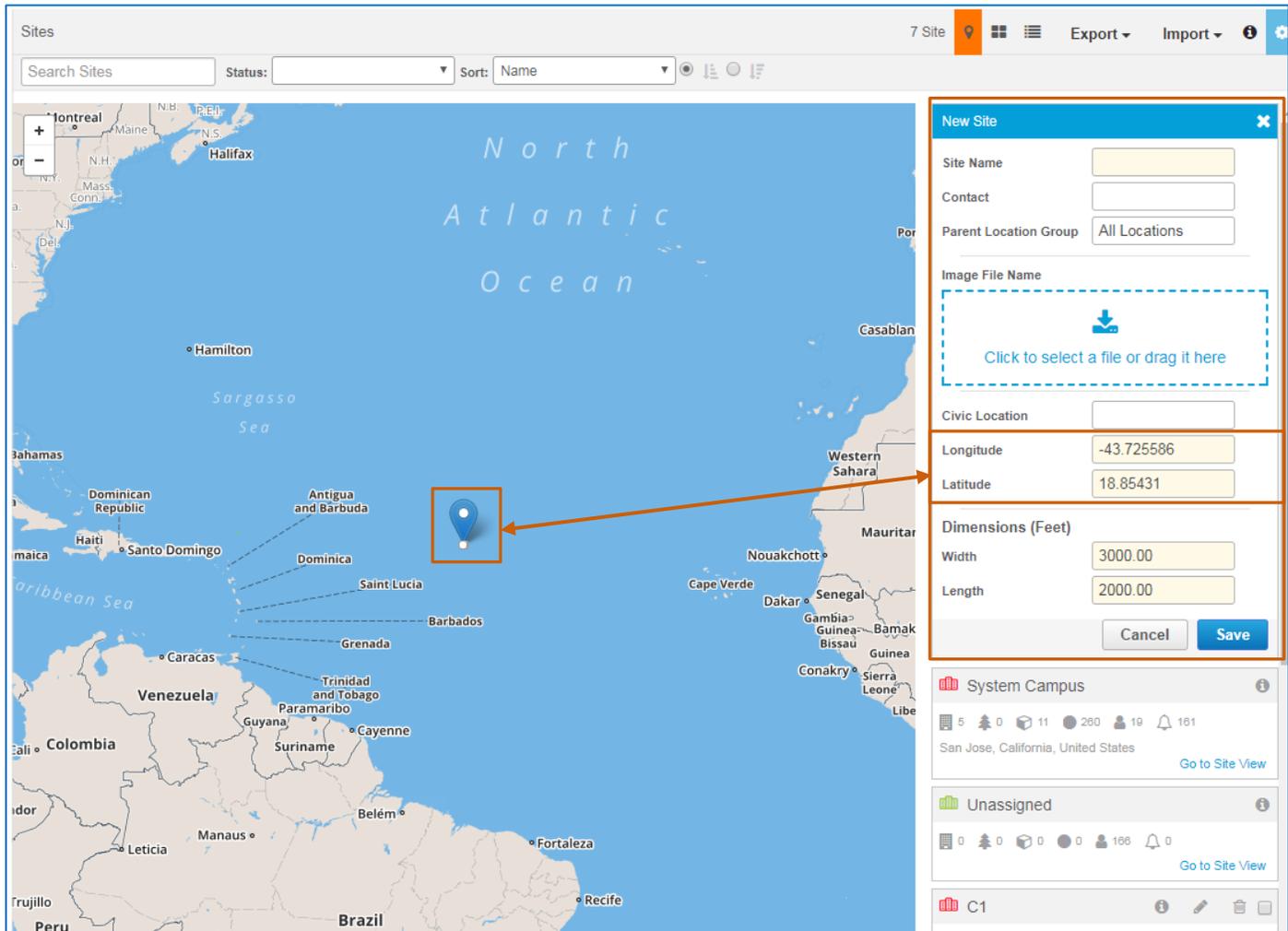
...the **Bratislava1** site name appears in the **Domain Navigator** at the root level and does not include the hierarchy above it.



Site Level Default Settings

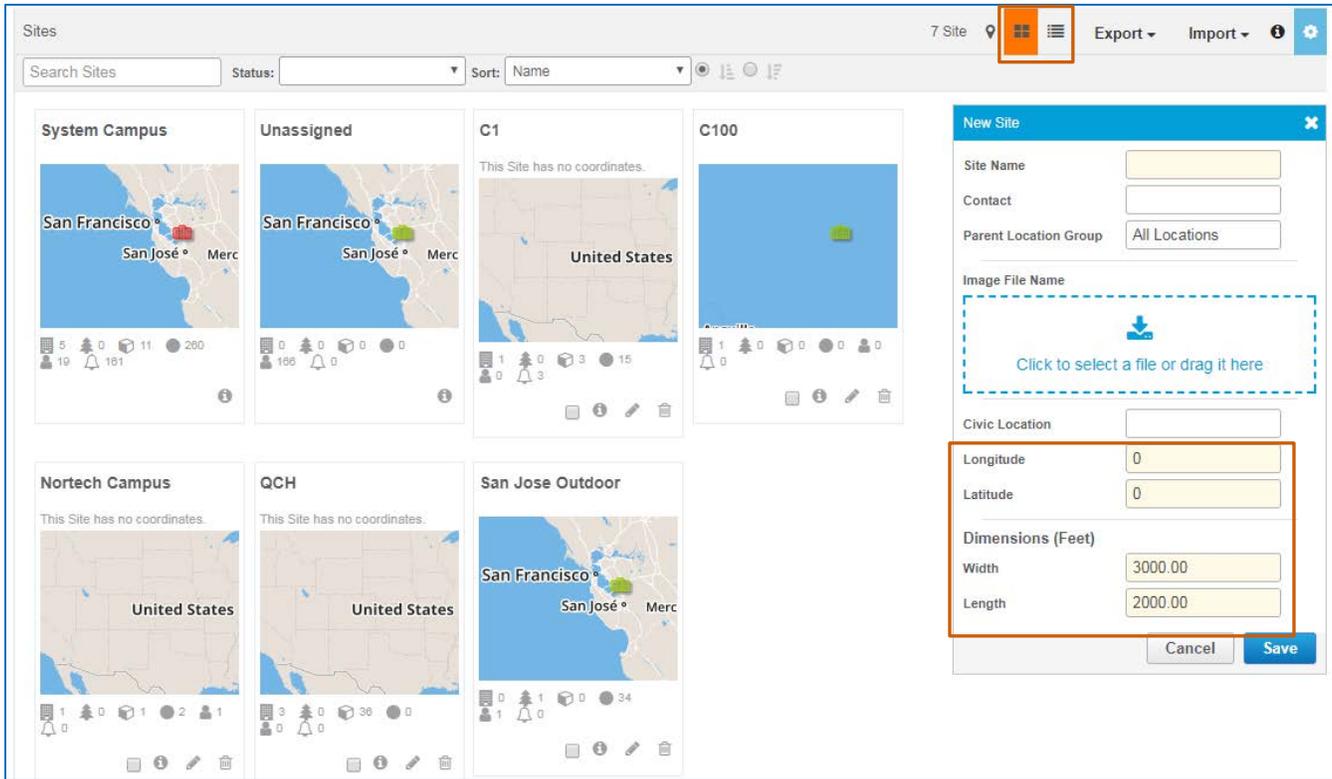
When you add a site on Wireless Site Maps, the **New Site** panel opens.

When you are using the map view, the system places a reference marker on the center of the image area based on the zoom level, and indicates the geographical coordinates of the reference marker.



When you are using the grid or table view, the panel default latitude and longitude settings are 0 and 0.

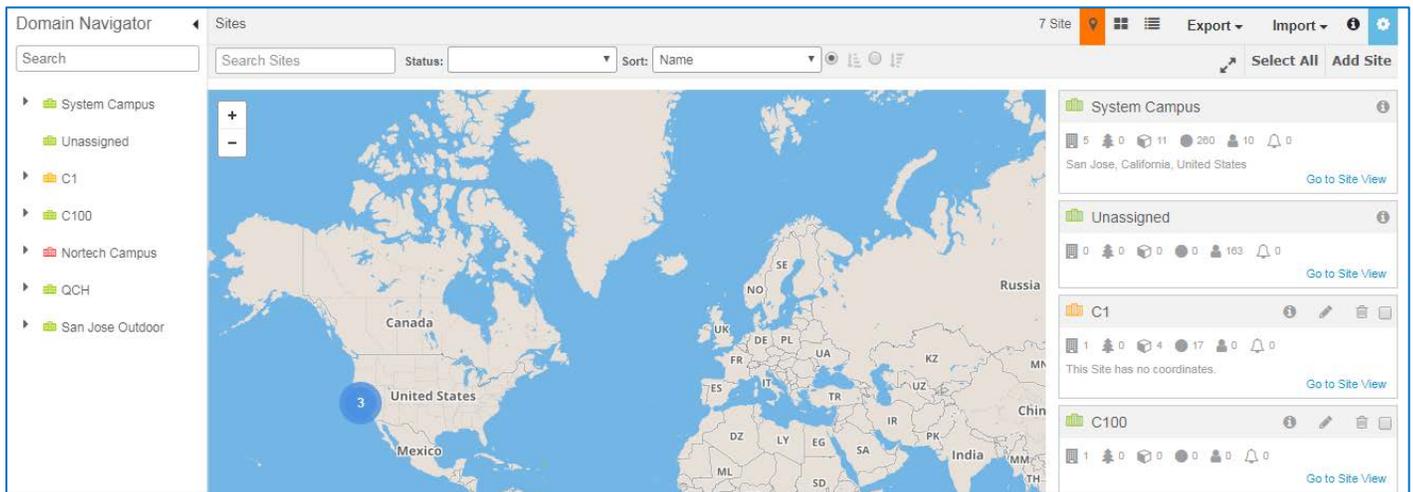
In all views, the location dimensions populate with a default width that is 150% of the length.



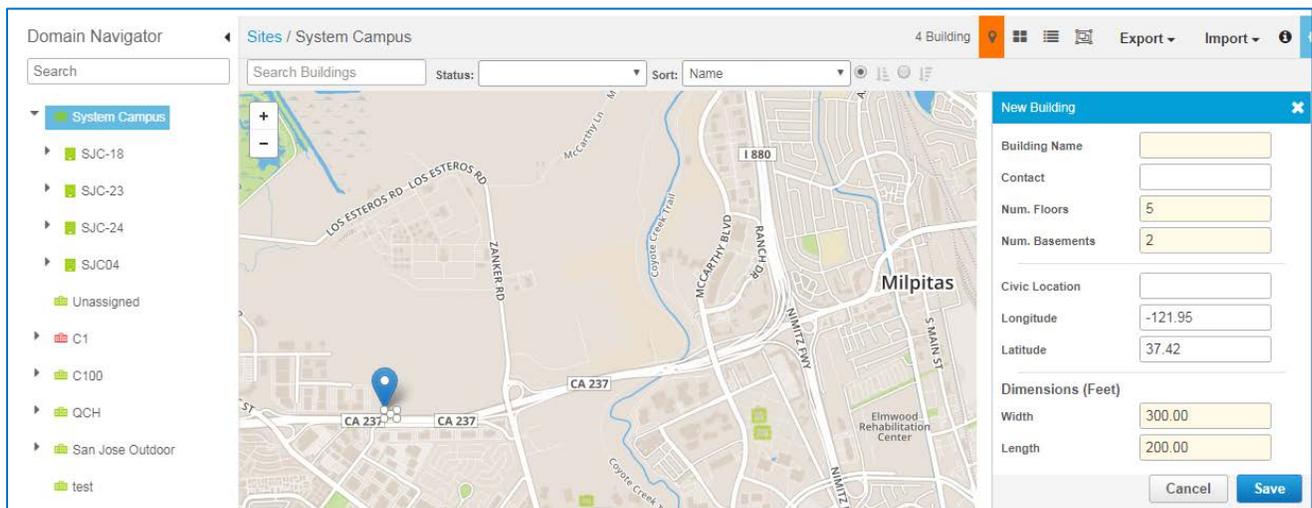
Graphical Maps and Internet Connectivity

Systems with Internet connectivity automatically connect to the MapBox® map service, which supports the display of the graphical map on the site level **Map View** page.

When a system is not connected, the page displays a generic background color. A system user also can upload a site level layout or map image file to illustrate the site.



Prime Infrastructure stores location attributes and images locally on its server, so that they are available in systems without Internet connectivity. These maps also support civic (physical) addresses and latitude and longitude coordinates for positioning buildings or outdoor areas.



Note: Systems with Internet connectivity also can support graphical maps by using Google Earth, which is a separate feature.

For more information on integrating maps with Google Earth, [refer to the Cisco Prime Infrastructure 3.2 User Guide](#).

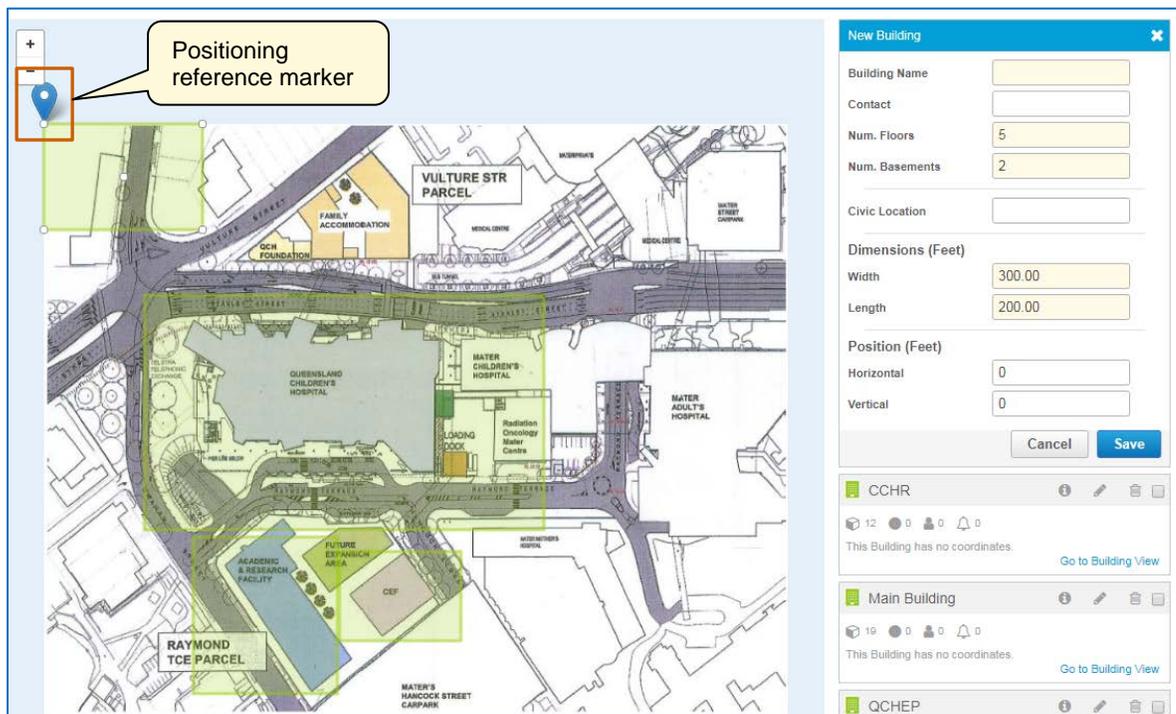
Building and Outdoor Area Positioning at a Site

When you upload a site level image to represent a location, the system manages building and outdoor area positioning on the image by using a reference marker.

Note: If you have used Prime Infrastructure maps previously, the reference marker feature is the same as in previous versions.

When you open the **New Building** or **New Outdoor Area** panel, the system places a positioning reference marker at the upper left corner of the image.

Note: The **Civic Location** field is a text field in which you can type a descriptive name for the area that you are adding.
When there is no image for the location, the system also provides fields so that you can define geographical coordinates, if applicable.



To position the building or outdoor area accurately on the image, you need to define its distance horizontally and vertically from the reference marker position in the upper right corner.

Tips: You also can populate the position axes by clicking a point on the map. When adding multiple buildings, the rectangular placeholders that represent buildings can intersect. You also can locate a building placeholder inside of a larger outdoor area placeholder on the same image.

You also define the width and length of the item that you are positioning.

When adding outdoor areas, you have the option to upload a separate image, as needed, which supports the positioning of, and users' orientations to, APs and other map elements more specifically.

