BG-Map 2025 User's Manual

Rev. 25 (1/25)

BG-Map Software and Manual

What is BG-Map?

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BG-Map is a computer-based mapping system designed for botanical gardens and arboreta. It links the *BG-BASE*™ plant records database with a map, thus creating a powerful geographic information system or GIS. BG-Map was originally developed for Morris Arboretum of the University of Pennsylvania. It has since been installed at a number of institutions.

You can also think of BG-Map as:

- A means to graphically represent the data stored in *BG-BASE*
- An easy to use GIS specifically tailored to meet the needs of arboreta and botanical gardens
- A report generator for creating plant lists
- A tool for quickly looking up plant records and finding plant locations
- A web portal for your plant records and maps

What Can BG-Map Do?

Some of the things BG-Map can do:

- Update the map whenever you update corresponding information in *BG-BASE*.
- Display different groups of plants meeting criteria that you specify using colors and symbols.
- Create maps showing plants in areas of any size or shape.
- Quickly find any plant on the map by name or accession number.
- Print guide maps for visitors.
- Look up records for any plant from the map by clicking it.
- Update *BG-BASE* by clicking a plant on the map.
- Create plant lists showing the exact information that you require.
- Automatically adjust the content, size, and position of map text to maintain legibility.

- Work in the Metric or English measurement systems.
- Display tree canopies and trunks to scale at their current or ultimate sizes.
- Work with surveying equipment such as total stations and GPS for automatic surveying of plant locations.
- Automatically format and print maps on a plotter or a printer.
- Provide a web interface to your plant records and maps for staff, visitors and students.

How Does BG-Map Work?

BG-Map is built on two different software applications:

OpenInsight™

OpenInsight is a Windows relational database produced by Revelation Software. It is the same database product that was used to create *BG-BASE*. OpenInsight provides the primary user interface for BG-Map and also stores the coordinates of each plant, the formats for plant lists, and the programs that are used to extract data from *BG-BASE*.

Note:	**BG-Map is now available in two versions, one using OpenInsight 8.08 and the other using OpenInsight 9.4**. There are certain advantages to upgrading to the 9.4 version. These are detailed in this TechNote.

AutoCAD® or CMS IntelliCAD®

Either AutoCAD or CMS IntelliCAD provides the graphical "engine" for BG-Map. In this manual, they will simply be referred to as CAD. They draw the map, using the *BG-BASE* plant records data as input. Customized programs help to make this happen.

Under the multi-tasking operating environment provided by Windows, OpenInsight and CAD operate simultaneously and pass data between one another.

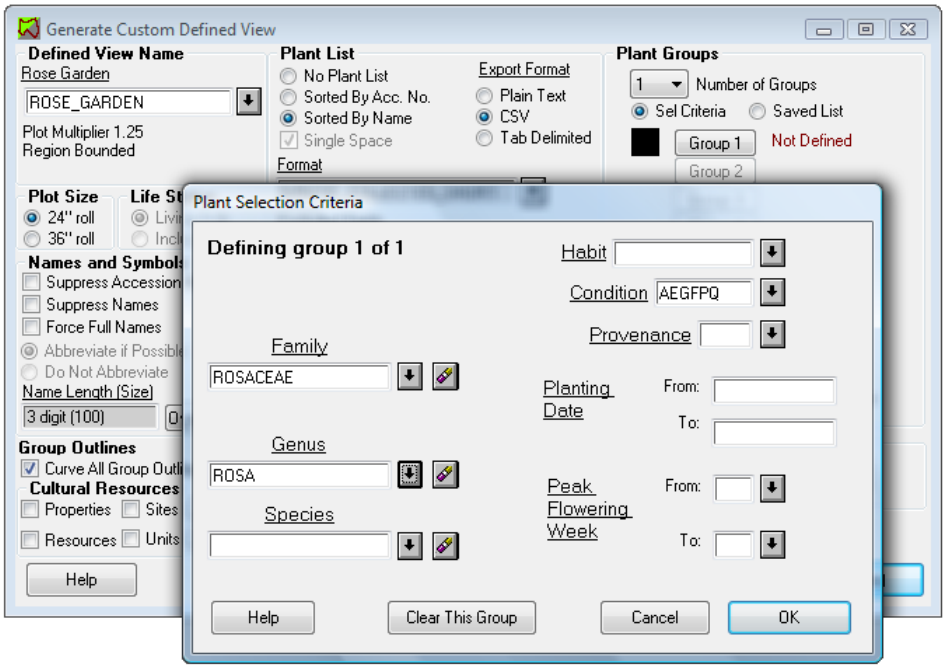
BG-Map is a complex system, consisting of many separate programs, menus, and scripts. Here is a simplified description of how BG-Map performs one of its most basic functions - displaying plants on the map.

BG-Map uses a basemap that is stored as a CAD – compatible drawing file. The basemap contains features of the site such as buildings, roads, bed outlines, and utilities. But, it contains no plants. The plants are

added to the basemap by BG-Map using data extracted from *BG-BASE*.

Each time you ask BG-Map to display plants, it wipes all plant information off the map and replaces it with newly generated information. The content and format of the plant information depend on parameters that you can specify.

Suppose you wish to display a map of an area that you have defined and named "ROSE_GARDEN". You wish to highlight all plants belonging to the genus "ROSA" in one color and all other plants in another color. And, you wish to include a plant list with the map that lists each plant's source, planting date, and current condition.



First, you access the BG-Map Window (OpenInsight) and fill in the data entry form specifying exactly the area, the type of plants, and the information to be displayed.

OpenInsight next begins a search to find all plants whose coordinates fall within the area that you have defined as "ROSE_GARDEN", first creating a list of accession numbers for plants with genus "ROSA" and then creating a list of accession numbers of all other plants within the defined area.

BG-Map processes your request, and writes the data that will be transferred into CAD. The required information for each plant is read from *BG-BASE* - name, plant source, condition, etc. It is translated into a format that can be used by CAD to display the plants and the plant list. At this point, OpenInsight' s job is finished, and control is transferred to the CAD Window.

CAD completes the process by displaying the plants, ready for viewing

or printing.

And that, in a nutshell, is how BG-Map works.

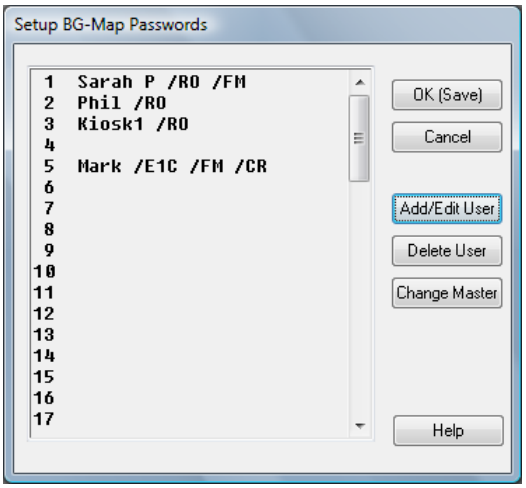
The Basics of BG-Map

Starting BG-Map

Double click the BG-Map icon on your desktop or click the BG-Map icon on the Windows Start Menu. BG-Map will start. Enter your user name and password when prompted. Next, CAD will start, and gradually the basemap will appear. BG-Map will zoom to the current quadrant view of the last BG-Map session. When the CAD "Command:" prompt appears, program initiation is complete, and you can begin to work.

Adding or Changing Passwords:

To add or modify passwords, start BG-Map using the user name "Master" and enter the master password. The Password Setup Window will be displayed. It permits you to add or delete users, change or edit user passwords, and change the master password.



Adding a New User or Editing an Existing One

Click "Add/Edit User."

To add a new user, enter an unused user name and password. Add as many users as you wish, up to 60. Then, click "OK Save". To edit an existing user, enter an existing user name. You can then change the user's name, access privileges or password.

Note:	**If you change the user's name, any system settings, such as print options, previously stored for that user will have to be reset.**

Assigning Access Privileges

By default, each user is assigned full rights to the basic BG-Map plant mapping module. To assign other privileges, add one or more of the following codes after the user name:

Read-Only Access to Plants	/RO
Facilities Management Module Access	/FM

Allow Creating New BG-BASE Plant Records	/PL
Access to Web-VQF/ECM Module (Data entry only)	/EC
Access to Web-VQF/ECM Module (Administrative non-critical)	/E2C
Access to Web-VQF/ECM Module (Administrative all access)	/E1C

Users with read-only access can generate and print maps and plant lists but cannot add plants, relocate plants, perform setup functions, use Developer Utilities, or work with Field Data.

For example, to give user Sarah P read-only access to plant mapping plus access to the Facilities Management Module, enter her name as:
Sarah P /RO /FM

Deleting a User

Click "Delete User" Enter the number of the user you wish to delete. Then, click "OK Save".

Changing the Master Password

The master password is used to access this Password Setup Window. To change the master password, click "New Master". Enter a new master password, and then click "OK Save".

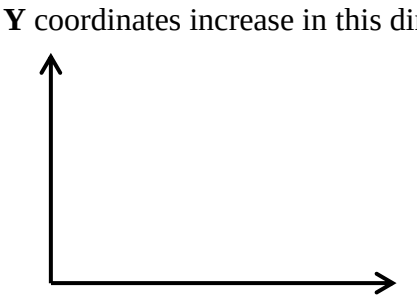
The Two Windows of BG-Map

In this manual, the OpenInsight portion of BG-Map will be referred to as the BG-Map Window, and the CAD portion of BG-Map will be referred to as the CAD Window. The Windows Task Bar permits you to toggle back and forth between the CAD Window and the BG-Map Window.

About Coordinates, and Quadrants

Your Map's Coordinate System

In order to define the locations of plants on your computerized map, a coordinate system has been set up. Each plant will have associated it a unique X-coordinate and a unique Y-coordinate, which exactly specify its position.