Outdoor Area and Floor Configuration

When adding access points to an outdoor area or floor, Cisco recommends that you avoid exceeding a range of 100 to 300 access points. You can determine an optimal number of devices to add based on the system resources that are available and the properties of the network.

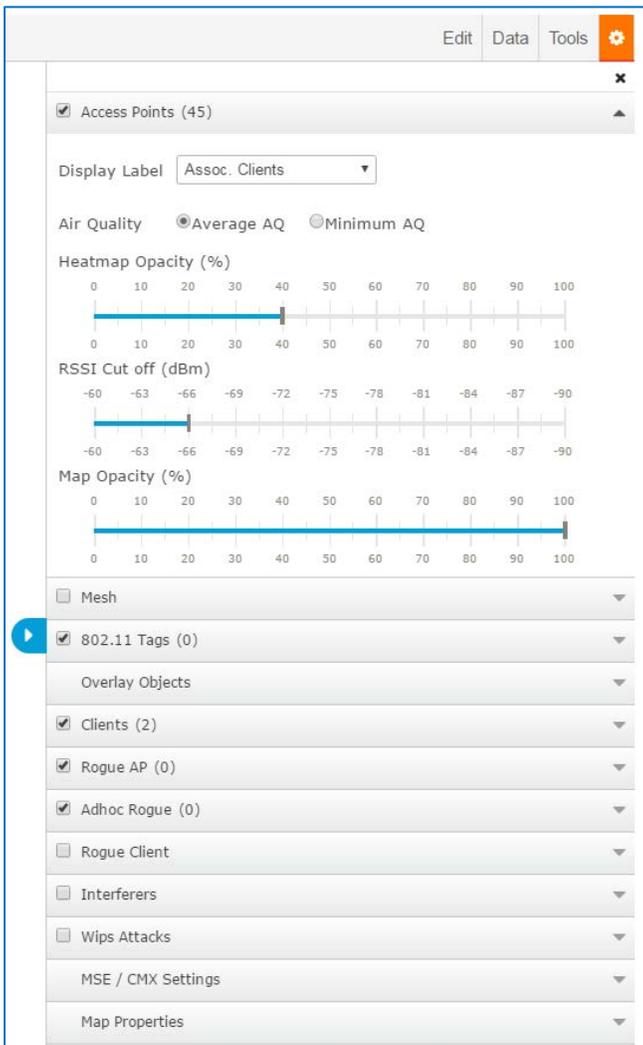


Important Note: When the number of access points exceeds this range, it can affect system performance and degrade system responsiveness.

For more information, [refer to the FAQ](#).

The process to configure outdoor areas and floors are the same, including adding images or layouts to depict area details.

You also use the same monitoring, configuration, and editing tools for both types of areas.



Defining Access Point Antenna Orientation by Azimuth and Elevation

When you position access points on a floor or in an outdoor area, you can indicate the azimuth and elevation of external radio antennas, which define the angles at which each antenna on the access point is positioned.



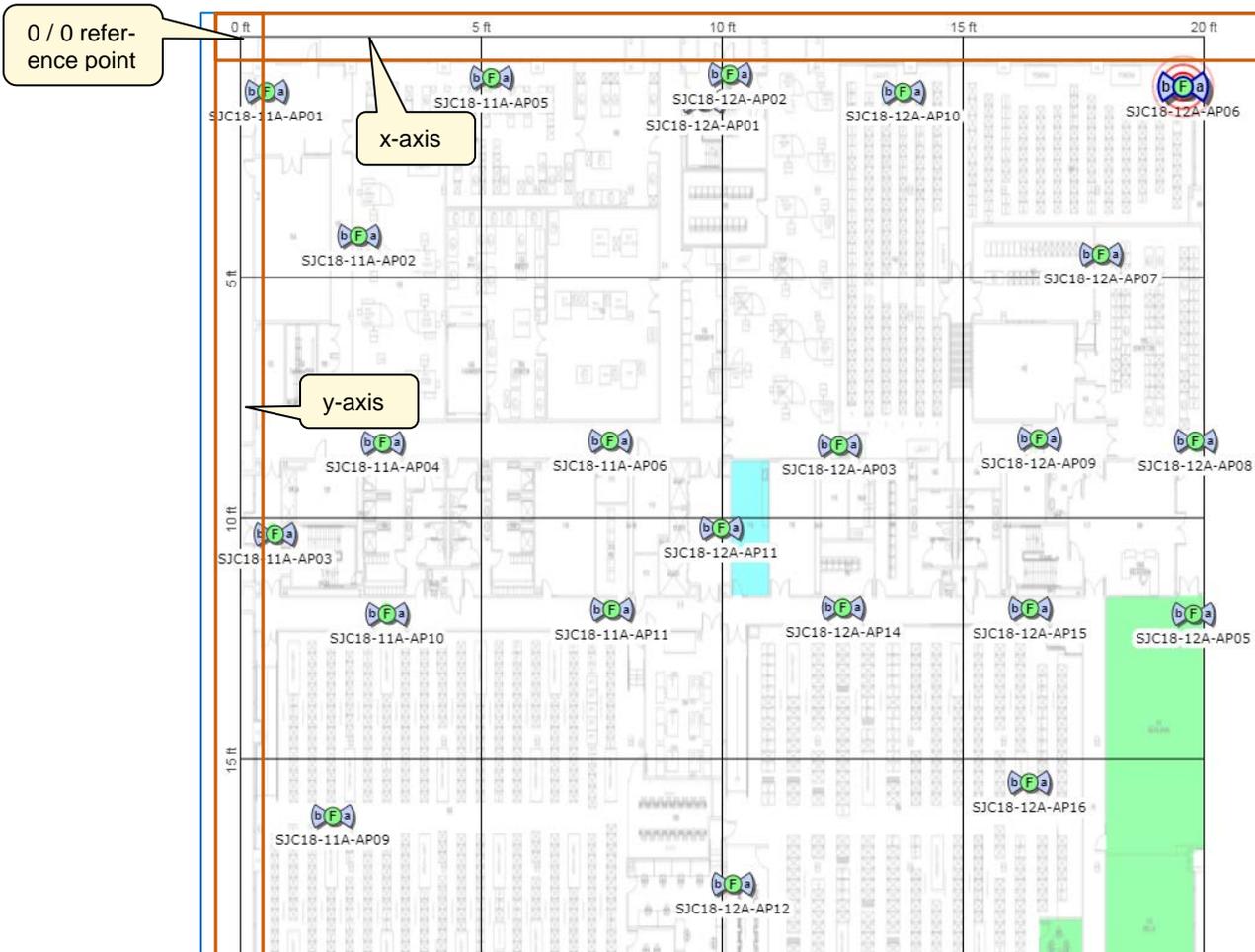
Note: The azimuth and elevation positions apply to access points with external radio antennas that can be positioned independently.

These positions do not apply to or affect access points:

- ❖ With internal radio antennas.
- ❖ With external or internal antennas that support more than channel. In those cases, the elevation and azimuth values are shared across the channels and cannot be set independently.

To accurately position access points and radios, you use the reference points on images, layouts, or backgrounds:

- ❖ The view of the location is from overhead.
- ❖ The upper left corner represents a reference point of 0 / 0.
- ❖ The top border of the image defines the x-axis.
- ❖ The left border defines the y-axis.



The azimuth is the angle of the antenna measured relative to the x axis.

The azimuth range is 0° to 360° . An azimuth of 0 indicates that the antenna is pointing to the right parallel to the x-axis. An azimuth position of 90 indicates that the antenna is parallel to the y-axis, that is, a position of “south” on a compass or bottom of the page.

Conversely, if the azimuth is 270° , you rotate clockwise to that position, indicating the antenna is pointing up, or in the “north” position on a compass or top of the page.

The elevation is the angle of the antenna relative to the horizontal plane (floor or ground).

The elevation range is -90 (nadir) and to $+90$ (zenith). An elevation of 0 indicates that the antenna is pointing to the horizon, parallel with the floor or ground. An elevation of -90 indicates that the antenna is pointing to the floor.



Note: When the antenna elevation is -90 or $+90$, then the azimuth position does not apply.

You can define the azimuth or elevation of an external antenna by typing the angle in degrees in the field or by dragging the position indicator dial.



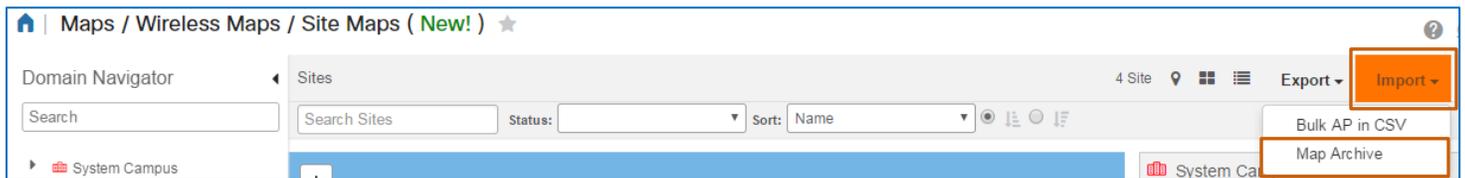
Note: Because wireless site maps uses a reference point of $0 / 0$ at the upper left corner, the angle indicators indicate degrees rotating clockwise.

Map Archive File Concepts

Map archive files are .GZIP- or .ZIP formatted compression files that contain the .XML formatted information that defines location level sites and the hierarchies of their dependent locations. When AP references and positioning are included in the file and the APs are in the Prime Infrastructure inventory, the process can add and position APs in their assigned locations.



Important Note: Importing map archive files requires root access to the Prime Infrastructure user interface.



To prepare for configuring a wireless site map by using an archive file, you need to:

1. Add the access points and any other devices that the file includes to the Prime Infrastructure inventory, which supports positioning the APs at their expected locations during the import process.



Important Note: If an AP reference is included in the archive file, but the AP is not available in the Prime Infrastructure inventory, the process will not add or position the AP on the map.

2. Obtain the map archive file and have it available on your local (client) drive.

To obtain a map archive file, you can:

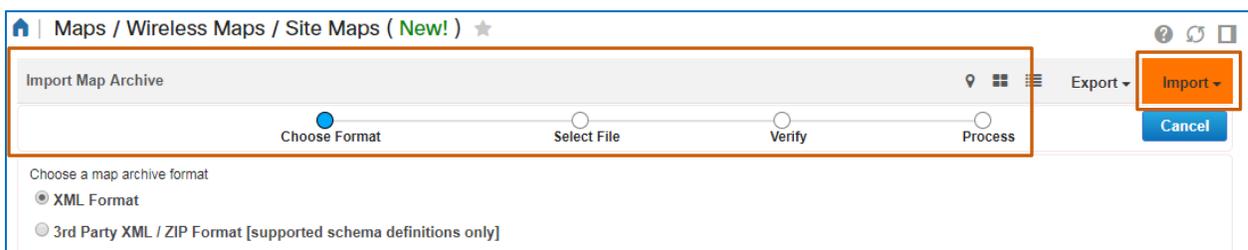
- ❖ Export a file from a previous release of Prime Infrastructure.
- ❖ When working with a Cisco partner, such as AirMagnet or Ekahau, for system installation or upgrade, the partner can build and provide a map archive file following Cisco best practices.
- ❖ Export a file from a third party vendor's system.



Note: While third party files might apply standards that are different from Cisco, Prime Infrastructure provides limited support for them based on the vendor.

Possible support can include adding buildings, floors, floor images, and, in some cases, positioning access point radios [when they are included in the Prime Infrastructure inventory](#).

The system provides a wizard to step you through the process. You can import .ZIP and TAR.gz compressed file types.



Preparing to Configure Maps Manually

Adding Devices in the System

To complete basic map configuration, a system user must:

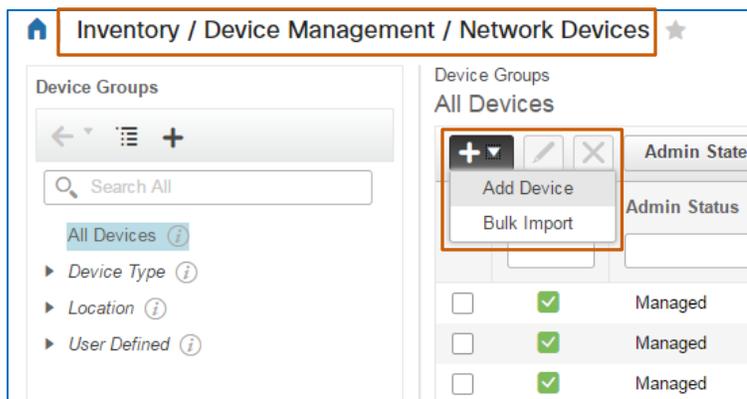
- ❖ Add the AP devices and wireless LAN controllers (WLCs) that manage them to the Prime Infrastructure device inventory.
- ❖ Ensure that the system is managing them before beginning the configuration process.



Note: Users add autonomous APs to the inventory the inventory manually.

To add Cisco Unified APs to the inventory, system users add the WLCs managing those devices to the inventory. After adding the WLCs and refreshing the database, the system discovers and populates the inventory with the related unified APs.

You add wireless LAN controllers (WLCs) to the network device inventory on the **Network Devices** page.



Preparing Map and Floor Plan Image Files

To control the graphical map layouts or to support systems that do not have Internet connectivity, you can upload map and floor plan image files to provide visual representations of locations.

Following the specific guidelines, such as using the applicable file formats, and understanding how the system converts and manages files can help you ensure successful image uploads.



Note: For more information on the guidelines that you need to follow to prepare map image files for upload, [refer to the Cisco Prime Infrastructure 3.2 User Guide](#).

Gathering Layout Details

For efficient configuration when adding maps manually, gather the following types of information, based on your specific requirements, when preparing to add sites and their dependent locations manually:

- ❖ Location and area naming conventions
- ❖ Site and building level contact names
- ❖ Geographical coordinates, which use decimal degree formatting or the physical dimensions and relative positions of areas at each location level



Note: When you upload an image to represent a location, the system uses relative positioning to the northwest corner of the image when adding buildings or outdoor areas.

When no image is available, you need to apply the geographical coordinates or civic address, if available, to identify the physical location accurately. If you do not apply coordinates, the system applies 0 / 0 coordinates.

- ❖ The type of radio frequency calibration (RF model) that you want the system to use when calculating RF heat maps.

Skills

To configure wireless site maps, you need the following experience.

Proficient

- ❖ Prime Infrastructure user interface and navigation

Expert

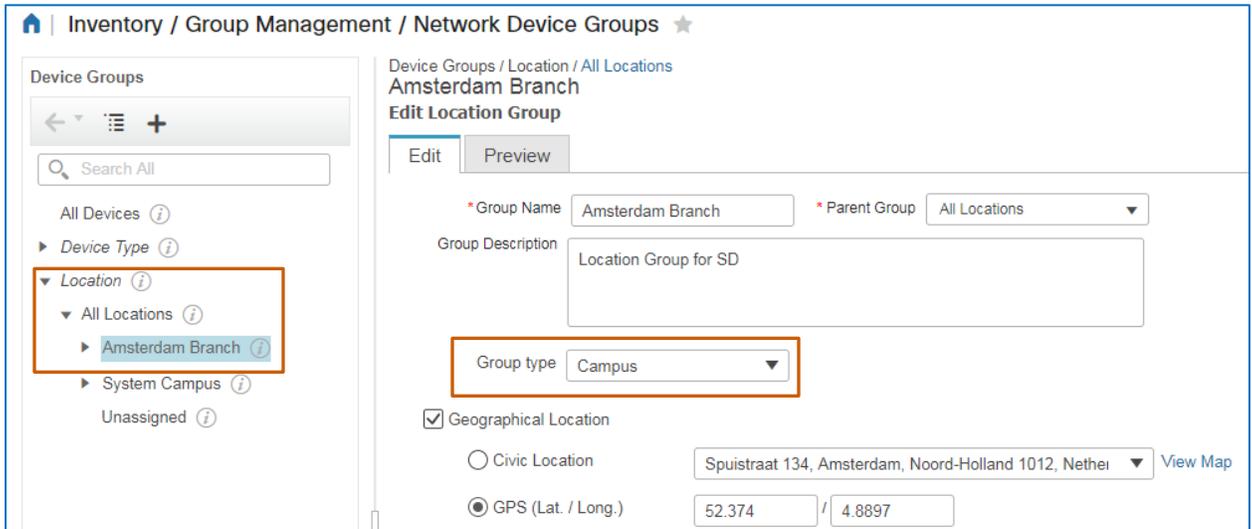
- ❖ Wireless network device, configuration, and management concepts, including among others, an expertise in:
 - ◆ Access point radio level configuration, access point modes, and access point models.
 - ◆ Radio bands.
 - ◆ Location services and locatable objects, such clients, rogues, interferers, and WIPS attackers.