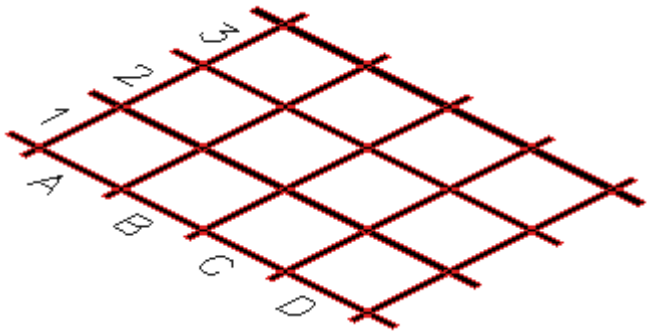
This type of coordinate system is called a plane coordinate system because it represents the surface of the earth as a flat surface (a plane.) Thus, you need not be concerned with the curvature of the earth or changes in elevation when defining the locations of plants. All you need to know are their X and Y-coordinates. These coordinates may be expressed in feet or in meters, depending on how your map was set up. Regardless of which units were selected, the same units will always be used for all coordinate input and output in BG-Map.

It is important to keep in mind CAD's convention for specifying coordinates. In CAD, coordinates are always formatted as X comma Y. So, for example, if the X-coordinate of a plant is 300 and its Y-coordinate is 200, the coordinates would be inputted into CAD as 300,200.

Adding Z-Coordinates (Elevations):

Although the X and Y-coordinates are all that are required to specify a plant's location, some users will also wish to record an elevation, or Z-coordinate, for each plant. Z-coordinates can be manually keyed into BG-Map or, if you are using the BG-Map Total Station or GPS Interface, Z-coordinates can be automatically surveyed and recorded.

Quadrants - Dividing Your Map by Creating a Grid



If you look at a road map, you will notice that it is divided into a number of squares. The squares along the bottom of the page may be labeled with letters, and the squares along the side of the page may be labeled with numbers. Suppose you are looking for a particular locality on the map. The index might tell you to look in square C3. Instead of searching through the entire map for the locality in

question, you now only have to search through one small square. This illustrates the use of a grid to make a large and complex map easy to use.

In a similar way, BG-Map uses a grid to make the task of mapping plants more manageable. Your map has been divided into a series of squares called quadrants. Each plant will be assigned not only to a set of coordinates but to a quadrant as well. The most basic map that BG-Map can produce is a Quadrant Map, which shows all plants within a single map quadrant.

The quadrant size should be given some consideration. Quadrants may be sized in meters or in feet. The optimum quadrant size is dependent on the predominant type of plant material to be mapped - the smaller and more closely spaced the plants, the smaller the optimum quadrant size. Following are some approximate guidelines:

Once the quadrant size is established during the initial setup of BG-Map, it remains fixed.

Predominant Plant Material	Optimum Quadrant Size
Trees, some shrubs	200 ft. or 50 m.
Shrubs, some herbaceous	100 ft. or 25 m.
Small shrubs, herbaceous	50 ft. or 15 m.
Greenhouses	25 ft. or 5 m.

The Basemap

The basemap is a CAD drawing of your garden showing all of its features, except for accessioned plants. Information that is commonly shown on a basemap includes roads, bed outlines, paths, buildings, and hardscape. Additional features such as utilities and contour lines may also be shown.

Layers 

CAD organizes the information in your basemap into a series of layers. You can think of layers as a sequence of transparent sheets that are overlaid on the basemap, each sheet containing a different category of information. These sheets can be removed (TURN OFF A LAYER) or added (TURN ON A LAYER). Because layers can be assigned different colors, it is easy to distinguish information of different types.

There are several layers that are used to display information about accessioned plants. The names of these layers all end in the word "PLANTS". These layers are all used for the temporary storage of generated plant information. Do not attempt to store any other information on a layer whose name ends in the word PLANTS.

For a complete description of typical layer assignments and colors, refer to http://www.bg-map.com/layers.html.

External References (Xrefs)

External references are separate CAD drawings that can be overlaid onto your basemap. They usually contain information that is infrequently needed. By using external references (or "Xrefs" as they are called in CAD), the complexity of your basemap is reduced and the speed of operation is increased. In BG-Map, external references are called Reference Blocks. Reference Blocks can contain information such as elevation contours, utilities, or obsolete map data.

Reference Blocks created for use with BG-Map should have an insertion base point of 0,0. They can be stored in a separate folder, such as \BGMAPWIN\XREFS. See "Using the File Menu" in "Becoming Familiar with the CAD Window" for a description of how to attach and detach reference blocks.

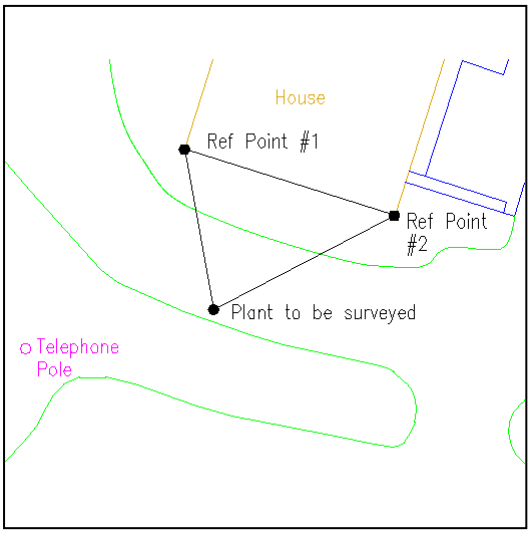
Surveying Plant Locations and Adding Plants to the Map

Plant locations are not stored in the CAD map itself; they are stored in a separate database maintained by BG-Map and linked to the *BG-BASE* plant records database. Plants are added to the map by surveying their locations and entering them into the BG-Map database.

Surveying Methods

Several survey methods, both manual and automated, may be used, including:

Relative Measurements



This is a manual surveying technique in which you measure the distance from each plant to two known reference points. The only equipment needed is a long tape measure graduated in feet and tenths of a foot or meters and centimeters, depending on the type of mapping units you are using. A laser "tape measure" may also be used. The known reference points can be the corners of a building, corners of a paved area, or other points which have been accurately surveyed and clearly marked on your basemap. It is best not to use other plants as reference points as this can lead to the buildup of cumulative errors over time.

The most accurate results will be obtained if you choose the two reference points positioned so that they and the plant to be surveyed form an acute triangle. For details on how to input relative measurements, see "BG-Map Step By Step/Entering Relative Measurements."

Total Stations and GPS

A total station is electronic/optical instrument that can very accurately measure plant locations relative to known positions known as control points. To use a total station, you will need the optional BG-Map Total Station Interface module and have several markers (control points) installed on your property by a professional surveyor. An electronic data collector is linked to the total station. It can run BG-Map total station software or other surveying software.

A GPS (Global Positioning System) uses satellites to determine position. GPS accuracy can vary, and accuracy is usually a function of cost. To be useful with BG-Map, a GPS must have at least sub-meter accuracy. To use a GPS with BG-Map, you will require the optional GPS Interface module.

If GPS or a total station with non-BG-Map software is used, it must be able to export the location coordinates in a comma-delimited format.

Note:	**Surveying Group Plantings with a GPS or a Total Station that is Not Using the BG-Map Total Station Interface Surveying Software.** First, map the center point of the mass, entering into the data collector the accession number with qualifier of the plant - for example 23-1234*A. Immediately after mapping the center, map points around the perimeter of the mass (up to 12 points), entering the accession number, followed by -1, -2, -3, etc. - for example 23-1234*A-1, 23-1234*A-2, 23-1234*A-3, etc. Group outline points collected in this way will be treated by BG-Map the same as if they had been collected using the BG-Map Total Station software.

The data collected by the total station or GPS must be uploaded and converted into a form usable by BG-Map. For details on how to do this, see "Becoming Familiar with the BG-Map Window/Using the Field Data Menu."

Adding Plants to the Map

For details on how to add plants to the map by manual entry or using a Total Station or GPS, see "BG-Map Step By Step."

Single Plants vs. Group Plantings

As far as the database is concerned, a "plant" is represented by any unique accession number plus a qualifier – for example: 23-1234*A. However, physically, this "plant" can be a single plant or a group planting (mass) of many plants. On the map, single plants are represented by this symbol ⊕ (unless a trunk symbol is shown instead.) Group plantings are represented by this symbol plus a group outline.

Displaying Plants on the Map – Generating

Remember that accessioned plants are not part of the basemap. Accessioned plant information is created by BG-Map using the data in *BG-BASE* and is overlaid on the basemap in the format that you specify. You determine the area in which plants are to be shown (the area to "generate") and which plants or groups of plants are shown. The accessioned plants shown on your map are temporary and ever changing. Each time you generate new accessioned plant information, the currently displayed information is erased.

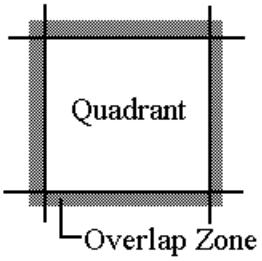
When you start BG-Map, the basemap appears on screen. You will notice that no plants are displayed (other than unaccessioned plants, which are part of the basemap). In order to make accessioned plants appear on the map, you must first generate plant information. The term "generate", in BG-Map, refers to extracting information from *BG-BASE* and using that information to display accessioned plants on the map.

What you are "generating" are plant symbols, accession numbers, names, leader lines, group outlines, trunks, canopies and other data which may appear on a plant list. The basemap is permanent and will not be changed unless you edit and save it. On the other hand, the accessioned plant information is temporary and is regenerated each time you need it. When plant information is generated, it represents the most current data obtained from *BG-BASE*. If you correct the name of a plant in *BG-BASE*, the corrected name will appear on the map automatically the next time plant information is generated.

Here are some of the ways you can generate plant information and make it appear on the map:

Normal Quadrant Map 

When you generate a Normal Quadrant, BG-Map will display all plants within the boundaries of a single map quadrant and within an overlap zone in each adjacent quadrant. The width of this overlap zone is 10% of the quadrant width. For example, if your quadrants are 200 feet wide, all plants within the specified quadrant and 20 feet on each side of the specified quadrant will be visible.



Normally, all plants that are not dead or removed (all *BG-BASE* condition codes except "D", "R", and "U") are displayed. You can, as an option, also include dead plants (including the "D", "R", and "U" codes). Dead plants will appear on a special "DEADPLANTS" layer usually drawn in red on the map. This layer, like all other layers, can be turned on and off. There are also options for generating plant lists and for displaying canopies and trunks.

Note:	**Plants in the overlap zone will appear on the map but not on the plant list.** The plant list will include only plants within the quadrant boundaries.

Custom Quadrant Map

A Custom Quadrant Map is like a Normal Quadrant Map except, instead of displaying all plants, it displays only selected plants. Up to 8 different plant groups can be defined. Each group will appear on the map in a different color. You can set up the groups based on selection criteria for condition, provenance, family, genus, species, planting date, and peak flowering week. Or, you can use saved lists that have been stored in *BG-BASE* or BG-Map to define the groups. In the same map, you can have some groups defined by selection criteria and other groups defined by saved lists.

Note:	**What Happens if a Plant Falls Within More than One Group?** If a plant falls within more than one group, it will be overprinted once for each group. On screen, the color of the last group generated will show for that plant. If you print the map, the colors for all of the groups to which the plant belongs will be printed on top of one another.

Reference Plants

As an option, "Reference Plants" can be displayed in still another color. Reference plants are all living plants within the boundaries of the generated area that do not belong to any of the plant groups that you have set up. Canopies for Reference Plants cannot be solid filled.

Normal Defined View Map 

A Normal Defined View Map displays all plants within the boundaries of a user-defined garden area called a Defined View. The area can be square, or it can be any irregular shape. You can define and save as many Defined Views as you wish. (You can also create a temporary defined view called a View on the Fly, described later in this document.)

The plant information displayed in a Defined View Map will vary, depending on the size of the view. This is done to make the text legible when printed. Smaller views include the names of plants spelled out to 32 characters. Large views will include only the plant symbols. Intermediate sized views will contain varying amounts of information. Refer to the table in the Technical Reference Section for a complete description.

Note:	**You can override the default text length and size to cause plant names to be more fully spelled out.** However, this may cause some text to overlap, depending on how closely spaced the plants are.

When you generate a Defined View, a dotted outline will appear on the map, outlining the extent of the Defined View. Only plants within this outline are displayed.

Custom Defined View Map 

In a Custom Defined View, BG-Map will display only selected plants. This is analogous to a Custom Quadrant. Plant groups and selection criteria are defined in the same manner as for Custom Quadrant Maps. Also, as in the case of Custom Quadrant Maps, *BG-BASE* or BG-Map saved lists can be used.

Custom Site Map 

In a Custom Site Map, BG-Map displays selected plants in the entire site. Plant groups and selection criteria are defined in the same manner as for Custom Quadrant Maps. Also, as in the case of Custom Quadrant Maps, *BG-BASE* or BG-Map saved lists can be used.

Only plant symbols are generated on Site Maps, as there is no room for accession numbers or name text. Plant symbols are generated much

larger than on Quadrant Maps so that, when plotted at the smaller scale of the Site Map, they appear the same size as symbols that are plotted on Quadrant Maps.

Note:	**You can override the symbols-only rule to cause plant names to be displayed on a Site Map.** However, this may cause some text to overlap, depending on how closely spaced the plants are.

Creating Plant Lists to Accompany Large Format Maps:

When generating one of the 5 map types described above for printing on a large format plotter, you can add an optional plant to accompany the map. The plant list can be sorted in numerical order by accession number or in alphabetical order by scientific plant name. The plant list contains the accession number and full scientific name of each plant, and additional information that you can specify.

The plant lists can be exported to one of these file types:

- **Plain Text**
- **CSV** (comma separated values – for opening in Excel®)
- **HTML** (web format)
- **PDF** (cross-platform compatible format)

The CSV format is ideal for use with Microsoft Excel®. Using Excel, you can sort, format and print the list as desired. You can also use Excel to save the list as a spreadsheet or web page.

Each plant list begins with 4 or 5 "Standard Fields". These are

- **Accession number**
- **Scientific name**
- **X-coordinate** of plant
- **Y-coordinate** of plant
- **Key number** - for medium sized Defined Views only
- **Quadrant** - for Site Maps and large Defined Views only

Note:	**It is possible to exclude any of the "Standard Fields" except Scientific Name from a plant list.** See "BG-Map Step by Step".

Acc. No.	Botanical Name	PT	Plant Source
92-418*A	Abelia coreana	G	# 508 1991 Exped Republic of Korea
92-418*B	Abelia coreana	G	# 508 1991 Exped Republic of Korea
92-418*C	Abelia coreana	G	# 508 1991 Exped Republic of Korea
83-108*B	Abeliophyllum distichum 'Rosea'	G	# 181 Losely N, Perry, OH
83-108*C	Abeliophyllum distichum 'Rosea'	G	# 181 Losely N, Perry, OH
74-392*A	Abies concolor	G	# 340 Unknown
37-7979*A	Abies holophylla	G	# 187 Masonic Homes Arb, PA
71-035*A	Abies holophylla	W	# 347 US Nat Arb, Washington, DC
81-467*C	Acer cappadocicum var. sinicum	W	# 2 1981 Expedition to China
83-095*B	Acer davidii	W	# 347 US Nat Arb, Washington, DC
83-096*A	Acer erianthum	W	# 347 US Nat Arb, Washington, DC
96-035*A	Acer ginnala	W	# 591 WLPGR, USNA, Glenn Dale, MD
96-035*B	Acer ginnala	W	# 591 WLPGR, USNA, Glenn Dale, MD
96-035*C	Acer ginnala	W	# 591 WLPGR, USNA, Glenn Dale, MD
32-0950*A	Acer griseum	G	# 208 Morris Estate, PA
49-220*A	Acer griseum	G	# 256 RBG Kew, England
81-101*A	Acer griseum	G	# 23 Ambler N, Ambler, PA
81-101*B	Acer griseum	G	# 23 Ambler N, Ambler, PA
81-101*C	Acer griseum	G	# 23 Ambler N, Ambler, PA
82-028*A	Acer griseum	G	# 97 Environmentals N
82-028*B	Acer griseum	G	# 97 Environmentals N

Following these standard fields, additional fields can be included. You specify the fields to be included by creating a Plant List Format. An unlimited number of these formats can be named and saved. If a Plant List Format is set as "Default", it will be the default for all plant lists until another format is set as "Default". If you select the "NONE" format, only the standard fields described above will be displayed. For more information on how to define, save, and set these formats, see "Plant List Formats" under "Becoming Familiar with the BG-Map Window - Using the Tools Menu".

Note:	**Plant lists are stored in the C:\bgmapwin\Plant Lists folder.**

Note:	**For Quadrant Maps, the plant list includes only the plants within the boundaries of the quadrant.** Plants in the "overlap zone" outside of the quadrant boundaries are not listed.

Note:	**For Custom Quadrant, Defined View, and Site Maps, reference plants will not be included on the plant list.** If more than one group was specified, each group will be listed separately.

View on the Fly 

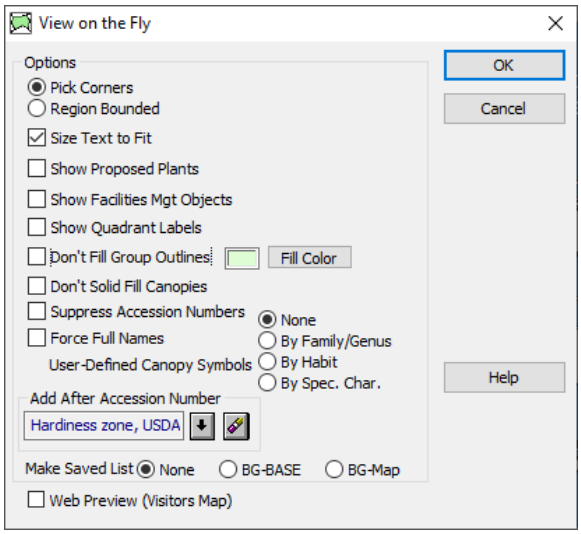
View on the Fly allows you to generate a Defined View map "on the fly" without having to first create and save a Defined View. The map can be viewed on screen or printed with a large format printer. You can also

save a View on the Fly as a permanent Defined View.

View Type

Select one of these options:

Pick Corners
You select the corners of the area to be generated. BG-Map will define a square view whose center is the center of the area that you boxed in. When you generate plants for this defined view, only the plants that lie within the square will be generated.



Region Bounded
With this method, you draw an outline of a region. When you generate this view, only the plants that are located within the outline will be generated.

Size Plants to Fit (applies only to Normal View on the Fly):
If you select this option, the view will be generated with plants names shown and sized to fit without overlap. A plant list will not be generated. If you do not select this option, the generate map window will be displayed, allowing you to fully control the content of the map.

Icons

View on the Fly can be accessed with these icons from either the BG-Map window or the CAD Window:

- Normal View on the Fly 
- Custom View on the Fly 

Additional View on the Fly Options

Show Proposed Plants
Check this box to include Proposed Plants in the map.

Show Facilities Mgt Objects
Check this box to include Facilities Management Objects in the map.

Show Quadrant Labels
Check this box to display the names of each quadrant within the

generated area. Quadrant labels are displayed in the corners and center of each quadrant that contains generated plants.

Don't Fill Group Outlines
Check this box if you do not wish group outlines to be filled with a solid color.

Fill Color
Click to set the color for group outline fills.

Suppress Accession Numbers
Check this box to display plant names without accession numbers.

Force Full Names
Check this box to force plant names to appear in full instead of abbreviated or truncated.

Don't Solid Fill Canopies
Check this box if you do not wish canopies to be filled with a solid color.

User-Defined Canopy Symbols (Not Available with CMS IntelliCAD)

Allows you to choose custom canopy symbols that may be displayed based on Family/Genus, Habit or Special Characteristics.

To assign user-defined symbols, go to "Assign User-Defined Canopy Symbols" in the Tools menu.

Field to Add After Accession Numbers
You can select an additional data field to be added inside brackets after the accession numbers. Click the "Browse" button to select. Click the "Erase" button to remove.

Web Preview (Visitors Map) *Requires Web-VQF Web Interface Module
Check this option to generate a map showing how plants, and garden features will appear on the map for visitors on the web. The plant text positions and leader lines may be adjusted using the tools in the CAD menu "Plants and Objects on the Map", and these adjustments will affect only the map generated for the web.