Terms

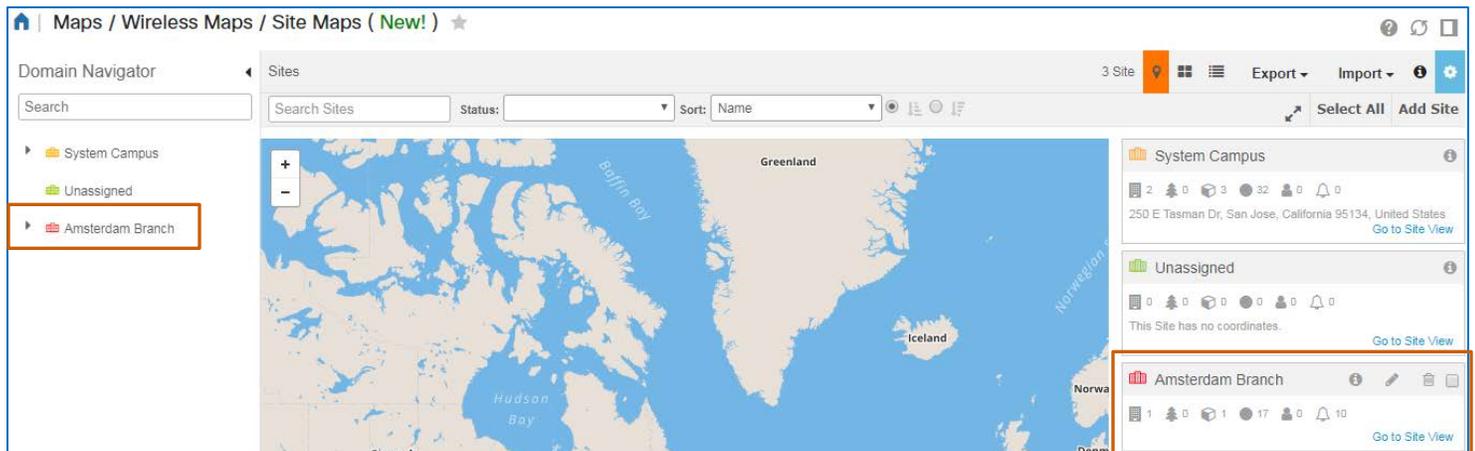
Campus (Site)

The terms campus and site are used interchangeably and display the same hierarchical behaviors in the application.

When you add a location-based network group of the **Campus** group type...



...the system automatically adds that group as a site at the root level in **Wireless Site Maps**.



Civic Location

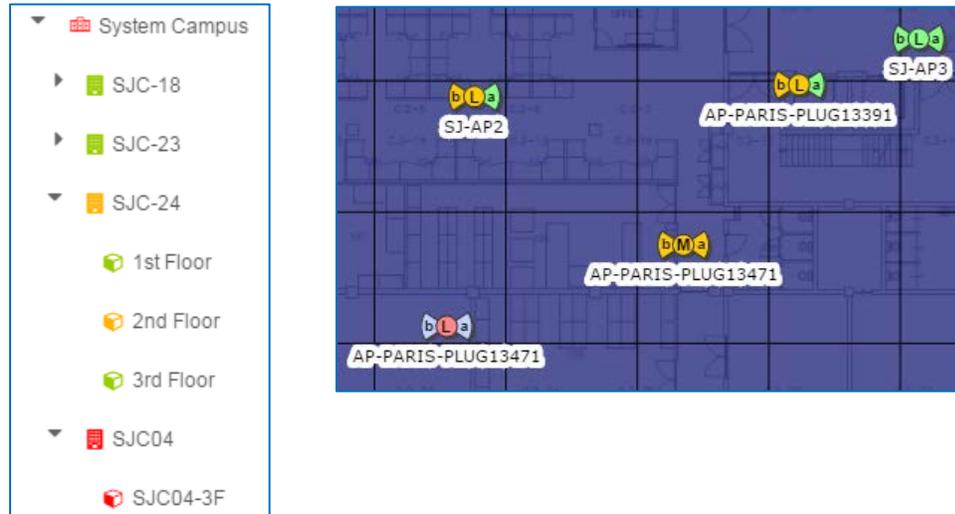
A physical address, which can include street number, street name, municipal address, and postal code, and can apply to a site, building, or outdoor area

Fault

Indicator of conditions that are falling outside of acceptable health metric or alarm thresholds

Location icons display color-code to indicate the combined severity level fault or faults that are occurring on the devices and radios at that location.

Device and access point icons indicate the combined severity of the operational and administrative statuses and the active alarms on the AP/radios in question.



Location

In this document, location is a general term that refers to a physical or relative area that is associated with the enterprise.

Locations can contain dependent areas that include buildings, floors, or outdoor areas. Floors and outdoor areas are the locations to which you can assign and position access point devices.

Overlays

A general term that refers to features, such as obstacles or rails, that you can add to floors and outdoor areas to support more precise location, coverage, and heat map reporting

Service Domain

Service domain is the collective name for a site and its dependents, which can include outdoor areas, buildings, and floors (or basements, which are floors that are below ground level).

Site Map Hierarchy

Sites are containers for buildings or outdoor areas.

Buildings are containers for floors.

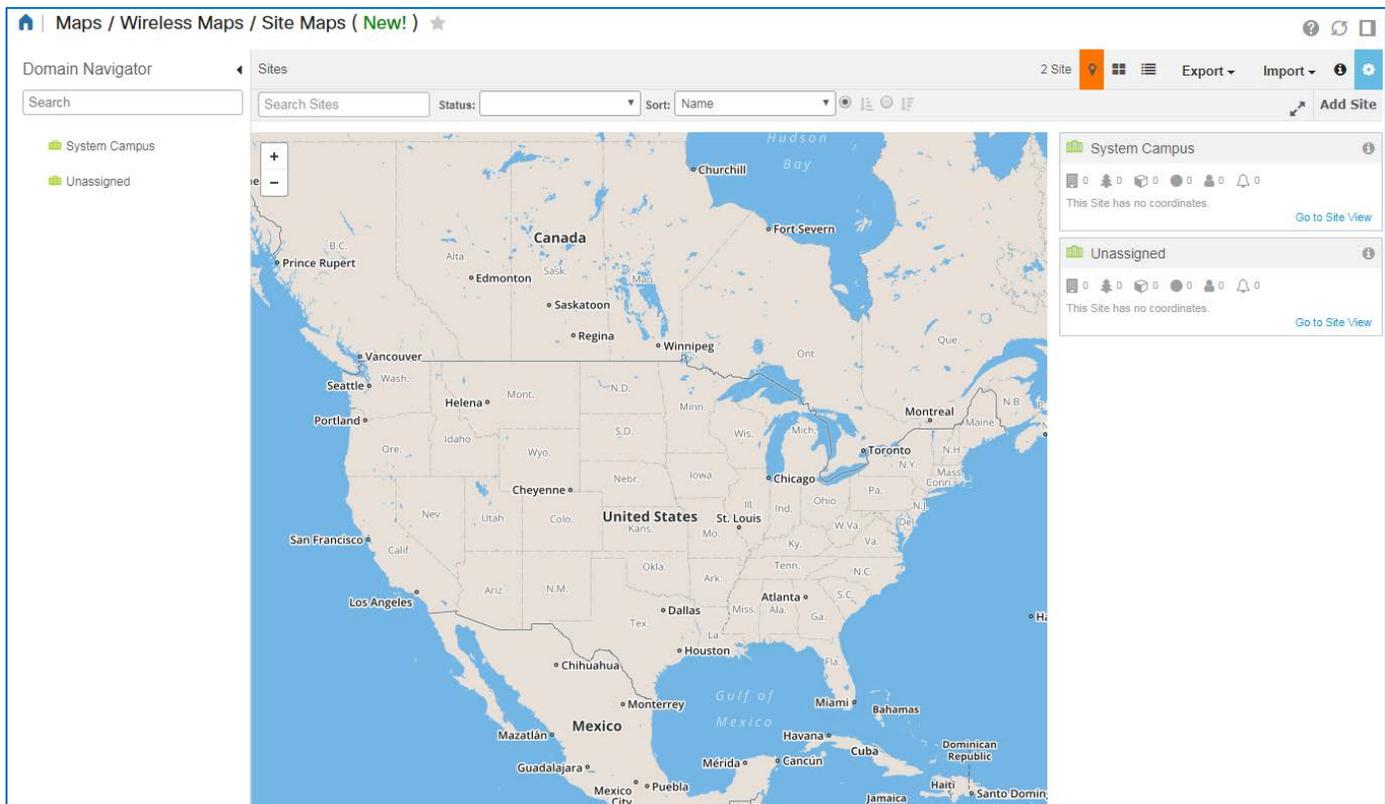
Outdoor areas and floors are where users add, position, monitor, and manage access points and related wireless network data.

The Manual Map Configuration Process

Process Overview

To configure a wireless site map manually:

1. On **Wireless Site Maps**, add a top level (parent) site.
2. Under the site, add a building.
3. In the building, add a floor.
4. On the floor, add the devices that users need to monitor.



Note: The screenshots in this job aid illustrate tasks by using the map view for navigation. Wireless site maps also provide grid and table views of sites and their dependent locations.

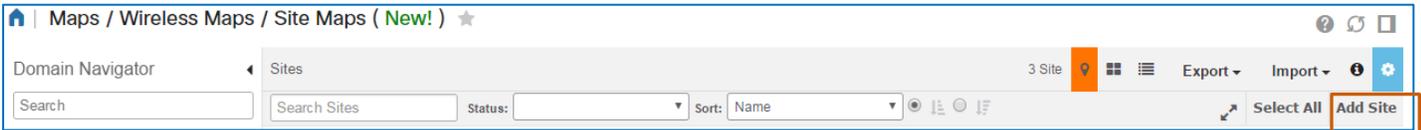
For more information on map navigation, [refer to the Wireless Site Maps Overview job aid.](#)

Process Steps

Task 1: Add the Top Level Site

To add the location level site, follow these steps:

1. With **Wireless Maps | Site Maps** open, on the toolbar, click **Add Site**.



The **New Site** panel opens to the right of the map.



Important Note: Fields that require data are highlighted in yellow.

New Site
✕

Site Name

Contact

Parent Location Group

Image File Name



Click to select a file or drag it here

Civic Location

Longitude

Latitude

Dimensions (Feet)

Width

Length

2. In the **Site Name** field, type a descriptive, recognizable name for the location, up to 32 characters.



Note: The system applies constraints to group, site, building, and floor/outdoor area naming due to the hierarchical nature of the configurations.

For more information and to avoid naming conflicts, [refer to the FAQ](#).

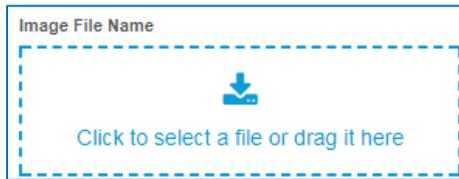
3. Optionally, to indicate a site level contact person, in the **Contact** field, type the name or e-mail address, up to 32 characters.
4. To define the site level, which acts as a container for the site hierarchy, in the **Parent Location Group** drop-down list:

- ❖ To configure the site below the root **All Locations** group, accept the default selection.
- ❖ To select that a site or location in a site hierarchy that a system user configured in the **Network Devices** or in the **Network Device Groups | All Locations** category, select the location.



Note: For more information on the hierarchical relationships of sites, refer to the [Hierarchy Relationships in the Application topic](#).

5. Optionally, to apply an image that depicts the site that you are configuring, in the **Image File Name** section, drag the image file to the file placeholder.



Tip: In support of operational requirements and for systems without Internet connectivity, you can upload images of locations.

Images that depict location layouts can help system users remain oriented to the relationships of devices, elements, and features in the physical environment.

For more information on image requirements, refer to the [Cisco Prime Infrastructure 3.2 User Guide](#).

6. To define or position the site:

- ❖ When using a system with Internet connectivity or when using an image file in an Internet-connected system:
 - ◆ If you know the physical address, in the **Civic Location** field, begin typing the location's physical address, which begins to populate as you type, and then select the address.

Civic Location	3800 Cisc
Longitude	3800 Cisco Way, San Jose, California 95134, United States
Latitude	3800 Cisco Rd, Idabel, Oklahoma 74745, United States
Dimensions (Feet)	3800 Cisco Rd, Sidney, Ohio 45365, United States
Width	
Length	



Important Note: While the database contains a global address book, it might not contain the address for which you are searching.

In that case, you can indicate the latitude and longitude, when available, or [position the site by using the reference marker](#).

The system automatically displays the location and applies a location placeholder that matches the default site dimension measurements. It displays a reference marker at the upper left corner of the shaded site area on the map.

It also populates the **Longitude** and **Latitude** fields with the geographical coordinates at the point of the reference marker.

Civic Location	3800 Cisco Way, Sa
Longitude	-121.927424
Latitude	37.411131

- ◆ If you know the latitude and longitude coordinates of the physical location, in the **Longitude** and **Latitude** fields, type the coordinates.

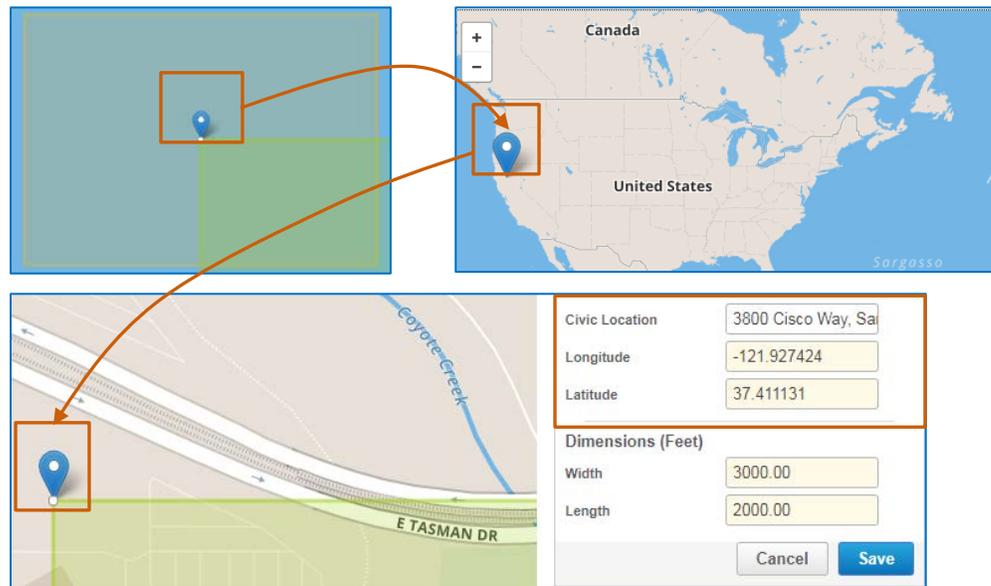
- ♦ Alternately, on the map or image, you can drag the reference marker to position the site.

The **Civic Location**, **Longitude**, and **Latitude** fields populate with the physical address and its geographical coordinates in decimal degree formatting.



Important Note: To simplify the layout, by design, the system refers to the position of the reference marker at the upper left corner of the placeholder to determine civic location and geographical coordinates.

After you position the reference marker, the civic location and coordinates will reflect the marker position rather than the center of the rectangular placeholder.



- ❖ In systems without Internet connectivity, drag the reference marker to orient the site on the image file or on the background.

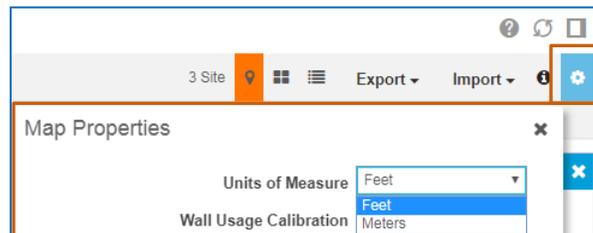


Note: The civic location does not populate and the system cannot apply references to latitude and longitude.

7. To define the size of the site, including any dependent (child) locations that you will add to the site, in the **Dimensions** section, in the **Width** and **Length** fields, type the dimensions.