How to Save a View on the Fly as a Permanent Defined View

Generate a View on the Fly

In the BG-Map Window, go to Tools/Create Defined Views, or click this icon:

Click the "Browse" button and select the view on the fly - it will be listed under your BG-Map login name. For example, if you log in as "Ron" it will be listed as RON_VIEW_ON_THE_FLY.

BG-Map will prompt "Do you wish to save this Defined View under a different name?" Answer yes, and then enter a permanent name for the Defined View.

Click "OK" to save it.

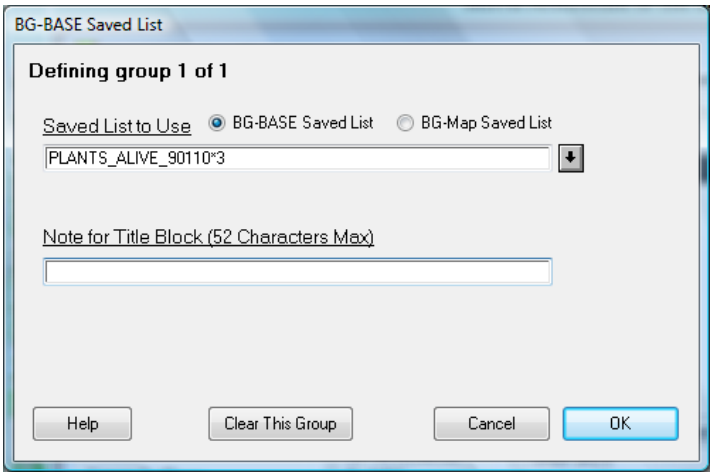
Displaying a Specific Plant

To display the location of a specific plant, click "Generate/Look Up/Zoom to a Plant". For details, see "Becoming Familiar With the BG-Map Window/Using the Generate Menu."

Changing the Map Font (Not Available with CMS IntelliCAD)

You can change the font that is used to display plant names and accession numbers on the map. To do so, click the "browse button" (down arrow) next to the font box at the upper-right corner of the BG-Map window. For details, see "Map Fonts" in "Becoming Familiar with the BG-Map Window - Using the Tools Menu".

Using *BG-BASE* Saved Lists



BG-BASE saved lists are lists of names, accessions, or plants that you have saved in *BG-BASE* using S-List. You can use these saved lists to help create custom maps and plant lists.

Using a *BG-BASE* saved list is faster way to generate custom maps than using the plant selection criteria data entry window. This is because the lengthy plant selection process is eliminated. This difference in speed is most noticeable when you generate large Custom Defined View and Site Maps.

A saved list is also more flexible because you can use *BG-BASE* S-List commands to select on a wider range of criteria than is available in the plant selection criteria data entry window. However, remember that only names, accessions, or plants that were included when the list was originally saved in *BG-BASE* will be generated. In other words, plant information generated using a *BG-BASE* saved list will only be as current

as the list itself.

BG-Map detects the type of information stored in saved list and converts

Maintaining the Original Sort Order

If you do not wish BG-Map to sort the list and wish to preserve the original order of the saved list, include the word "SORT" or "SORTED" in the name of the list when you save it in *BG-BASE*. BG-Map will not sort lists whose names contain these words but will convert them to plants if they are stored as accessions or names.

Storing and Reusing Sorted Saved Lists

When BG-Map sorts a *BG-BASE* saved list, it saves the sorted version of the list for possible re-use.

Whenever you use a *BG-BASE* saved list to create a map, BG-Map will first check to determine if a sorted/converted version of the list had been previously saved. You can choose whether or not to use the previously sorted/converted list. If you choose not to, BG-Map will re-sort/re-convert the original *BG-BASE* list.

Hint:	**Generating Maps with No Plants.** **You can use a *BG-BASE* saved list to create a Quadrant, Defined View, or Site Map with no plants.** Here's how: In *BG-BASE*, create an empty saved list, and name it NO_PLANTS. Generate a custom map with 1 group, no reference plants, and no plant list, using the *BG-BASE* saved list "NO_PLANTS". A map with no plants will be generated. You can then plot.

Using BG-Map Saved Lists

Lists of Plants can also be saved in BG-Map for use in creating custom maps and plant lists. BG-Map saved lists can be created from the results of searches using Look up/Zoom to a Plant or the various options under Print/Plant Lists. BG-Map saved lists can contain only Plants, not Accessions or Names.

How to Create a BG-Map Saved List of Living Plants of a Single Taxon

In the BG-Map or CAD Window, click "Generate/Look Up/Zoom to a Plant", or click this icon: 

Check the box if you wish to include unmapped as well as mapped plants.

Enter all or part of the plant name, and click "OK." When a list of names is displayed, choose one.

When the list of plants is displayed, click "Select All", and then "OK."

In the next window, click "Make Saved List."

How to Create a BG-Map Saved List of Living Plants in a Single Genus

In the BG-Map or CAD Window, click "Generate/Look Up/Zoom to a Plant", or click this icon: 

Check the box if you wish to include unmapped as well as mapped plants.

Click "Use QuickFinder." Select a Genus, and click "OK."

When the list of plants is displayed, click "Select All", and then "OK."

In the next window, click "Make Saved List."

How to Create a BG-Map Saved List of Living Plants Meeting Various Criteria

In the BG-Map or CAD Window, click "Generate/Look Up/Zoom to a Plant", or click this icon: 

Check the box if you wish to include unmapped as well as mapped plants. Click "Use Search Tool." Enter your selection criteria and sort criteria and click "OK."

When the list of plants is displayed, click "Select All", and then "OK."

In the next window, click "Make Saved List."

How to Use a BG-Map Saved List to Generate a Custom Map

In the Generate Menu, click "Custom Quadrant", "Custom Defined View", "Custom View on the Fly" or "Custom Site Map."

For "Plant Group1", select "Saved List." In the "Save List" dialog window, choose "BG-Map Saved List", and browse to select a saved list.

Generate the map as usual.

How to Use a BG-Map Saved List to Generate a Snapshot Book Map

In the Print menu, choose Book Maps/Snapshot. Or click this icon: 

Click "Get Saved List." Choose "BG-Map", and select a saved list.

When the list of plants is displayed, click "Select All" and then "OK."

In the next window, click "Show all on map."

How to Use a BG-Map Saved List to Print a Plant List

In the Print menu, choose Plant Lists/Mapped and Unmapped Living Plants.

Under "List By", choose "BG-Map Saved List."

Click the "Browse" button, and select a BG-Map saved list.

Choose a Plant List Format or "None", and click "OK", "Print" or "Preview" as indicated.

Canopies and Trunks

When generating a map, you can display tree canopies and trunks to scale at their current or ultimate sizes.

Canopies

Tree canopies are displayed based on the values that you enter in *BG-BASE* at the SPREAD field in the PLANTS table (for current canopies) or in the NAMES table (for ultimate canopies). These values should represent canopy diameter. For normal maps and custom maps with only one plant group, canopies are displayed in dark green. For custom maps with two or more plant groups, canopies will be displayed in the colors assigned to each plant group. For reference plants, canopies are displayed in the color assigned to reference plants. Canopies can be displayed as an outline but cannot be solid filled.

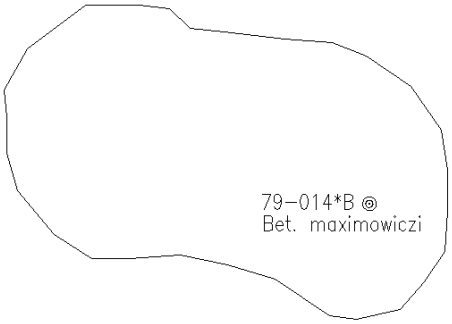
Note:	**When using CMS IntelliCAD, only canopies in Plant Group 1 can be shown filled-in.**

Canopies are not displayed for group plantings. If no canopy size information for a plant is stored in the PLANTS or NAMES table or if the recorded canopy size is too small to be displayed, no canopy will be displayed for that particular plant.

Asymmetric Canopies

Canopies are normally shown as a regular symmetrical outline around the plant. However, tree canopies can often be quite asymmetrical due to factors such as prevailing winds or other adjacent trees or structures. BG-Map can show the shapes of such asymmetric canopies if you define them. The displayed canopy size is still controlled by size information stored in *BG-BASE*. For further details, see "Asymmetric Canopies" in "Becoming Familiar with the CAD Window/Using the Plants/Objects on Map Menu."

Trunks



Trunks are displayed using size information stored in the Diameter at Breast Height (DBH) field in the PLANTS table (for current trunks) or in the NAMES table (for ultimate trunks.) If no DBH is recorded in *BG-BASE* but a circumference is recorded, BG-Map will use the CIRCUMFERENCE field to display trunk sizes. Trunks replace the normal symbols associated with each plant. For normal maps and custom maps with only one plant group, trunks are normally displayed in brown or yellow. For custom maps with two or more plant groups, trunks are displayed in the colors assigned to each plant group. For reference plants, trunks are displayed in the color assigned to reference plants.

Trunks are not displayed for group plantings. If no trunk size information for a plant is stored in the PLANTS or NAMES table or if the recorded trunk size is too small to be displayed, a normal plant symbol will be displayed instead of the trunk symbol. The trunk symbols can be used for List Plant/Object in the same way as normal plant symbols.

Multi-Trunks

Trunks can be displayed as multi-trunks if multi-trunk information has been stored using BG-Map GN3 or Garden Notepad Classic. For details, refer to User's Manuals of these applications. To display multi-trunk symbols, check the option when generating a map.

Note:	**Multi-trunk symbols cannot be displayed when using CMS IntelliCAD.**

How BG-Map Treats Dead Plants

Normally, dead plants are not shown on the map. Occasionally, you may wish to display dead plants (*BG-BASE* condition codes "D", "R", and "U"). BG-Map provides this capability through its DEADPLANTS layer. Dead plants are usually displayed and printed in red. Dead plants also appear on plant lists in red, but you can change the display color by changing the settings for Plant Group Colors.

To display dead plants when generating a map, you must select the "Include Dead" option for normal maps or specify the "D", "R", and "U" condition codes when generating custom maps. Because new plants are often planted on the sites of old ones, symbols and text for dead plants will sometimes overlap current plant information. You may find it helpful to use the CAD Edit Base Map/Layers sub-menu to temporarily hide the dead plant information by turning off the DEADPLANTS layer.