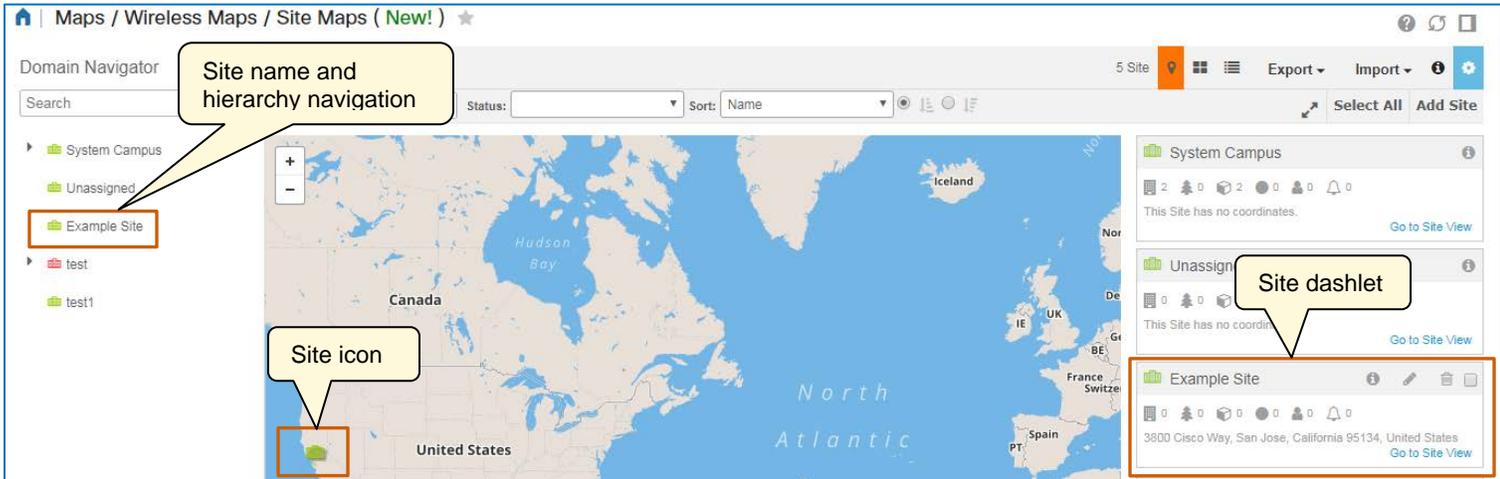
Note: Dimensions are available in feet or meters based on the global setting that a system administrator defines.



8. To save the site, click **Save**.

The system performs the following actions.

- ❖ Adds a navigable site name in the **Domain Navigator** list, which provide access to it hierarchy.
- ❖ In the map view, places a site icon at the location on the map, layout, or background, and zooms in to display the defined area.
- ❖ Adds a dashlet for the site in the view.

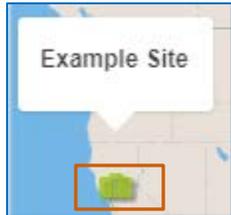


9. To add a building or outdoor area to the site hierarchy, [go to task 2](#).

Task 2: Add a Building or Outdoor Area to the Site

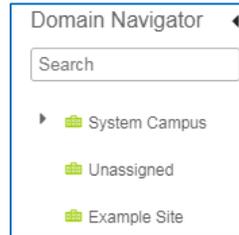
To add a building or outdoor area to the site, follow these steps:

1. To open the site level location that you added in task 1, double-click the location icon on the map.

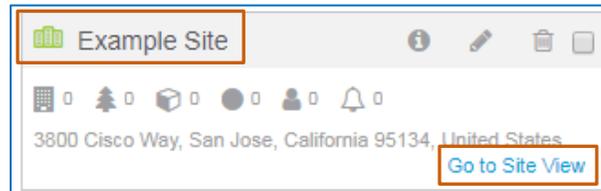


Note: To open the next location level, you also can:

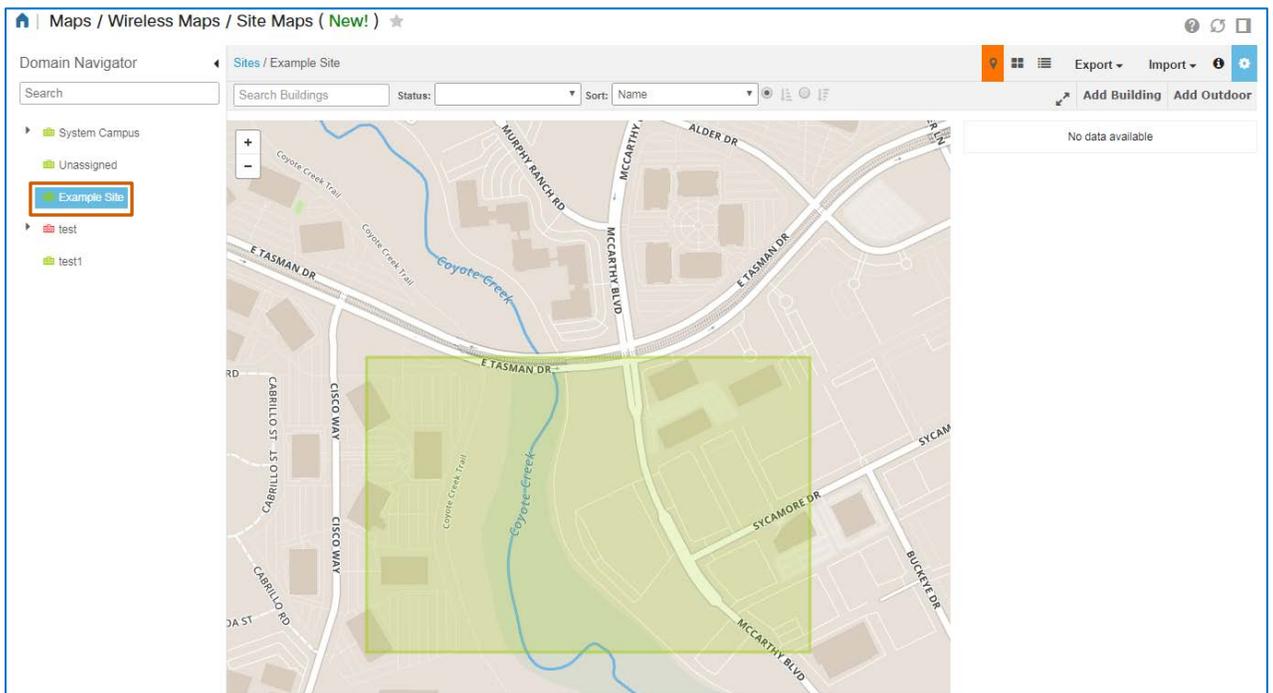
- ❖ In the **Domain Navigator**, click the site name.



- ❖ To the right of the map, in the site's dashlet, click **Go to Site View**.



The system opens the site at a zoomed level and displays a location placeholder that reflects the site's dimensions.



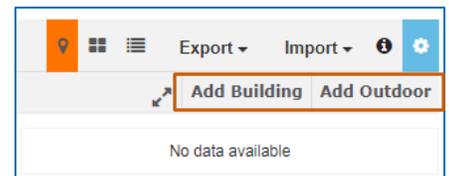
2. To add a dependent location:

- ❖ To add a building, on the toolbar, click **Add Building**.

The system adds a location placeholder with a reference marker at the top left and opens the **New Building** panel.

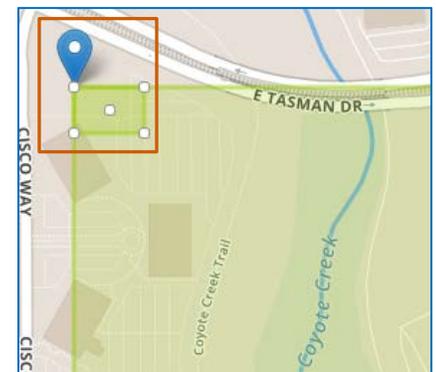
- ❖ To add an outdoor area, on the toolbar, click **Add Outdoor**.

The system adds a location placeholder with a reference marker at the top left and opens the **New Outdoor Area** panel.



Note: Location positioning, which is schematic and simplified by design, defines a building or outdoor area as a rectangle that is oriented at the northwest corner of the map, image, or background at the horizontal and vertical position values of 0 / 0.

When you type the position values, or move the reference marker to position the building, the horizontal and vertical values indicate the x (horizontal) and y (vertical) shifts from the placeholder to the 0 / 0 position.



- To identify the location, in the associated name field, type a descriptive, recognizable name.



Note: The system applies constraints to group, site, building, and floor/outdoor area naming due to the hierarchical nature of the configurations.

For more information on naming conventions, [refer to the FAQ](#).

New Building

Building Name

Contact

Num. Floors

Num. Basements

Civic Location

Dimensions (Feet)

Width

Length

Position (Feet)

Horizontal

Vertical

New Outdoor Area

Outdoor Area Name

Contact

Height (Feet)

Type (RF Model)

Image File Name


 Click to select a file or drag it here

Civic Location

Dimensions (Feet)

Width

Length

Position (Feet)

Horizontal

Vertical

- Optionally, to indicate a site level contact person, in the **Contact** field, type the name or e-mail address, up to 32 characters.
- Determine if you are adding a building or an outdoor area:

❖ If you are adding a building:

- To add a placeholder for each floor that you need to include in the map, in the **Num. Floors** field, type the number.
- To add a placeholder for each basement that you need to include in the map, in the **Num. Basements** field, type the number.



Note: The number of floors and basements that you add here populate the **Floor Number** drop-down list that you use when adding them to the building in task 4.

New Floor ✕

Floor Name

Contact

Floor Number

1

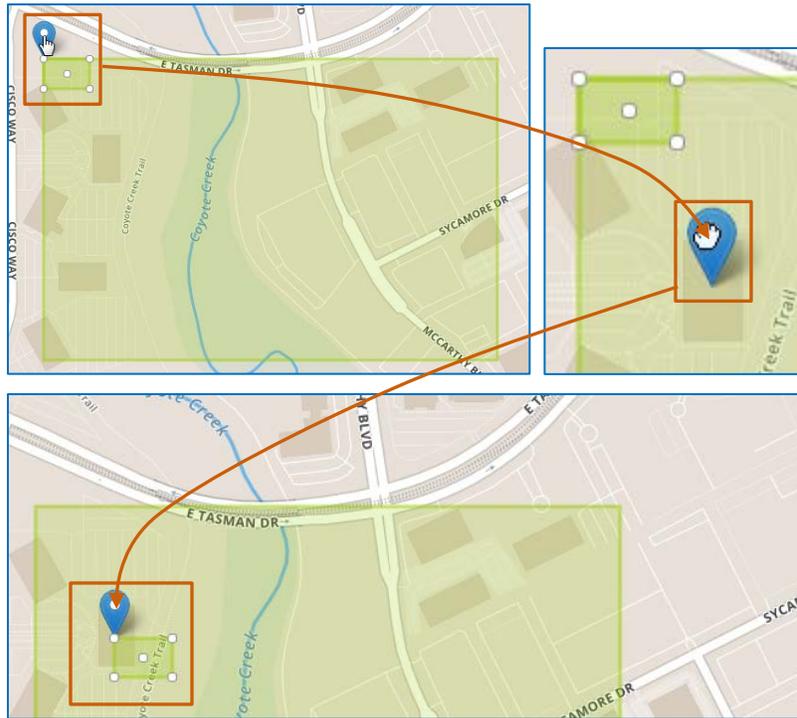
2

B1

Floor Height (Feet)

Type (RF Model)

- ❖ If you are adding an outdoor area:
 - a. To indicate the maximum value of the Z coordinate (AP height), in the **Height** field, type the height.
 - b. To indicate the radio frequency calibration model to apply, which defines the coverage parameters of the outdoor area heat map, in the **Type (RF Model)** drop-down list, select the RF calibration type.
 - c. Optionally, to add an image file that illustrates the outdoor area, drag the image file to the highlighted section under **Image File Name**.
- 6. To indicate the building or outdoor area location at the site, drag the reference marker to the location.



The system populates the **Civic Location**, **Longitude**, and **Latitude** fields with the corresponding information.

Civic Location	3700 Cisco Way, San
Longitude	-121.926259
Latitude	37.409345



Important Note: When defining building or outdoor area positioning, which is schematic and simplified by design, the system refers to the position of the reference marker at the upper, left corner of the placeholder to determine civic location and geographical coordinates.

After you position the reference marker, the civic location and coordinates will reflect the marker position rather than the center of the rectangular placeholder, which might or might not reflect an accurate civic location.

The location placeholder also might or might not reflect the actual building orientation at the location. By design, all location placeholders retain the rectangular shape and orientation to the northwest corner of the layout.

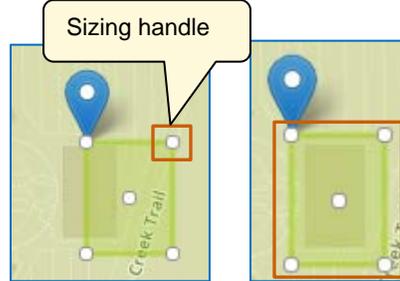
The design allows you to overlap the location placeholders.

- To define the dimensions of the item that you are positioning, in the **Dimensions** section, type its width and length.

The location placeholder updates to the size that you indicate.



Tip: To define dimensions, you also can drag the handles available at each corner of the location placeholder, which updates the dimension and geographical coordinates automatically.



- To add the location, click **Save**.

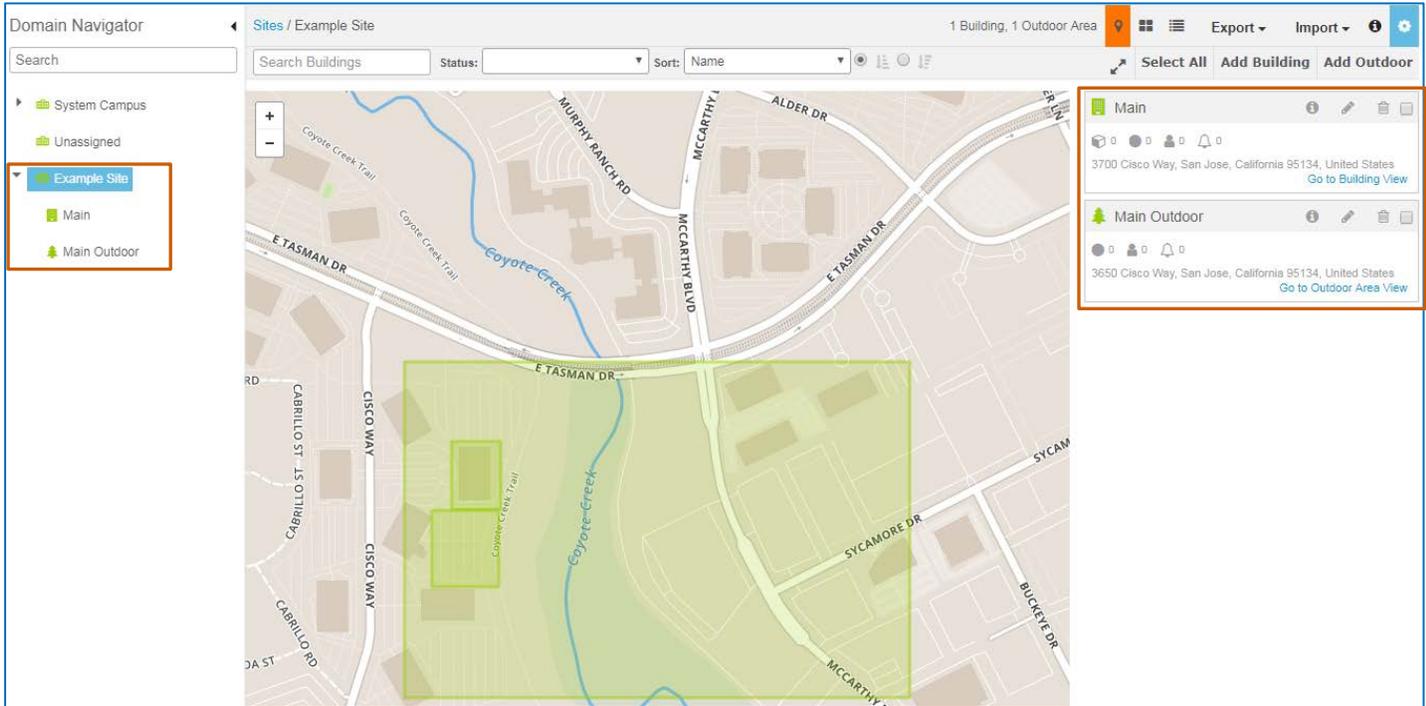
New Building
✕

Building Name	<input type="text" value="Main"/>
Contact	<input type="text"/>
Num. Floors	<input type="text" value="1"/>
Num. Basements	<input type="text" value="0"/>
Civic Location	
	<input type="text" value="3700 Cisco Way, San"/>
Longitude	<input type="text" value="-121.92646"/>
Latitude	<input type="text" value="37.40983"/>
Dimensions (Feet)	
Width	<input type="text" value="292.24"/>
Length	<input type="text" value="405.01"/>
<input type="button" value="Cancel"/> <input style="border: 2px solid #0070C0;" type="button" value="Save"/>	

New Outdoor Area
✕

Outdoor Area Name	<input type="text" value="Main Outdoor"/>
Contact	<input type="text"/>
Height (Feet)	<input type="text" value="10.00"/>
Type (RF Model)	<input type="text" value="Outdoor Open Spa"/>
Image File Name	
<div style="border: 2px dashed #0070C0; padding: 10px; width: fit-content; margin: 0 auto;"> <p style="color: #0070C0; text-align: center;">Click to select a file or drag it here</p> </div>	
Civic Location	
	<input type="text" value="3650 Cisco Way, San"/>
Longitude	<input type="text" value="-121.926870"/>
Latitude	<input type="text" value="37.408704"/>
Dimensions (Feet)	
Width	<input type="text" value="397.95"/>
Length	<input type="text" value="453.92"/>
<input type="button" value="Cancel"/> <input style="border: 2px solid #0070C0;" type="button" value="Save"/>	

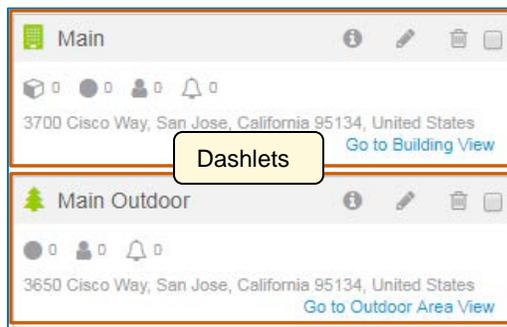
The system adds the building or outdoor area name below the site name in the **Domain Navigator** and adds a dashlet for each item to the right of the map.