You can remove from the map database dead plants that you no longer need to see by using the "Delete Plant from Map" option of the Map menu. Eliminating unneeded plants will reduce the size of the map database and speed up its operation. It also prevents accumulated dead plant information from overlapping on the map display.

If you delete a dead plant, its map information is not permanently lost. Instead, its map record is written to a dead plant archive table. If the plant is still in *BG-BASE*, it can be restored to the map be using the "Restore an Archived Plant" option from the Map menu.

Printing Large Format Maps 

Large format maps can include Normal and Custom Quadrants, Normal and Custom Defined Views, and Custom Site Maps. Printing these maps on a large format plotter is a two-step process: First, you generate the map, and then you plot (print) it.

Large format maps may be composed either for 24" wide paper or 36" wide paper. You can print these maps on a large format printer or print them as a PDF file (for CAD 2007 and later. PDF printing is not available with CMS IntelliCAD.)

Check the corresponding options under "Plot Size" and "Print as PDF" before generating the map. After the map is generated and the plants appear on-screen, print the map by selecting "BG-Map Plot" in the CAD Map Utilities/Plot sub-menu, the "Large Format Maps" option in the Print menu or by clicking the green printer icon in CAD. (If you are using AutoCAD LT, select "Large Format Maps" in the Print menu.)

Note:	**When you plot a map after generating a Custom Quadrant, Custom Defined View or Custom Site Map, the selection criteria or *BG-BASE* saved list name that you specified for group 1 will appear in the map title block.** The selection criteria for the other plant groups are recorded by BG-Map and can be recalled by printing a Map Summary. For details, see "Map Summaries" in "Becoming Familiar with the BG-Map Window – Using the Print Menu".

Printing Book Maps

Book Map Sizes

Book Maps are composed for printing on a laser printer or inkjet printer in 8-1/2" x 11"/A4 format (Small Book Maps) or 11" x 17" /A3 format (Large Book Maps). Book Maps can also be printed as PDF files (for AutoCAD 2007 and later.) All, except Snapshots, can be accompanied by a plant list consisting of one or more pages. Book Maps are printed in a single step; you do not first have to generate and then print. To print a Book Map, go to the Print Menu in the BG-Map Window. For more information on how to print Book Maps, see "BG-Map Step by Step".

There are 7 types of Book Maps:

Snapshot Book Map - Available only in 8-1/2" x 11"/A4 Format

A Snapshot Book Map displays a single selected plant and nearby surrounding plants. Or, it can display multiple plants.

Snapshot Book Map Showing a Single Plant

A Snapshot Book Map can be used to help staff or visitors find a specific plant in the garden. An arrow points to the selected plant. Plant names are displayed to 16 characters, using abbreviated names if available. And, if data is available, current canopy and trunk sizes are shown to scale.

As an option, you can print a second page, a "key map" which shows the plant's location within the context of the site as a whole.

Snapshot Book Map Multiple Plants

A Snapshot Book Map can also be used to display the locations of multiple plants, such as all plants of the same name, genus, species, or cultivar or all plants meeting various selection criteria.

Preselected Tour Book Map

A Preselected Tour Book Map shows the locations of up to 99 selected plants contained in a *BG-BASE* saved list or a text file. This type of map is ideal for creating "Plant Walks" highlighting specific plants of interest for use by classes and tour groups.

Each map is accompanied by a plant list, which can be printed or exported to a plain text file or tab-delimited text file. It lists the plants by number, along with their names, accession numbers, and other information.

Normal Quadrant Book Map 

A Normal Quadrant Book Map displays all living plants in a single map quadrant. Because an entire quadrant must be squeezed onto a small sheet of paper, accession numbers and plant names cannot be shown in the 8-1/2" x 11"/A4 format. Instead, a 3 digit "key number" identifies each plant. These key numbers are referenced on the plant list, which also lists the accession numbers and names. So, you can easily tell which plant is which.

Quadrant Book Maps do not have an "overlap zone". They display only the plants that are actually within the quadrant boundaries. Each map is accompanied by a plant list, which you can format. And, optionally, you can display canopies and trunks on the map at their current or ultimate sizes.

Custom Quadrant Book Map 

As you would expect, a Custom Quadrant Book Map is just like a Normal Quadrant Book Map, except, instead of displaying all plants, it displays selected plants. As in the case of other custom maps, the plants to be displayed may be specified by entering selection criteria or by using a saved *BG-BASE* list. However, unlike other custom maps, Custom Book Maps can display only 1 plant group and cannot display reference plants.

Quarter Quadrant Book Map -Available only in 8-1/2" x 11"/A4 Format

This is a quadrant Book Map printed in quarters, on 4 separate pages, followed by an optional combined plant list for the entire quadrant. By dividing the quadrant into 4 pages, it is possible to display plant names and accession numbers, instead of 3-digit key numbers.

There is a 10% overlap between the adjacent map quarters in order to prevent any names or accession numbers from being split between pages. Therefore, some plants may appear on more than one page.

The quarters are numbered clockwise as Section 1 through Section 4, beginning at the upper left-hand corner.

Normal Defined View Book Map 

Normal Defined View Book Maps can be printed for any Defined View with a Plot Multiplier of 1 or less in the 8-1/2" x 11"/A4 format and 2.5 or less in the 11" x 17" /A3 format. Defined View Book Maps will display either 3 digit key numbers or accession numbers with names, depending on the size of the view. For further details on "Plot Multiplier", refer to the Technical Reference section of this manual.

Custom Defined View Book Map 

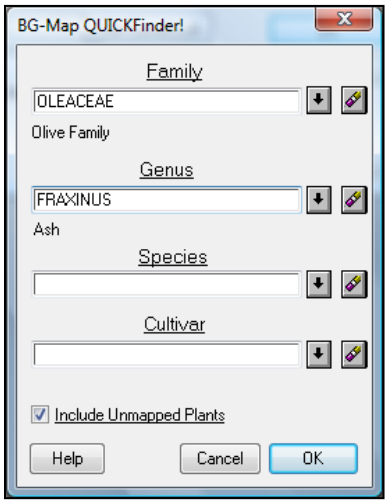
Finally, there is the Custom Defined View Book Map, which displays selected plants for in a Defined View.

Plant Lists for Book Maps

When generating Quadrant, Quarter Quadrant, or Defined View Book Maps, a plant list may be printed on separate pages following the map. The plant list will be sorted in alphabetical order by scientific plant name. The plant list will contain the accession number and full scientific name of each plant (and 3-digit key numbers, if required).

Up to 6 additional items of information about each plant can be printed. You specify the items to be included by creating a Plant List Format, as in the case of large format maps. The only difference is that, for Book Maps, only the first 6 fields in the Plant List Format will be used. Any additional fields will be ignored. If you select the "NONE" Plant List Format, only the name, accession number, and key number (if required) will be printed.

QUICKFinder, Visitors QUICKFinder (Deprecated) and Web-VQF



About QUICKFinder

QUICKFinder is a tool for finding any mapped living plant by name. It can be accessed from:

- **Look Up/Zoom to a Plant** (Map Menu)
- **Snapshot Book Map** (Printer Book Maps Menu)
- **Plant and Object Images** (Tools Menu)

Using QUICKFinder

You can type names into QUICKFinder or click the "Browse" buttons to select from a list. The prompts in the QUICKFinder Window work like this:

Family

Use the "Family" prompt if you know the family of the plant you are seeking, but don't know the genus. If you already know the genus, skip to the "Genus" prompt.

After entering a family at this prompt, you can click the "Browse" button next to the "Genus" prompt to retrieve a list of all genera that are in this family. To clear the family and genus, click the "Eraser" button.

Genus

The "Genus" prompt must be filled in.

Enter the genus of the plant you are seeking. If you have already filled in a name under the "Family" prompt, the "Browse" selection list will be limited to genera within that family. (To browse a selection list of all genera, first clear the "Family" prompt using the "Eraser" button.)

After entering a genus at this prompt, you can move on to the "Species" or "Cultivar" prompts to limit your search to a single species or cultivar, or leave "Species" and "Cultivar" blank to open your search to all plants within this genus.

Species

The Genus prompt must be filled before you can select a species.

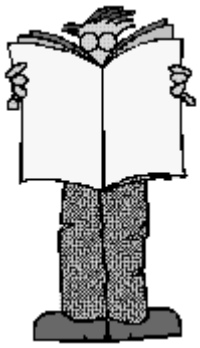
Fill in the "Species" prompt to limit your search to a single species. You can type in a name or click "Browse" to select from a list of species. To clear the species, click the "Eraser" button. If you fill in this prompt, the cultivar prompt will be cleared.

Cultivar

The Genus prompt must be filled before you can select a cultivar.

Fill in the "Cultivar" prompt to limit your search to a single cultivar. You can type in a name or click "Browse" to select from a list of cultivars. To clear the cultivar, click the "Eraser" button. If you fill in this prompt, the species prompt will be cleared.

Visitors QUICKFinder (Deprecated - Not Available with CMS IntelliCAD)



Visitors QUICKFinder (VQF) is a feature designed for use in a touch-screen kiosk. Visitors QUICKFinder helps visitors to learn about your garden and find plants and memorials. It provides photo display capabilities and an on-line botanical glossary. Visitors can also submit their feedback.

Visitors can search for plants by common name, botanical name, species, or cultivar. Your garden staff can define "Special Collections" and "Canned Tours" that highlight plants and garden features of seasonal or other special interest. And, visitors can print their own guide maps.

For more information on how to set up and use Visitors QUICKFinder, see "Visitors QUICKFinder" in "Becoming Familiar with the BG-Map Window."

Web Visitors QUICKFinder (Web-VQF)

Web-VQF provides a web interface to BG-Map, Facilities Management and *BG-BASE* maps and data, providing many of the features of VQF plus many that are not available in the deprecated kiosk version. For more information, go to: http://www.bg-map.com/feature/Web-VQF-ECM.html or refer to the Web-VQF and ECM Users Manual.

The Search Tool

Using the Search Tool

You can create a query containing 1 to 5 different search criteria.