9. To continue adding and positioning buildings or outdoor areas at this level, return to step 2, and then go to step 10.

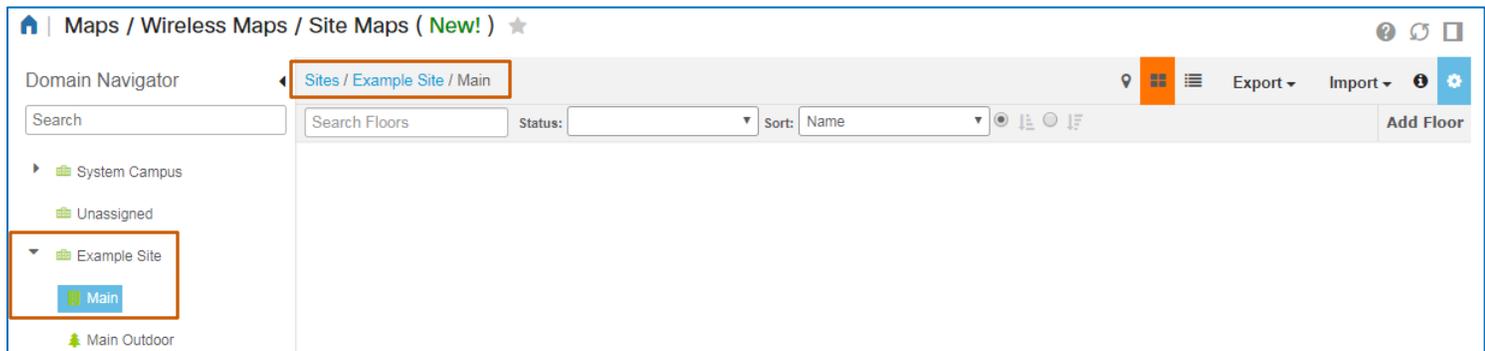
10. To continue:

- ❖ To add floors to the building, click the building dashlet, [and then go to task 3.](#)
- ❖ To configure an outdoor area, click the outdoor area dashlet, and then [go to task 4.](#)



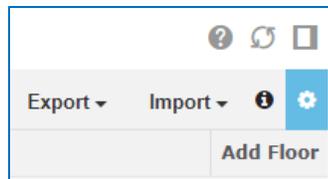
Task 3: Add Floors or Basements in the Building

You begin the task with the building level location open.



To add a floor or basement in a building, follow these steps:

1. On the toolbar, click **Add Floor**.

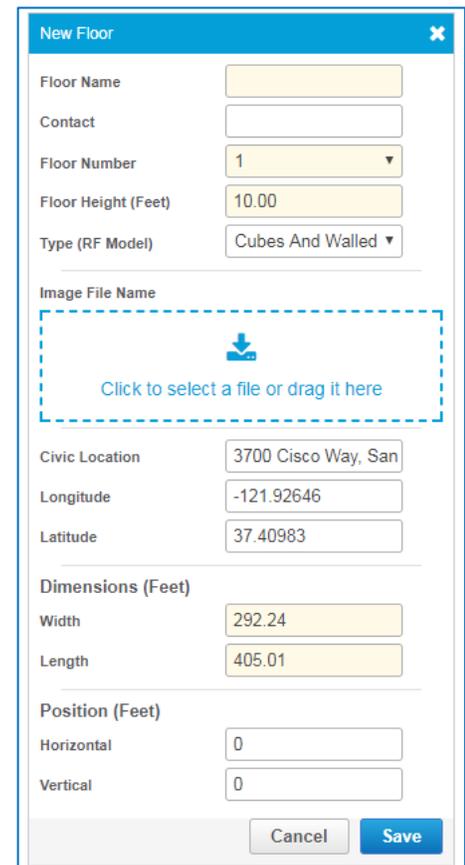


2. In the **Floor Name** field, type a descriptive, recognizable name, up to 32 characters.



Note: The system applies constraints to group, site, building, and floor/outdoor area naming due to the hierarchical nature of the configurations. For more information on naming conventions, [refer to the FAQ](#).

3. Optionally, to indicate a site level contact person, in the **Contact** field, type the name or e-mail address, up to 32 characters.
4. To identify the level the floor is on, in the **Floor Number** drop-down list, select the floor number.
5. To indicate the floor height, in the **Floor Height** field, accept the default or type the height.
6. To indicate the radio frequency calibration model to apply, which defines the coverage parameters of the outdoor area heat map, in the **Type (RF Model)** drop-down list, select the RF calibration type.



The 'New Floor' dialog box contains the following fields and options:

- Floor Name:** Text input field.
- Contact:** Text input field.
- Floor Number:** Drop-down menu with '1' selected.
- Floor Height (Feet):** Text input field with '10.00'.
- Type (RF Model):** Drop-down menu with 'Cubes And Walled' selected.
- Image File Name:** A dashed box containing a download icon and the text 'Click to select a file or drag it here'.
- Civic Location:** Text input field with '3700 Cisco Way, San'.
- Longitude:** Text input field with '-121.92646'.
- Latitude:** Text input field with '37.40983'.
- Dimensions (Feet):**
 - Width:** Text input field with '292.24'.
 - Length:** Text input field with '405.01'.
- Position (Feet):**
 - Horizontal:** Text input field with '0'.
 - Vertical:** Text input field with '0'.
- Buttons:** 'Cancel' and 'Save' buttons at the bottom right.

7. To define the dimensions of the floor:
 - ❖ By adding an image file that defines the floor, drag the image file to the highlighted section under **Image File Name**.



Note: The system populates the **Dimensions** section with the width and length of the image in the file.
The civic location and geographical coordinates are read-only.

- ❖ Manually, in the **Dimensions** section, type the width and length of the floor.

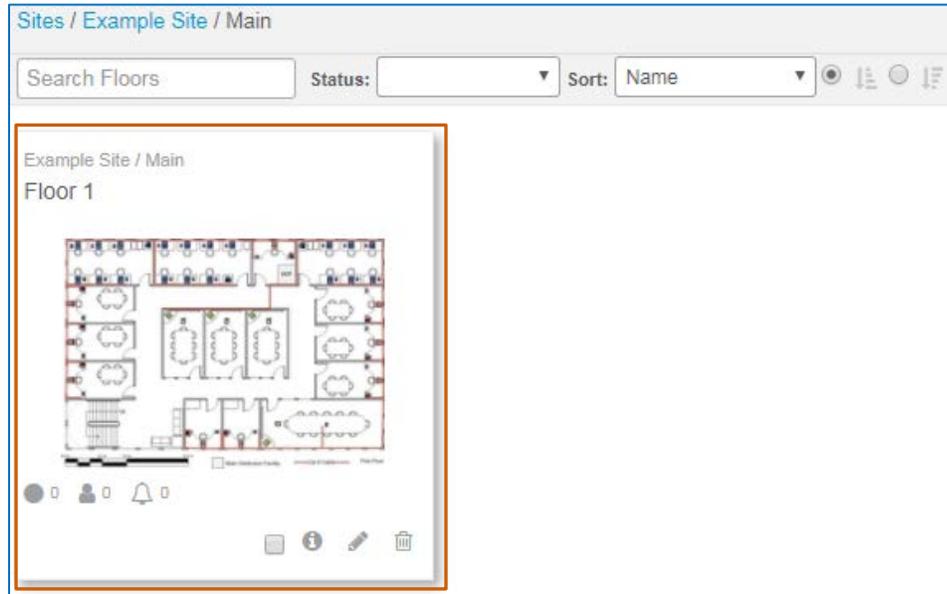
8. To indicate the floor's orientation to the upper left corner of the building, in the **Position** section, type its distance horizontally and vertically from the corner.



Note: If you do not add the position information, the system positions the floor at the northwest corner of the building.

9. To add the floor or basement to the building, click **Save**.

The system adds a floor dashlet on the building level page.



10. To continue adding floors and basements, return to step 1, and then go step 12.
11. To configure a floor or basement, [go to task 4](#).

You have added the containers for the floors and basements that you need. Now, you are ready to configure them.

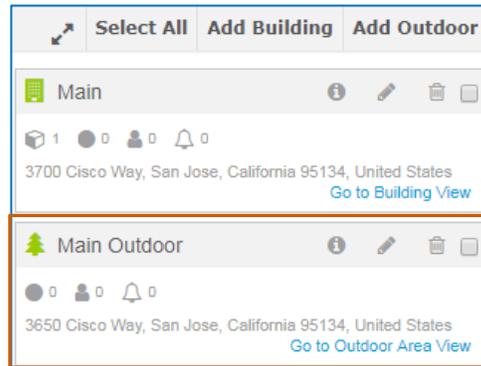
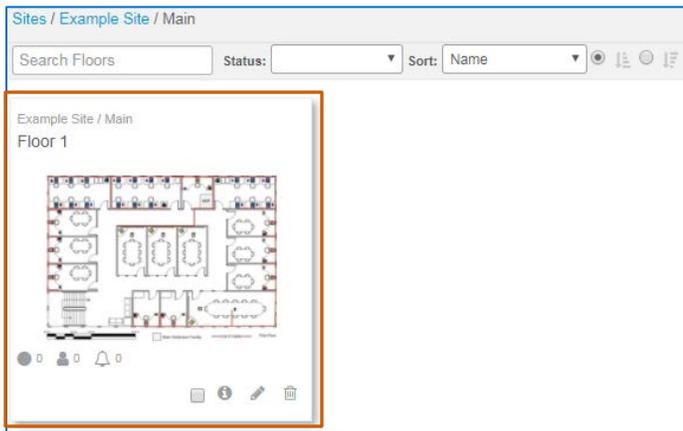
Task 4: Configure Outdoor Areas or Floors

The steps that you take to configure floors, basements, and outdoor areas and the tools available for managing them are the same. This topic uses a floor layout as an example.

Subtask 1: Open the Map or Layout

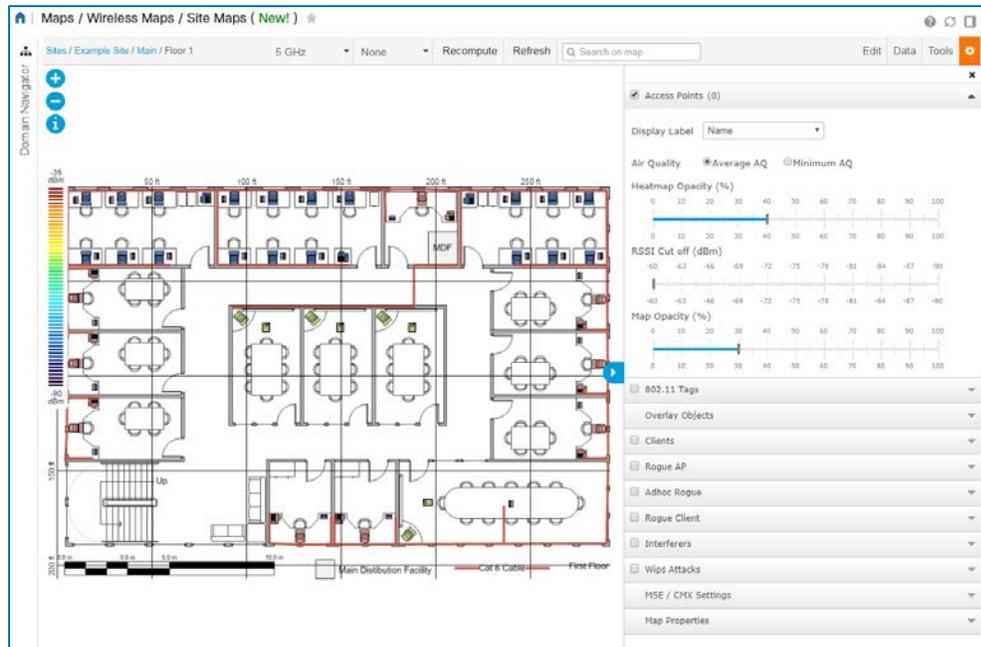
To configure an outdoor area, or a floor or basement in a building, follow these steps:

- ❖ On the building or outdoor level page, click the applicable dashlet, and then [go to subtask 2](#).



The system opens the floor or outdoor level page and, if you added an image file, displays the associated floor plan or layout.

When you do not add an image file, the system displays a generic background. All map configuration and monitoring behaviors remain the same.



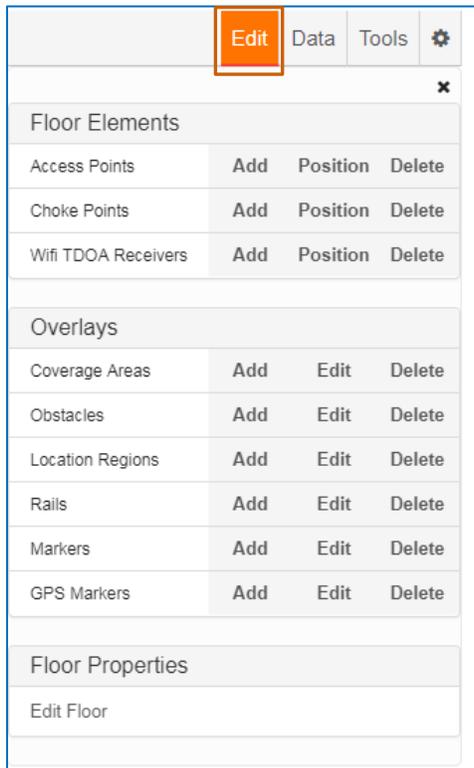
Subtask 2: Add Access Points to the Map or Floor Layout

To add the access points that you need to monitor, follow these steps:

1. To access configuration functions, on the toolbar, click **Edit**.



The right panel toggles to display the editing functions.



- To add access point radios, under **Floor Elements**, beside **Access Points**, click **Add**.

The right panel opens the **Add APs** panel, which lists the access point radios that are available in the Prime Infrastructure device inventory, which means the system has added the access points through device discovery and is managing them.

Each device includes all of the radio interface properties, which remain synchronized in Prime Infrastructure when the APs are in a reachable state. The lock icon:

- ❖ In an unlocked state, indicates an access point that is available for placement.
- ❖ In a locked state, indicates that the access point is already placed on a map.