If you check "Include Unmapped Plants", unmapped as well as mapped plants will be returned. Otherwise, only mapped plants will be returned.

If you check "Include Dead Plants", dead and removed plants will be included in the search results.

Creating A Simple Query

Click the drop-down list on the left, and select a property - for example: "Genus". Click the center drop down list, and select a search operator - for example "equal to". Click the "Browse" button, and select a value to search for - for example "CAMELLIA". In this example, you have created a query to search for plants that belong to the genus CAMELLIA.

Note:	**When you select some properties and operators, the "Browse" button will become inactive. In that case, simply type in a value.** For example, to search for all plants accessioned before January 1, 2000, select "Accession Date" from the drop-down list on the left, "before" from center drop down list, and type in "1/1/2000" on the edit line to the right.

Adding Criteria to Your Query

To add another criterion to your query, click "and with" or "or with", and enter another property, operator, and value as described above. You may repeat this up to a total of 5 criteria.

Using Both "And" And "Or"

Multiple search criteria can be connected together with a combination of "And" and "Or". In this case, "And" has a higher priority than "Or".

For example, the query:

> Find Plants with Genus equal to "CAMELLIA" Or with Genus equal to "RHODODENDRON" And with Current Location equal to "HILL_GDN"

will find all plants whose Genus is CAMELLIA and all plants whose Genus is RHODODENDRON and which are in Location HILL_GDN.

Each clause separated by an "Or" is treated as a completely different selection criterion. In the above example, plants whose Genus is CAMELLIA but which are not in Location HILL_GDN will be returned, but plants whose genus is RHODODENDRON which are not in location HILL_GDN will not be returned. The clauses linked with an "And" are

treated as a single unit - each individual clause within the unit connected by "Ands" must be true for the linked clauses as a whole to be true.

Using a "Specific" Maintenance Task in Your Query

A special case in building your query occurs when you search for plants for which a specific maintenance task is due. For example: "Search for all plants that will require pruning before January 1, 2015". This query is built in 2 steps: First, select "Maintenance Task Specific" "equal to" "Pruning". Then, select "and with" "Maintenance Date Specific Task is Due" "before" "1/1/2015".

Sorting the Results

Select the field to sort the results by. If you select "Key", the results will be sorted by accession number with qualifier. Select "Sort Ascending" or "Sort Descending".

You may also select another field to do a secondary sort.

Saving and Recalling Queries

You can save a query and recall it to be reused later. To save a new query, click "Save Query" and select "New." Enter a code of up to 12 characters and a query description. To recall a previously saved query, click "Recall Query."

Partial Name Search

Partial Name Search is another tool for finding any mapped plant by name. You can use Partial Name Search with "Look Up/Zoom to a Plant" and with "Snapshot Book Maps" in the Map Menu. Simply type in the first few letters of the scientific or common name. BG-Map will return a list of living plants that match your query.

Plant Images in BG-Map

BG-Map can display plant images when performing these functions:

- **Look Up/Zoom to a Plant**
- **Snapshot Book Map**
- **List Plant**
- **Visitors QUICKFinder (VQF)**
- **Web-VQF**

You can assign images to Plants, Accessions, or Names as well as Web-VQF Garden Features using the "Plant Images" function in the Tools Menu. BG-Map can also display images that have been assigned to Plants, Accessions, or Names using the *BG-BASE* Images Module.

Enlarged Areas

Enlarged Areas are enlarged insets in the basemap that are drawn at a larger scale to be able to better display closely spaced plants. For example, you could create an inset showing an enlarged view of a conservatory or a rock garden where plants are spaced more closely than in the garden as a whole.

By defining an Enlarged Area, canopies and trunks will be displayed at their correct relative sizes within the area and Relative Measurements and GPS/Total Station data will be corrected when working within the area. For details on how to define Enlarged Areas, see "Enlarged Areas" in "Becoming Familiar with the BG-Map Window/Using the Tools Menu."

Getting Help

You can get BG-Map help from several places:

On-Line Users Manual 

This manual, in full, can be accessed on-screen from the help menu or by clicking the "book" icon in the BG-Map window. It is in PDF format; therefore you will require the free Adobe PDF reader to view it.

Ask Egbert 

This is a help utility that answers basic questions about how to use BG-Map and directs you to the correct screens to perform specific functions. You can access Egbert from the help menu or by clicking the Egbert icon. By checking the box labeled "Check here to show this window at BG-Map Startup", you can also show Egbert automatically whenever you start BG-Map.

CAD Help 

You can access CAD help from the help menu in the CAD Window or by clicking the question mark icon.

About BG-Map 

The About BG-Map window displays the current BG-Map installed version and a list of the optional modules that are enabled on your system. You can access About BG-Map from the help menu or by clicking the information icon in the CAD Window.

BG-Map Users Support Website and On-Line Discussion Forum

The BG-Map Users Support Website contains TechNotes, Software Downloads and other information to help BG-Map users. You can access the Users Support Website from the help menu in the BG-Map window or the CAD Window or directly at www.bg-map.com/userdata. The On-Line Forum can be accessed directly at www.bg-map.com/cgi-bin/discus/discus.cgi.

Exiting BG-Map

To exit BG-Map, choose "Exit BG-Map" from the File menu. Or, simply close the BG-Map Window. If you have made any changes to the basemap, save it if prompted. BG-Map will execute a series of steps to exit OpenInsight and CAD.

Note:	**Do not close CAD directly.** Instead, allow BG-Map to close it for you when exiting.

Backing Up Your Data

Note:	**Backing up your data is critical to successful maintenance of your system. Your entire installation is at risk if you fail to back up. If you are dependent on your I.T. department to back up server data, confirm that the backups are actually occurring.** Data should be backed up on a daily basis. As a minimum, data should be backed up weekly.

To back up BG-Map, back up the folder \BGMAPWIN along with all of its sub-folders. If BG-Map is installed on a server, back up the \BGMAPWIN folder located on the server.

"Housekeeping" Tasks

Monthly

Go to the BG-Map Utilities menu, and choose "Update Lists." Update each of the lists: Quadrants, Locations, and Genera. etc.

Annually

In BG-Map, go to Utilities/Developer/Delete an Item. For Table Name, enter BGBASE_LISTS. Select one or more obsolete BG-BASE lists to delete, including old QUAD_UP lists.

In BG-Map, go to Utilities/Developer/Delete an Item. For Table Name,

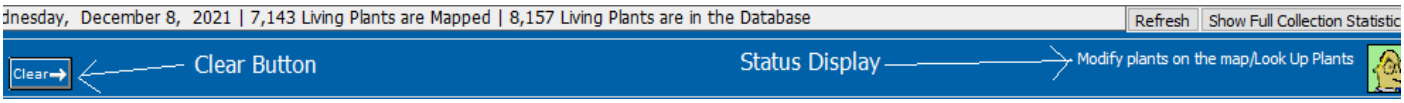
enter BGMAP_LISTS. Select one or more obsolete BG-Map lists to delete.

In BG-Map, go to Utilities/Purge Unused Lists.

Becoming Familiar with the BG-Map Window

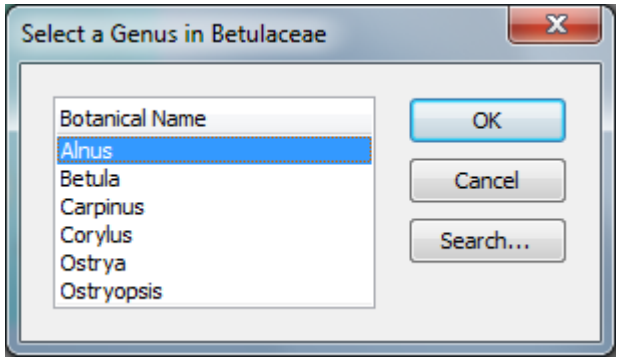
The Status Display Area and the Clear Button

The bottom portion of the BG-Map window contains a status display area in which error message may be displayed. These messages can serve as an aid in debugging problems. To clear the status display area, click the "Clear" button.



Selection Lists

A selection list is a list of choices (accession numbers, genera, quadrants, etc.). Selection lists are used throughout BG-Map. Often, clicking a "Browse" button activates a selection list.



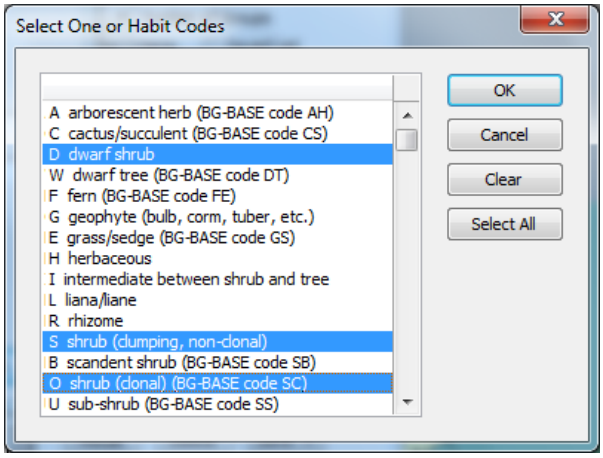
Single Selection Lists

In a Single Selection List, you choose one item.

Click the item to be selected and the click the "OK" button). Or, double click the selected item.

You can also click the "Search" button to search for an item in a long selection list.

Multiple Selection Lists



In a Multiple Selection List, you can select more than one item. You can identify a Multiple Selection List by the appearance of a "Select All" button.

Click each item you wish to select. Each item will be highlighted as it is selected. You can deselect an already selected item by clicking it again.

When you have selected all desired items, click the "OK" button. The "Select All" button will select

all items on the list, and the "Clear" button will deselect all items on the list

Using the Generate Menu

The Generate Menu provides options for generating Normal and Custom Quadrant, Normal and Custom Defined View, Normal and Custom View on the Fly and Custom Site maps. For further details on Quadrant, Defined View and Site Maps, see "BG-Map Step by Step." For details on View on the Fly, see "The Basics of BG-Map."

The Generate Menu also contains these options:

All Plants to Fit

(not available with CMS IntelliCAD)

This function generates a map showing all living plants that have been mapped to date. It yields the same result as generating a Custom Site Map showing all living plants with 16-character names and text sized to fit. This corresponds to a Custom Site Map with the following options set:

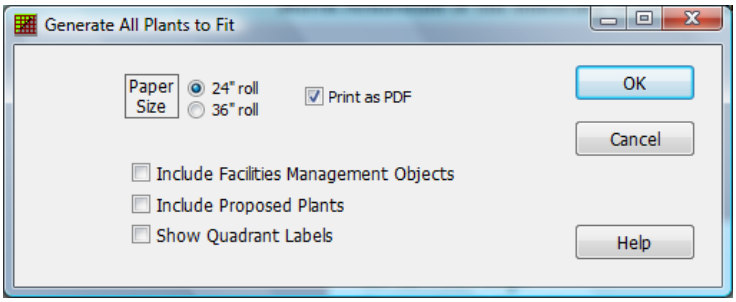
Number of Groups	1
Selection Criteria	Condition: AEGFPQ
Reference Plants	No
Names and Symbols	Force 16 Character Names, Size 1 (to fit)
Group Outlines	Show
Facilities Management	You Select Yes or No
Proposed Plants	You Select Yes or No
Quadrant Labels	You Select Yes or No
Canopies	Show Current, Not Solid, No User-Defined Symbols or Multi-Trunks
Trunks	Show Current

Paper Size

If you will be printing the map on a large format printer or as a PDF file, choose the desired paper size, either 24" roll or 36" roll.

Options

If you wish to include Facilities Management Objects, Proposed Plants or Quadrant Labels, or print the map as a PDF file, check the corresponding options.



Note:	**Printing as a PDF file is not available when using CMS IntelliCAD.**

Hint:	**To create a Reference Block (Xref) showing all mapped plants, Generate All Plants to Fit, and then choose "Export Drawing File" in the CAD "File" menu, selecting the "Plants Only" option.**

Look Up/Zoom to a Plant

Using Lookup/Zoom to a Plant, you can look up information on any mapped or unmapped plant. You can zoom to any mapped plant, or you can display the locations of all mapped plants that match your query, such as multiple plants of the same name, genus, species, or cultivar.

To find a plant, you can enter an accession number, enter a name, use QUICKFinder or use the Search Tool.

Note:	**To include unmapped plants in your search results, check the box so labeled.**

Finding a Plant by Entering an Accession Number without Qualifier

Enter the accession number without qualifier, and click the OK button or press <Enter>. A list of mapped living plants matching this accession number will be displayed. Select one or more of these plants.

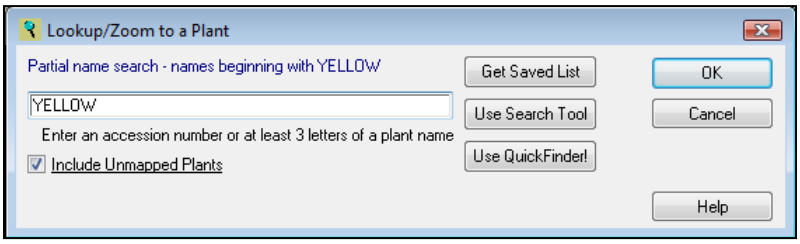
Finding a Plant by Entering an Accession Number with Qualifier

Enter the accession number with qualifier, and click the OK button or press <Enter>.

Finding Plants by Entering a Name

Enter all or part of the scientific or common name of the plant. (3 letters minimum) Click the OK button or press <Enter>. A list of matching

plant names will be displayed. Select a name. A list of mapped living plants matching this name will be displayed. Select one or more of these plants.



Finding Plants by Using a *BG-BASE* or BG-Map Saved List

You can select one or more plants from a list that you saved in BG-Map or *BG-BASE* by clicking "Get Saved List." Remember, only lists of *Plants* saved on *BG-BASE* can be used. Lists of names or accessions cannot be used. For more on saved lists, see "Using *BG-BASE* Saved Lists" and "Creating and Using BG-Map Saved Lists" in "The Basics of BG-Map."

Finding Plants Using QUICKFinder

Click the "Use QUICKFinder" button, and select the desired genus, species, or cultivar – See "Using QUICKFinder" in "The Basics of BG-Map".

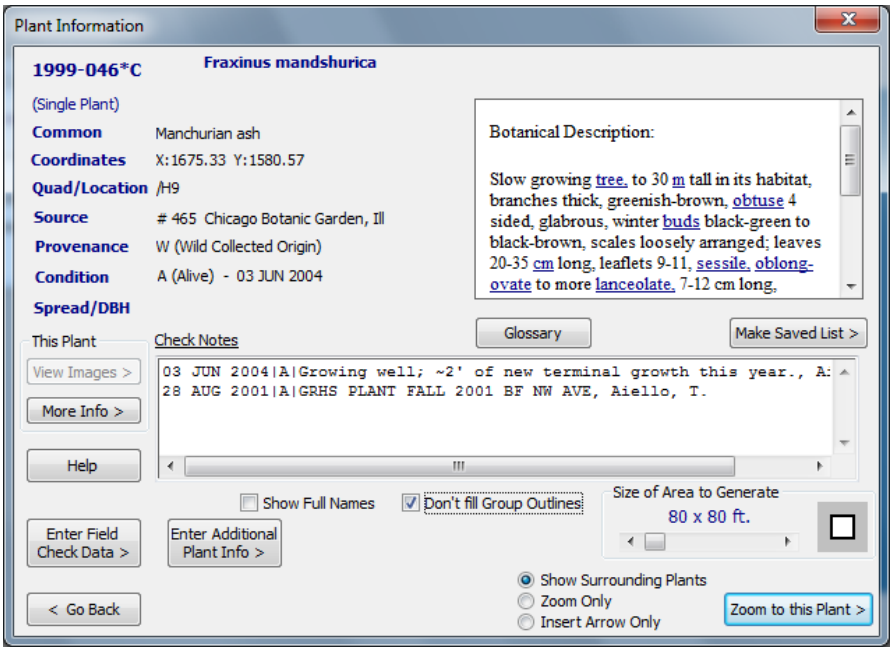
Finding Plants With the Search Tool

Click the "Use Search Tool" button, and select the desired genus, species, or cultivar – See "Using the Search Tool" in "The Basics of BG-Map."

Redisplay List

Click this button to redisplay the selection list of plants.

Viewing the Plant Information



This window displays information about the plant or plants you selected in the previous screen. If you selected more than one plant, you can scroll through them by clicking the left and right arrow buttons or by clicking the "Browse" button to go to a specific plant. As each plant is selected, information about that plant is displayed, and you can zoom to it if it has been mapped.

If either *BG-BASE* or BG-Map plant images for a plant are available, you can view then by clicking "View Images". To see more information about a plant, click "More Info."

Entering Field Check Data For a Displayed Plant
Click "Enter Field Check Data" to update the *BG-BASE* record to the currently displayed plant. For details, see "Entering Field Check Data."

Entering Additional Plant Information (Stored in BG-Map)
Click "Enter Additional Plant Info" to enter these:

- Horticultural Management Maintenance Performed
- Tree Appraisal Location Rating (disabled)
- Tree Hazard Rating

Creating A Plant List For All The Plants
If you selected two or more plants in the previous screen, you can create a list of them. Click "Create Plant List."

Saving The Plants To A Saved List

Click "Make Saved List" to save this list of plants to a BG-Map saved

list, which can be used later to create a map or plant list.

Viewing All The Mapped Plants On-Screen

If you selected two or more mapped plants in the previous screen, you can view all their locations on the map simultaneously by clicking "Show All on Map." Plants in enlarged areas will be shown in their actual locations, not in the enlarged areas. You can select the layer on which the plants are displayed, and hence their color, by selecting a layer under "Show All Layer". To set the colors for these layers, see the menu item Generate/Plant Group Colors. You can also set the text size and content.

Note:	**Inactive or unmapped plants will not be shown on the map.**

Show Full Names

Check this box to show full plant names. If the names overlap, you can use the text resize tool in the CAD "Plants and Objects on the Map." menu, or right-click on the CAD map to access the tool.

Don't fill Group Outlines

Check this box if you do not wish group outlines to be filled with a color.

Zooming To A Single Plant And Showing Surrounding Plants

Select a mapped plant using the left and right arrow buttons, or by clicking the "Browse" button to go to a specific plant. Then, click "Zoom to This Plant." BG-Map will zoom to the selected plant and display it along with surrounding plants.

Size of Area to Generate

You can control the size of the area in which plants near your selected plant are shown. Area size can range from 1 (0.4 times the width of a quadrant) to 10 (4 times the width of a quadrant.)

Note:	**You cannot zoom to an inactive or unmapped plant.**

Zoom Options

Select a mapped plant using the left and right arrow buttons, or by clicking the "Browse" button to go to a specific plant. Then select one of these options:

Show Surrounding Plants - BG-Map will zoom to the selected plant and will display it along with surrounding plants. You can adjust the size

of the area within which plants will be generated by using the "Size of Area to Generate" slider control.

Zoom Only - BG-Map will zoom to the location of the selected plant, which must have been previously generated on the map.

Insert Arrow Only - BG-Map will insert an arrow at the location of the selected plant, which must have been previously generated on the map, but will not zoom.

Viewing Plant Images

If images for the currently selected plant are available, the "View Images" button will be active. Click this button to view images assigned to this specific plant, to this accession or to this plant name. You can view images assigned either in *BG-BASE* or in BG-Map.

Using The Glossary

Click any underlined word in the plant description to view its definition and an illustration, if available. Or, click the "Glossary" button to select a word from the complete glossary list.

Where Am I?

Allows you to click a point on the map to determine which Quadrant and Defined Views the point lies in. For details, click here.

Turn Plant Groups On and Off 

The function permits you to temporarily turn on or off the plant group colors that are displayed on custom maps as well as the colors for reference plants, dead plants and proposed plants. Each time you generate a new map or change plant group colors, all groups will be turned on again (not available with CMS IntelliCAD.)