The column beside the lock icon indicates the mode of the access point and, by using color-coding, the health state of that it is reporting currently.

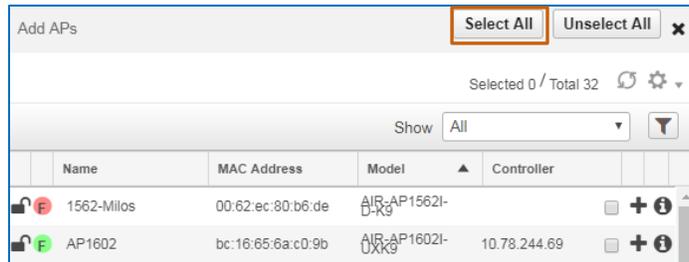
Add APs		Select All		Unselect All		x	
Selected 0 / Total 29							
Show All							
	Name	MAC Address	Model	Controller			
	L 1562-Milos	00:62:ec:80:b6:de	AIR-AP1562I-D-K9		<input type="checkbox"/>	+	i
	F AP1602	bc:16:65:6a:c0:9b	AIR-AP1602I-UXX9		<input type="checkbox"/>	+	i
	F A811	80:e8:6f:d8:26:a0	AIR-AP1832I-Q-K9		<input type="checkbox"/>	+	i
	F A8	38:ed:18:ca:1c:08	AIR-AP1852I-Q-K9		<input type="checkbox"/>	+	i
	L SA-2702	f4:0f:1b:9d:50:cc	AIR-AP2702I-UXX9		<input type="checkbox"/>	+	i
	L 2800-AP28-91B0-123	00:f2:8b:26:91:b0	AIR-AP2802E-B-K9	172.23.208.201	<input type="checkbox"/>	+	i
	F AP-2800	cc:16:7e:dc:c9:74	AIR-AP2802I-Q-K9		<input type="checkbox"/>	+	i
	L 3800-AP58AC.78DC1.D2A0123456	58:ac:78:dc:d2:a0	AIR-AP3802I-B-K9	172.23.208.201	<input type="checkbox"/>	+	i
	S AP3802I-TS	00:42:68:a0:e1:e0	AIR-AP3802I-Q-K9	10.78.244.69	<input type="checkbox"/>	+	i
	M Monitor-mode	74:26:ac:5c:f5:6f	AIR-CAP2602E-A-K9	172.23.208.201	<input type="checkbox"/>	+	i
	R Rogue-Mode	74:26:ac:1a:bf:83	AIR-CAP2602E-A-K9	172.23.208.201	<input type="checkbox"/>	+	i
	L polaris1-2600I	3c:08:f6:72:1b:2a	AIR-CAP2602I-A-K9	10.65.124.56	<input type="checkbox"/>	+	i
	F engw-bgl25-71a-2602i-ap02	e4:c7:22:cc:7d:ca	AIR-CAP2602I-A-K9	10.65.124.95	<input type="checkbox"/>	+	i
	L ASH-CAP2602I	44:03:a7:f6:0b:f0	AIR-CAP2602I-A-K9	10.65.124.95	<input type="checkbox"/>	+	i
	F APb0fa.eb47.9703	b0:fa:eb:47:97:03	AIR-CAP2602I-Q-K9		<input type="checkbox"/>	+	i
	C nbi-api	80:e0:1d:84:6f:28	AIR-CAP2702I-A-K9	172.23.208.201	<input type="checkbox"/>	+	i
	L wips-sub-mode1	80:e0:1d:91:d9:0c	AIR-CAP2702I-A-K9	172.23.208.201	<input type="checkbox"/>	+	i
	L AP80e0.1d91.daf8	80:e0:1d:91:da:f8	AIR-CAP2702I-A-K9	172.23.208.201	<input type="checkbox"/>	+	i
	L AP80e0.1d91.dc0c-wips2	80:e0:1d:91:dc:0c	AIR-CAP2702I-A-K9	172.23.208.201	<input type="checkbox"/>	+	i
	L AP88f0.3147.75d4123456	88:f0:31:47:75:d4	AIR-CAP2702I-A-K9	172.23.208.201	<input type="checkbox"/>	+	i
	A Solution-AAP-2702I	b0:aa:77:4d:62:9c	AIR-CAP2702I-D-K9	10.197.72.122	<input type="checkbox"/>	+	i
	L AP6c41.6a48.92a9	6c:41:6a:48:92:a9	AIR-CAP3502E-A-K9		<input type="checkbox"/>	+	i
	F AP-3502E	00:07:7d:80:68:f1	AIR-CAP3502E-N-K9		<input type="checkbox"/>	+	i
	A Solution-AAP-3502E	c8:9c:1d:af:11:e1	AIR-CAP3502E-N-K9	10.197.72.124	<input type="checkbox"/>	+	i
	L AP44d3.ca42.3332	44:d3:ca:42:33:32	AIR-CAP3602I-A-K9	10.65.124.95	<input type="checkbox"/>	+	i
	L Solution6	b0:fa:eb:88:68:4f	AIR-CAP3602I-A-K9	10.197.72.117	<input type="checkbox"/>	+	i
	L AP885a.9288.bc98	88:5a:92:88:bc:98	AIR-CAP3602I-Q-K9		<input type="checkbox"/>	+	i

3. To select each access point that you need:
 - ❖ To select radios manually, select each radio's associated check box.
 - ❖ To select all radios, click **Select All**.

The system displays the **Add selected** button on the toolbar when you select the first check box.



4. With all of the access points radios that you need selected, click **Add selected**.

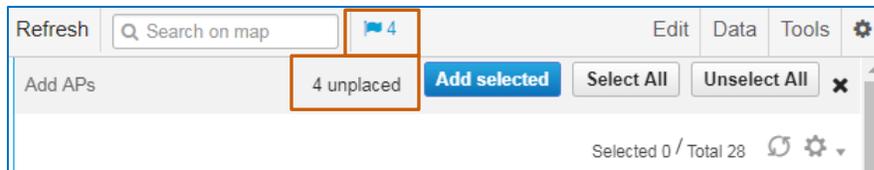


Tip: To add access points to the map individually, click the radio's associated plus icon.

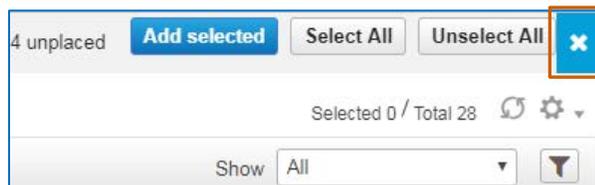
For each access points that you select, the system moves it to map automatically.

The system takes the following actions.

- ❖ Removes each access point that you selected from the list
- ❖ Indicates the number of radios that you have selected in notifications beside the search field and the **Select All** button on the toolbar
- ❖ Moves each access point icon to the map for positioning

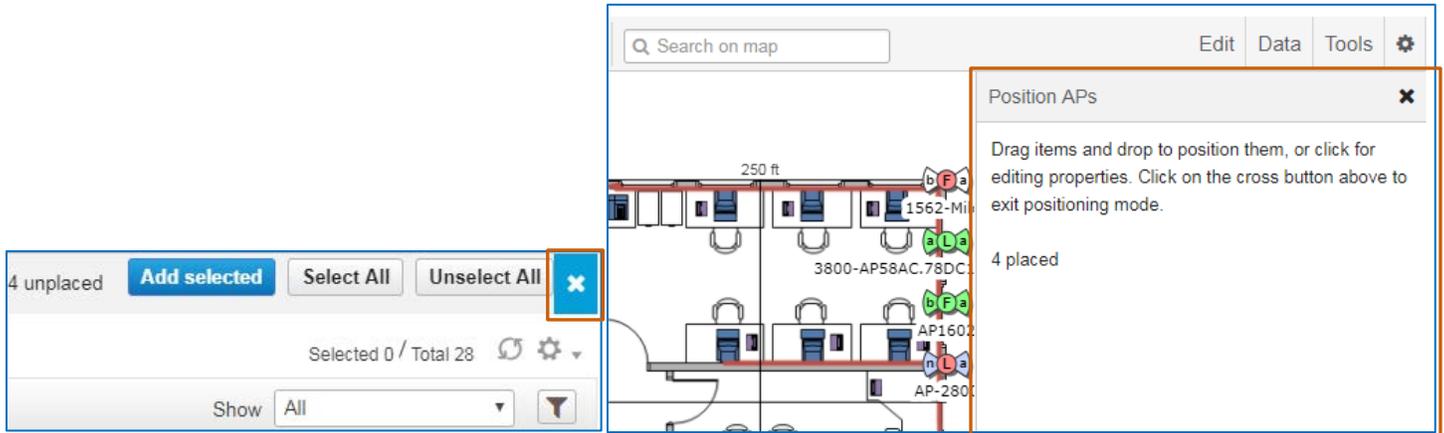


5. To position the access points on the map, close the **Add APs** panel, and then [go to subtask 3](#).



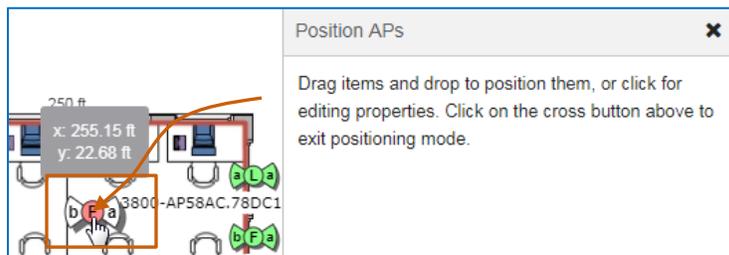
Subtask 3: Position AP Radios on the Map or Floor Layout

When you close the Add APs radios on a map or layout, the right panel toggles to display **Position APs**.



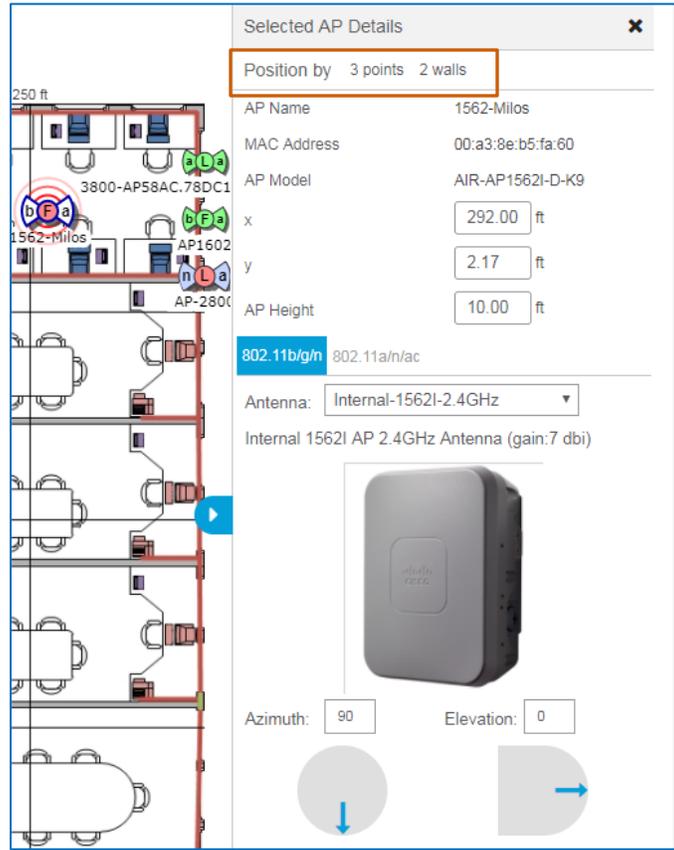
1. To place the access points at their locations on the layout:

- ❖ Drag the access point icon to its map location.



- ❖ Click the radio icon.

With either action, the right panel toggles to open positioning details for the radio.



2. To position the AP by:

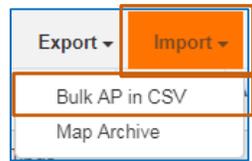
- ❖ Triangulating the AP position by using 3 points in the room, go to step 3.
- ❖ Orienting the AP position by drawing two wall placeholders, go to step 4.



Note: When the information is available, you also can indicate the AP position by typing the distance from the upper left corner of the layout in the **x** and **y** fields. The AP icon moves to the position that you indicate.

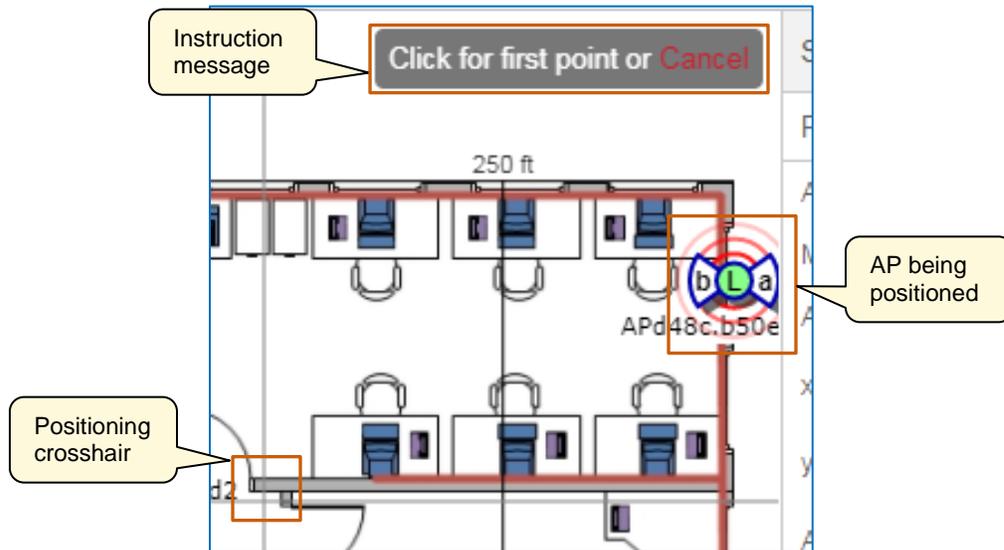


When you do add the x and y positions, the system can capture that information in archive files. It can also use the information to position access points when using the bulk AP import feature.



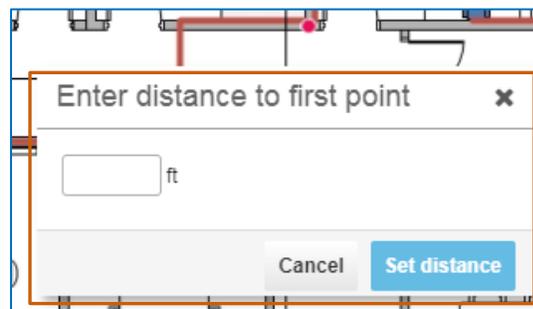
3. To position by using 3 points:
 - a. Beside **Position by**, click **3 points**.

The system highlights the AP icon, opens an instruction message, and changes the cursor to a crosshair.



- b. Move the crosshair to a point on the layout that corresponds to a physical object, and then click.

The system applies a red reference point at the click position and opens a dialog box.



- c. To indicate the distance of the AP to the object, in the dialog box field, type the distance, and then click **Set distance**.
 - d. To indicate the next two reference points, repeat steps 3b and 3c, and then go to step 5.

The system positions the AP on the map and, when necessary, approximates the distances that you typed based on the actual space available.

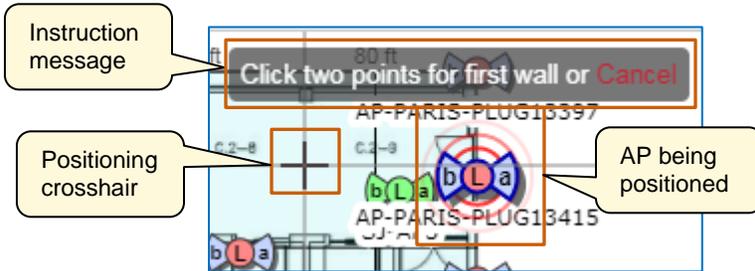
4. To position the AP by orienting it to two wall placeholders:



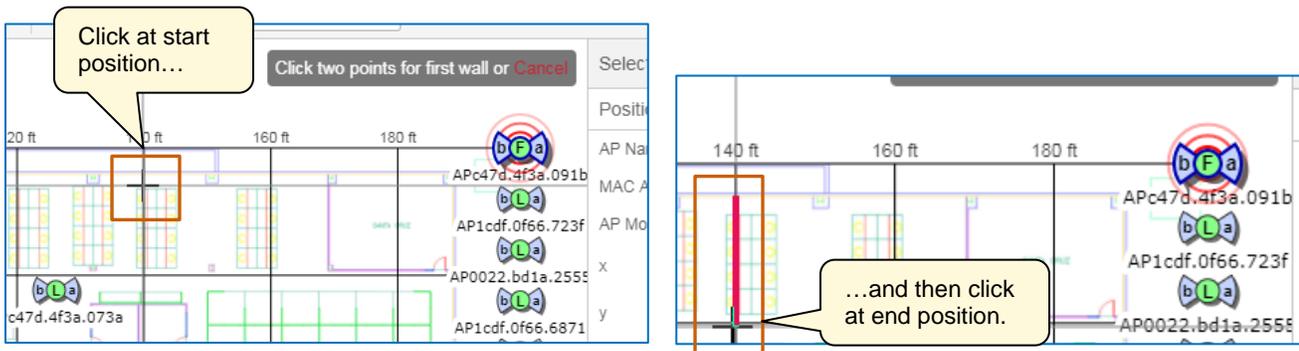
Important Note: The wall placeholders that you adding are for positioning only. When you complete positioning, the system removes the walls from view and does not include them in the database.

- a. Beside **Position by**, click **2 walls**.

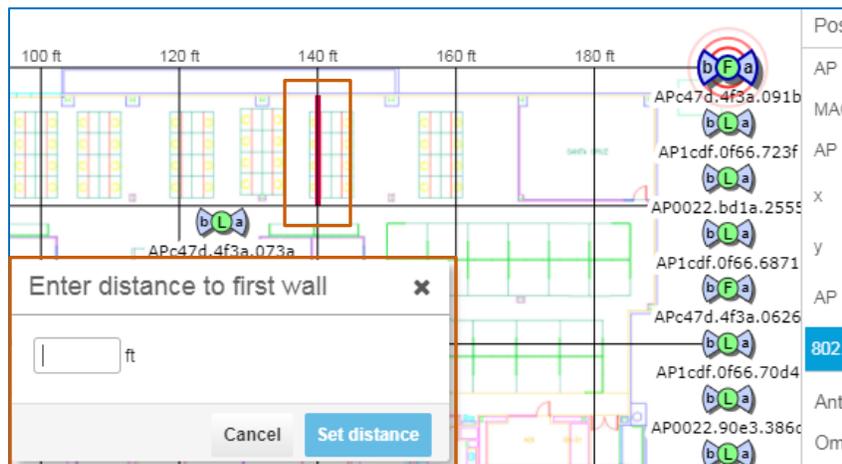
The system highlights the AP icon, opens an instruction message, and changes the cursor to a crosshair.



- b. To draw the wall, click the point on the layout where you want the wall to start, and then click the second point on the layout where you want to end the wall.



The system applies the wall in red and opens a dialog box.



- c. To indicate the distance of the AP to the object, in the dialog box field, type the distance, and then click **Set distance**.

- d. To indicate the second wall, repeat steps 4b and 4c, and then go to step 5.

The system positions the AP on the map and, when necessary, approximates the distances that you typed based on the actual space available.

- 5. To indicate how high above floor level the access point is located, in the **AP Height** field, type the height.
- 6. To indicate the orientation of an access point antenna in relationship to the layout:
 - a. Below **AP Height**, click the applicable the antenna protocol button.
 - b. In the **Antenna** drop-down list, select the antenna for which you are configuring the pattern.



Important Note: The system can designate an antenna as:

- ❖ **Cisco.** This designation indicates that the system will apply a standard value to the gain settings regardless of any value that you indicate.
- ❖ **Other.** This designation indicates that the antenna does not match the antenna types that the system recognizes as applicable to the access point.
In those cases, heat map and location calculations do not include it.

- c. To indicate the horizontal and vertical positions of the antenna:
 - ❖ In the **Azimuth** (horizontal orientation) and **Elevation** (vertical orientation) fields, type the values in degrees.



Important Note: Because of Prime Infrastructure’s schematic and simplified positioning system, it is important to know the system calculate the relationships of the azimuth and elevation positions.

For more information, [refer to the Defining Access Point Antenna Orientation by Azimuth and Elevation topic.](#)



Tip: Alternately, you can indicate the planes by dragging the blue arrow in the associated pattern indicator.

Protocol buttons

Static antenna image

Pattern indicators

Selected AP Details ✕

AP Name:	AP0022.90e3.386c
MAC Address:	00:22:90:e3:38:6c
AP Model:	AIR-CAP3502E-A-K9
x:	<input type="text" value="-1.00"/> ft
y:	<input type="text" value="-1.00"/> ft
AP Height:	<input type="text" value="10.00"/> ft

802.11a/n 802.11b/g/n

Antenna: AIR-ANT5135DG-R

Antenna Image:

Azimuth: Elevation:

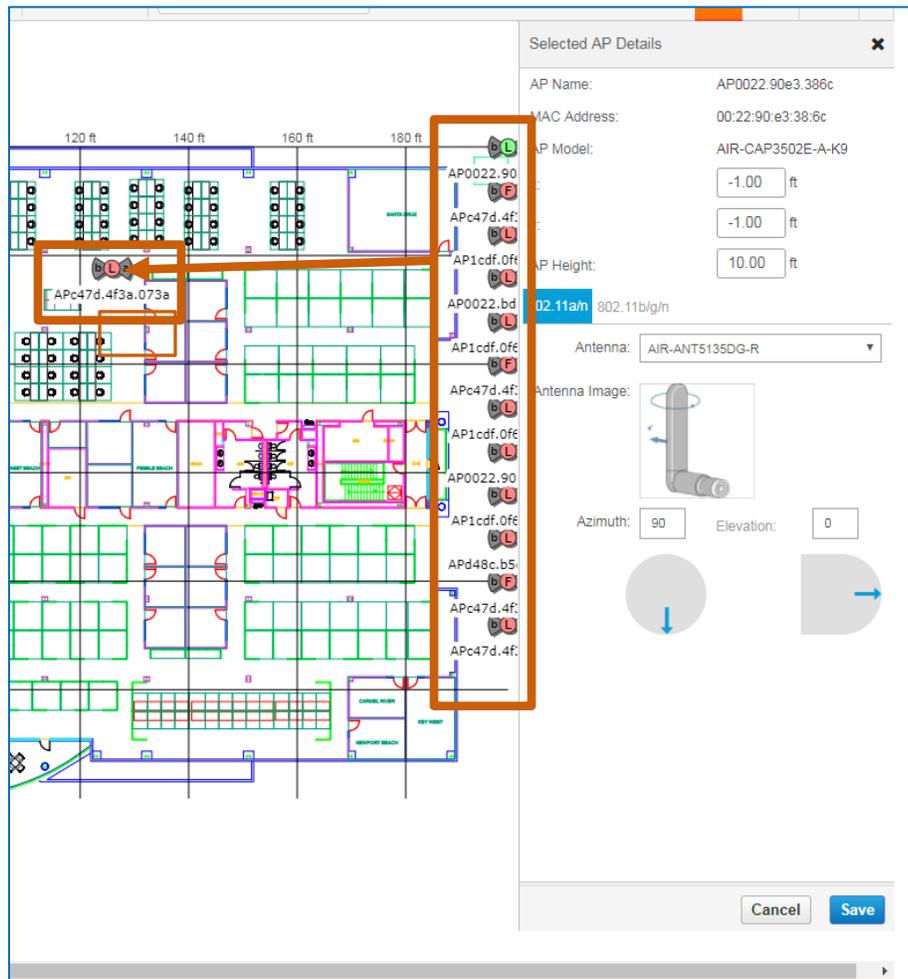
- To position the access point, orient the radio antennas, and position the device, click **Save**.

The system positions the AP on the floor plan or layout and updates the heat map based on the access point that you added and positioned.



Important Note: Your user permission configured for the wireless LAN controller (WLC) that manages the access point determines whether the system updates the access point's running configuration with the gain parameter that you configured when you click **Save**.

For more information, [refer to the FAQ](#).



- To position another access point, return to step 1.

When you have positioned all of the access points that you added, you have completed the process.

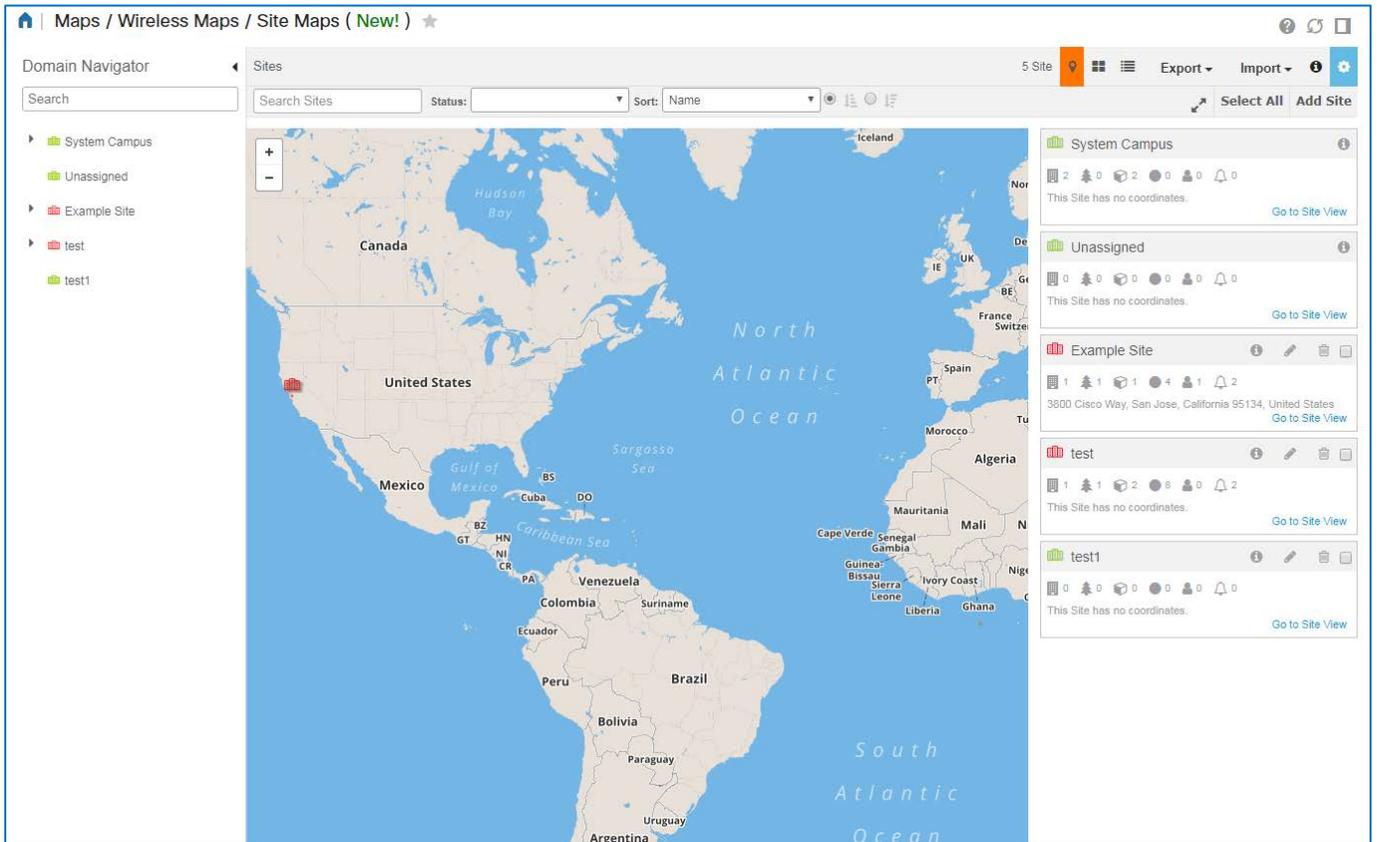
The Map Archive File Configuration Process

Process Steps

You complete this task on the **Site Maps** page.

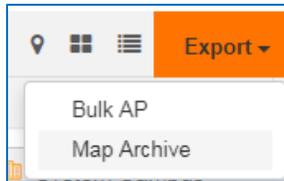


Important Note: Only a user logged in to the root domain as the root user can import map files.



To configure the wireless site map by using an archive file, follow these steps:

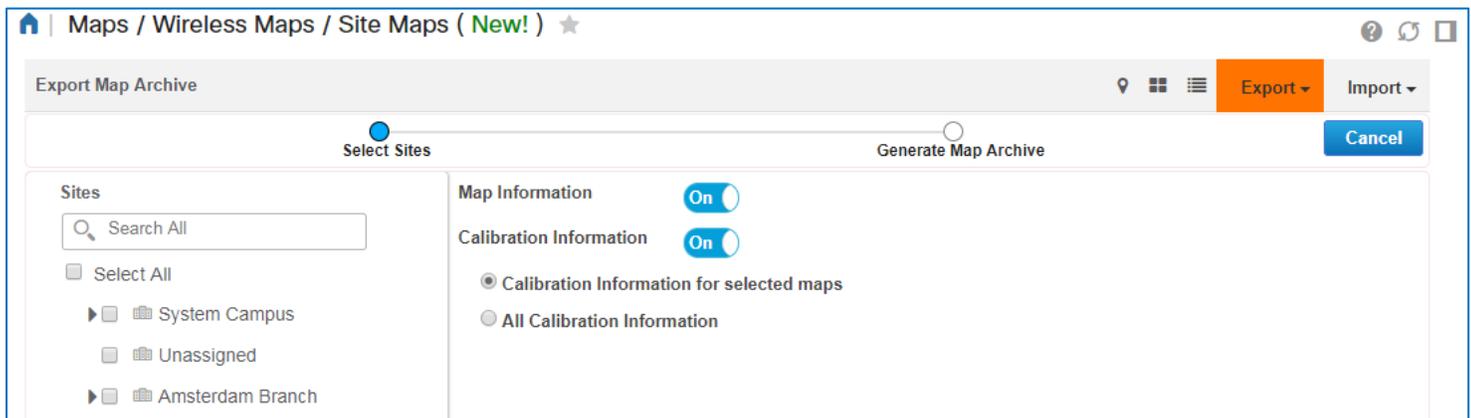
1. In systems that have wireless site maps configured, to preserve the current configuration:
 - d. On the toolbar, on the **Export**, click **Map Archive**.



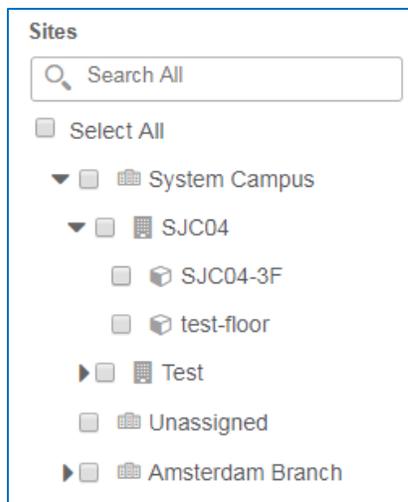
Recommendation: As a best practice, Cisco recommends that you export map configuration files on a regularly scheduled basis and retain them in a secure, secondary location.

This procedure provides a portable, lightweight backup option outside of the standard system database backup process and helps ensure that you have back up files to which you can revert in case of an import failure or inadvertent overwrite action, for example.

The **Export Map Archive** wizard opens.



- e. On the **Select Sites** page, under **Sites**, select each site or location for which you need to export map information.



- f. On the new map, to include all of the positioning and setting parameters that users have applied to access points, beside **Map Information**, accept the default selection of **On**.



Note: The access points that you are included in the new map must be available and managed in the Prime Infrastructure inventory.

- g. To include all of the calibration parameters, beside **Calibration Information**, accept the default selection of **On**, and then:

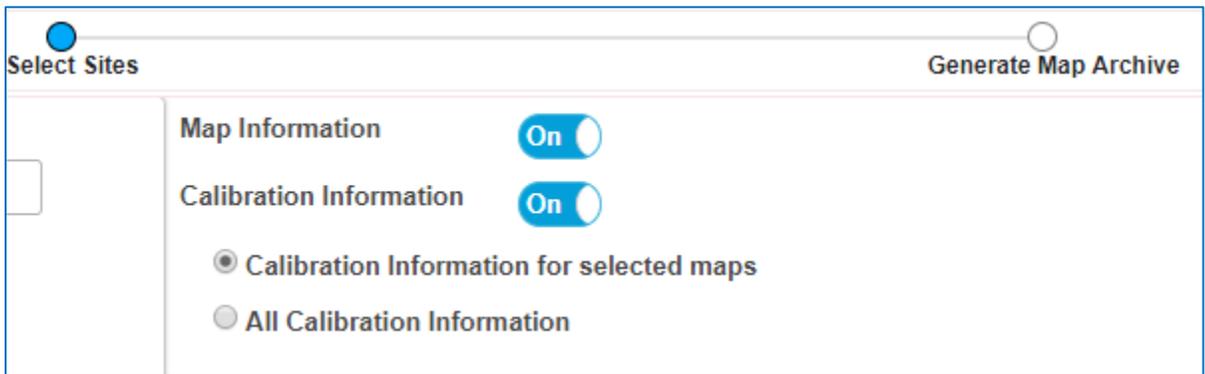
- ❖ To include the sites or locations that you selected under **Sites**, accept the default selections of the **Calibration Information for selected maps option button**.
- ❖ For all of the sites, regardless of the locations that you selected under **Sites**.



Note: Calibration information includes:

- ❖ Standard and customized parameters of the calibration models.
- ❖ All raw data points that the system has collected for custom models, including mapping the calibration model that is assigned to each floor.

- h. To start the export process, click **Generate Map Archive**.

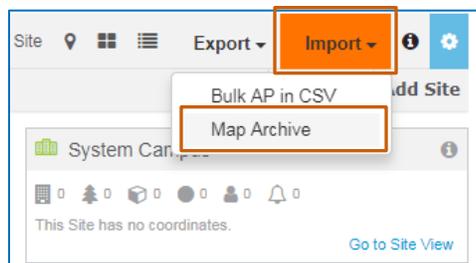


- i. To save the archive file, click **Done**.

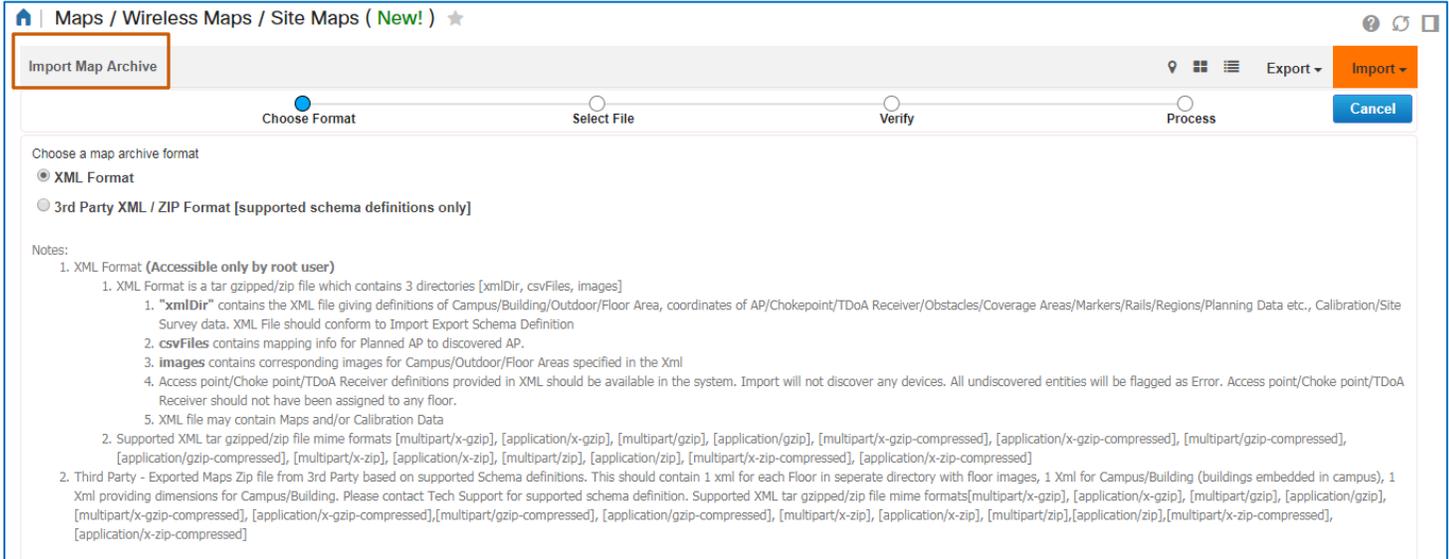
A system message opens indicating that the system is generating the archive file. On completion, it presents a .TAR file in the browser window. You can browse to the applicable location and save the archive file.

Then, follow your business process to preserve the archive file for future use.

2. On the **Import**, menu, click **Map Archive**.



The **Import Map Archive** wizard opens and the **Choose Format** page is active.

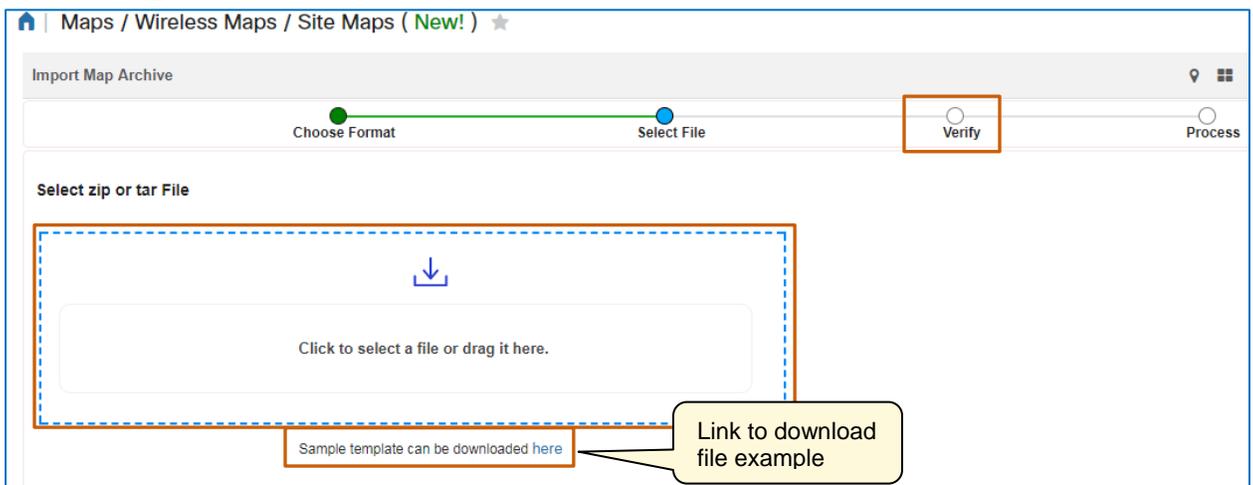


3. To indicate the type of file that you are importing, on the **Choose Format** page:
 - ❖ To import an XML-formatted file that was exported from a previous release of Prime Infrastructure, or that you received from a Cisco partner, click **XML Format**.
 - ❖ To import a file that was exported from a third party system, click **3rd Partly XML/ZIP Format**.
4. In the wizard, click **Select File**.
5. On your local drive, browse to the map archive file, and then drag it to file placeholder in Prime Infrastructure.



Tip: to review an example of proper file formatting

- ❖ Below the file placeholder, in the statement, click the **here** link.



6. In the wizard, click **Verify**.
The system begins uploading the file and, during the upload, it evaluates the file content to determine possible issues when generating the map.

When upload and evaluation are complete, the page reports the results and indicates the severity level of each issue.

At this point, the system has not taken any actions to configure the map.

7. To determine whether you want to start the import process:

- ❖ In the **Message** and **Status** columns, evaluate whether importing each item will cause the system to report an issue and the type of issue that will occur.



Important Note: When results indicate a critical status with a red indicator in the **Status** column and you proceed with importing the file, the access point's reported issue will occur.

- ❖ In the **Overwrite** column, determine whether the process will cause the system to import an item that currently exists in the map structure or on a map.
 - ◆ Green checkmarks in the **Overwrite** column of an import item indicate that the system will delete the current item and import the new one.
 - ◆ If no green check mark appears, then the original item on the map remains intact.



Caution: When the file that you are importing contains hierarchies, devices, or other items that are currently being used by maps, the overwrite action will cause the system to delete those items from current maps and replace them with contents of the current file. Use caution when accepting overwrite actions.

Example: You currently have a location mapped in Prime Infrastructure that includes 10 buildings with their related floors, outdoor areas, and related devices.

You need to add new building 11 to the existing location.

To add building 11 accurately to the current site map, the map file that you are importing must contain the complete structure of the location, including its hierarchy, existing buildings, floors, outdoor areas, devices, and device positions as well as the information for building 11 within that structure.

If the file contains only building 11, the process will delete the current location map information, including all 10 buildings and their configurations, and replace them with building 11 only.



Recommendation: When you need to import information associated with existing maps, export the current map configuration file before starting the import process. In the case of unexpected results after completing the import process, you can import the file that you exported previously to return maps to their expected configurations.

As a best practice, Cisco recommends that you export map configuration files on a regularly scheduled basis and retain them in a secure, secondary location. This procedure provides a portable, lightweight backup option outside of the standard system database backup process.

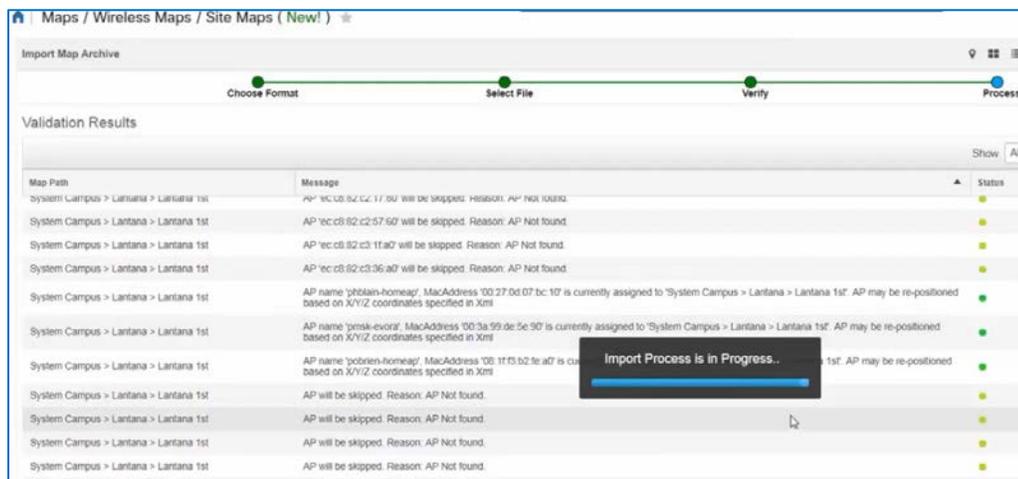
8. To proceed based on the determination you make in step 7:
 - ❖ When you determine that the map will not be configured as expected based on the evaluation results, click **Cancel**.

The system returns to the initial site map view and you have completed this task.

- ❖ To start the configuration process, click **Process**.

At this point, the system begins configuring the map based on the file contents, such as:

- ❖ Adding sites, building, and floors and organizing their hierarchies.
- ❖ Applying images, including maps, layouts, and floor plans.
- ❖ Adding and positioning the access points.
- ❖ Generating the heat maps.



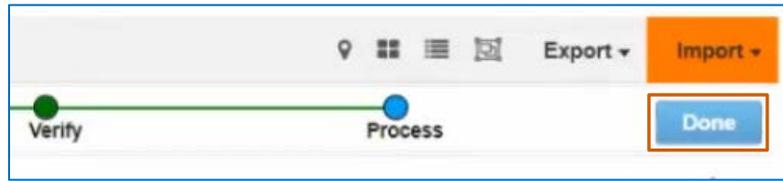
Important Note: Depending on map complexity, the configuration process completion times can vary significantly.

The system can continue the process in the background when you need continue working in the application.

When the system has completed generating the map or maps in the file, it summarizes the results of the process, including indicating any errors that have occurred.



9. When the process is complete, to close the wizard, click **Done**.



The map or maps included in the file are available in the **Domain Navigator** list, and, based on the file contents, the site hierarchies are organized, and the access points are added and positioned, as they are when you configure maps manually.

Frequently Asked Questions

Map Configuration

[After importing an archive map file, why are the associated APs not appearing on the map?](#)

[How do Cisco partner-provided map files differ from those that I can export from Prime Infrastructure?](#)

[How do my user permissions on the wireless LAN controller \(WLC\) affect applying positioning parameters to a device's running configuration?](#)

[Is there a limit to number of access points that I can place at a location?](#)

[What constraints does the system have for naming sites, groups, buildings, and floors or outdoor areas?](#)

[Where do I place access points when configuring maps?](#)

Have Another Question?

For more information, [visit the Cisco Web site to review or download technical documentation.](#)

After importing an archive map file, why are the associated APs not appearing on the map?

The access points associated with the map that you are configuring need to be added to the Prime Infrastructure inventory before you begin the import process.

That way, during the import process, the system can find the access points and position them by using the reference information in the archive file.

[Return to questions](#)

How do Cisco partner-provided map files differ from those that I can export from Prime Infrastructure?

Cisco partners can supply map archive files for use in Prime Infrastructure, which differ from the map archive files that you can generate and export from Prime Infrastructure.

For more information, refer to the table below.

Properties	Prime Infrastructure	Partner File
File Type	.XML file is not human-readable	.GZIP file that contains .XML-formatted, human-readable configuration content
Access Point Devices	Map file contains references to both the planned access points and the actual access point devices in the system inventory, including their configuration details	Map file contains references to the planned access points only
Images	Do not include CAD images.	Can include CAD images
Schema	Cisco-published schema	Cisco-published schema and partner-specific data, for example, map planning data

[Return to questions](#)

How do my user permissions on the wireless LAN controller (WLC) affect applying positioning parameters to a device's running configuration?

Your user permission configured for the wireless LAN controller (WLC) that manages the access point determines whether the system updates the access point's running configuration with the gain parameters that you configured when you click **Save**.

- ❖ If you have WLC read and write permission:

The system applies the gain parameters, which updates the device's running configuration and can affect device functionality.

- ❖ If you have read only permission:

The system does not update the device's running configuration with the new parameters, which causes an error. This issue might require troubleshooting to resolve.

[Return to questions](#)

Is there a limit to number of access points that I can place at a location?

When adding access points to an outdoor area or floor, Cisco recommends that you avoid exceeding 100 to 300 access points. You can determine an optimal number of devices to add based on the system resources that are available and the properties of the network,



Important Note: When the number of access points exceeds this range, it can affect system performance and degrade system responsiveness.

Also, note that system performance and sizing characteristics depend on the parameters of the server and the managed network, and on the degree of optimization and tuning during installation.

[Return to questions](#)

What constraints does the system have for naming sites, groups, buildings, and floors or outdoor areas?

All service domains in maps have corresponding location groups. This relationship requires that their naming conforms to the same constraints as the location groups in their hierarchy.

To support accurate map hierarchies, follow these naming conventions.

- ❖ Do not use the same names for two locations at the same level of a hierarchy, including sites, buildings, and floor/outdoor area levels.

A location group name must be unique for each [Default and Campus group type](#) that is contained in the same hierarchy branch.

- ❖ Do not use the same names with differing upper and lower case alpha characters.

The system does not have case sensitivity, so do not name two locations at the same level, for example, **Site B** and **site b**. The system will identify the second instance as a duplicate.

- ❖ Do not use special characters.

The system cannot reconcile special characters in a hierarchy.

As you configure multiple site hierarchies, you can use the same name for dependent locations among different sites. For example, you can have a building named in **Main** in sites 1, 2, and 3.

[Return to questions](#)

Where do I place access points when configuring maps?

You can add, position, and manage APs in outdoor areas and on floors (basements).

To add outdoor areas and their access points, you must organize a service domain hierarchy that includes a site container, or parent location.

To add floors or basements, you must add a building to the site container, or parent location. Then, you can add floor or basements to the building for AP placement.

[Return to questions](#)

Links

To Product Information

[Visit the Cisco Web site to learn more about Cisco® Prime Infrastructure.](#)

[Visit the Cisco Web site to review or download technical documentation.](#)

To Training

[Review the **Wireless Site Maps Overview** job aid.](#)

[Visit the Cisco Web site to access other Cisco® Prime Infrastructure learning opportunities.](#)

[Visit the Cisco Web site to access learning opportunities for other Cisco products.](#)

To Contact Us

[Send us a message with questions or comments about this job aid.](#)



Note: Please send messages that address the content of this job aid or other training questions only.

Please follow your regular business process to request technical support or address technical or application-related questions.