Set Plant Group Colors 

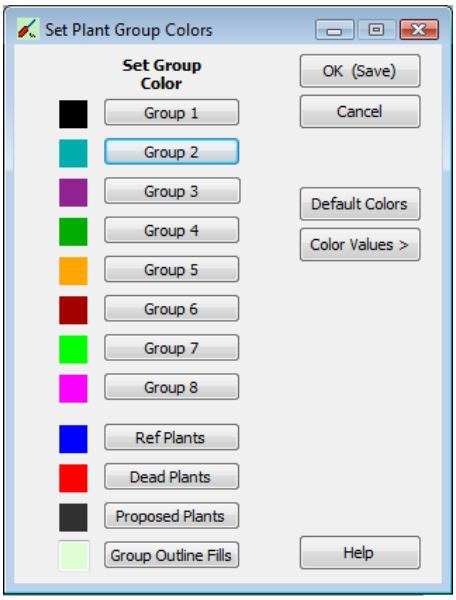
This controls the colors of the plant maps. You can assign the colors for plant groups 1 - 8, for reference plants, dead plants and proposed plants.

Note:	**The Plant Group Colors Window affects only the screen display colors.** These may not correspond exactly to the colors that are printed. The print colors may also be dependent on your plotter setup and CAD configuration.

Note:	**A different set of plant group colors is set for each BG-Map user.**

Changing the Plant Group Color Assignments

Click the button for the plant group whose color assignment you wish to change. Select a new color from the popup list. Then click "OK (Save)".

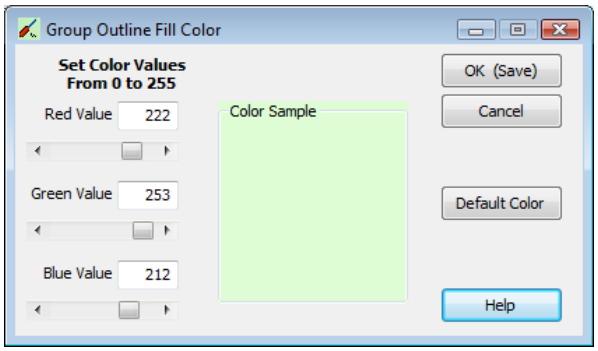


Restoring the Default Color Assignments

Click "Set Defaults", and then click "OK (Save)". The default colors are:

Group 1 – black	**Group 5** - amber
Group 2 - dark cyan	**Group 6** - dark red
Group 3 - dark violet	**Group 7** - green
Group 4 - dark green	**Group 8** - magenta
Reference Plants - dark blue	**Dead Plants** – red **Proposed Plants** - black

Setting Color Values



Some colors displayed on the map may differ from the color names you select. To adjust the map to display the correct colors, click "Color Values". Select the color you wish to adjust (Only the plant group colors that may require adjustment are listed). Then pick the desired color from the CAD color select dialog box, and click "OK" to confirm.

Group Outline Fill Color

Click "Group Outline Fills" to open a window to set the color for filling outlines of group plantings on maps. Enter desired values for red, green and blue - from 0 to 255 each. The sample box will show the color as it will be displayed on the map.

Using the Edit Menu

The edit menu provides common Windows functions – cut, paste etc.

Using the Map Menu

The Map Menu contains the following options:

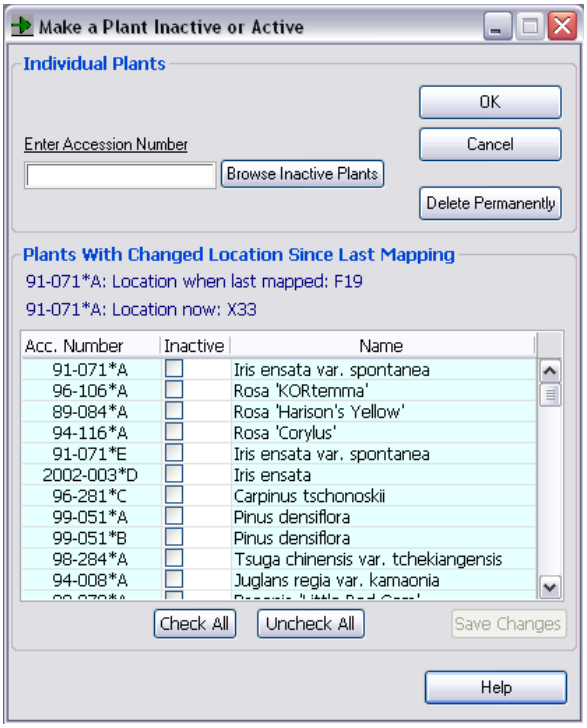
Add a Plant 

This function adds a previously unmapped plant to the map. For further details, see "Add a Plant by Manual Entry" and "Add a Plant Using Total Station or GPS" in "BG-Map Step by Step".

Relocate a Plant

This function relocates a previously mapped plant. For further details, see "How to Relocate a Plant" in "BG-Map Step by Step".

Make a Plant Inactive or Active



This function allows you to make a mapped accessioned plant inactive so that it doesn't appear on the map. You typically would make a plant inactive when it is temporarily moved from a planted location to a nursery for later replanting. The advantage of making the plant inactive as opposed to deleting it is that the history of its previous coordinates is retained and can be viewed using Print History of Map Record.

Inactive plants can be looked up using "Look Up/Zoom to a Plant" but cannot be zoomed to or printed on maps. They will appear in Visitors QUICKFinder with the designation "Map Not Available".

Individual Plants

How to Make A Plant Inactive

Enter an accession number with qualifier in the space provided. Then, click "Make Inactive".

How To Make An Inactive Plant Active Again

To make an inactive plant active again and keep its previous location on the map, enter its accession number, and click "Make Active".

To make an inactive plant active again and place it in a new location on the map, re-map it using "Relocate a Plant".

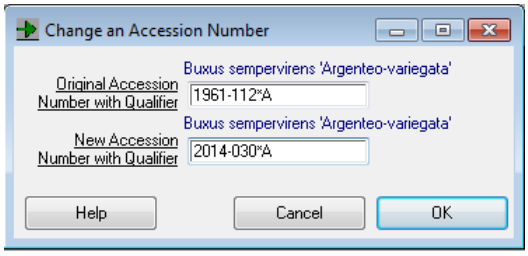
Delete Permanently

This completely deletes the map record for this plant. It performs the same function a Delete a Plant in the Map menu.

Plants With Changed Location Since Last Mapping

The list shows all mapped plants whose location code was changed in *BG-BASE* since they were last mapped or remapped. This can be useful in identifying plants that need remapping in a situation where different staff members are responsible for database maintenance and mapping. To make one or more or these plants inactive or active, check the corresponding box, or simply click anywhere in the corresponding row. Then, click "Save Changes."

Change Accession Number



This function changes the accession number for a mapped plant. It copies the map record from the original accession number to a new accession number and then deletes the record for the original accession number.

Original Accession Number

Enter the original accession number with qualifier. This plant must be currently mapped.

New Accession Number

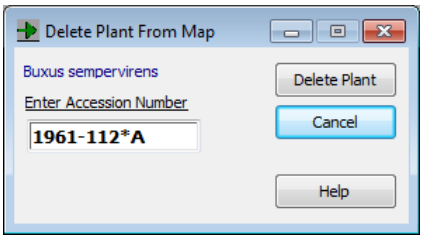
Enter the new accession number with qualifier. This plant must not be currently mapped.

After you have entered the numbers, click "OK"

View History of Map Record

See History of Map Record in the Print Menu.

Delete a Plant from the Map



This function deletes a plant from the map database. The word "DELETED" is also inserted into *BG-BASE* in place of the plant coordinates.

If the plant is dead, (*BG-BASE* condition codes "D", "R", or "U"), its map record will be written to an archive table, permitting the plant to be restored to the map in the future. If the plant is not dead when deleted, its map record will not be archived, and you can only restore it to the map by re-mapping it using "Add a Plant". (See also "How BG-Map Handles Dead Plants" in "The Basics of BG-Map".)

To delete a plant, enter its accession number with qualifier. (Capitalization doesn't matter.) BG-Map will ask you to confirm before deleting the plant.

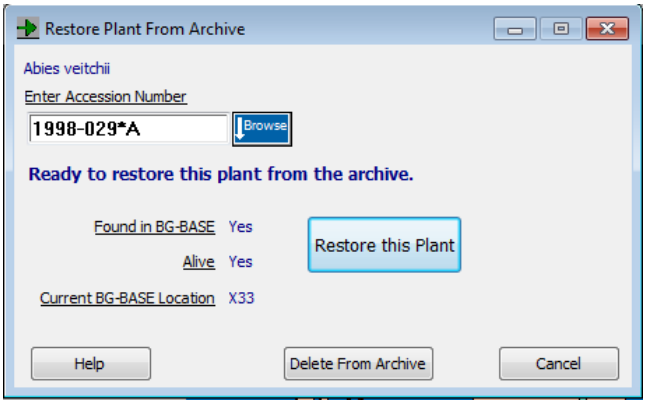
Delete Plants in a Saved List

This function deletes from the map a list of plants contained in a *BG-BASE* saved list. Select a saved list of Plants, and confirm that you wish to delete them.

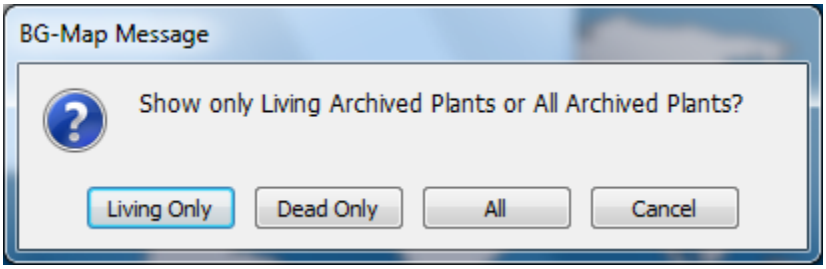
Restore from Archive

This function allows you to restore a plant from the MAP_ARCHIVE table back to the MAP_COORDINATES table. Once a plant is restored, it can once again be generated on the map.

How to Restore a Plant



Enter the accession number with qualifier of an archived plant in the space provided. Or click the "Browse" button to select from a list of archived plants. You can select whether to display only dead plants, living plants or all plants that are in the archive. However, dead plants must be reentered as alive in *BG-BASE* before they can be restored.



Note:	**A plant must exist in *BG-BASE* and must be entered as living in *BG-BASE* before it can be restored**

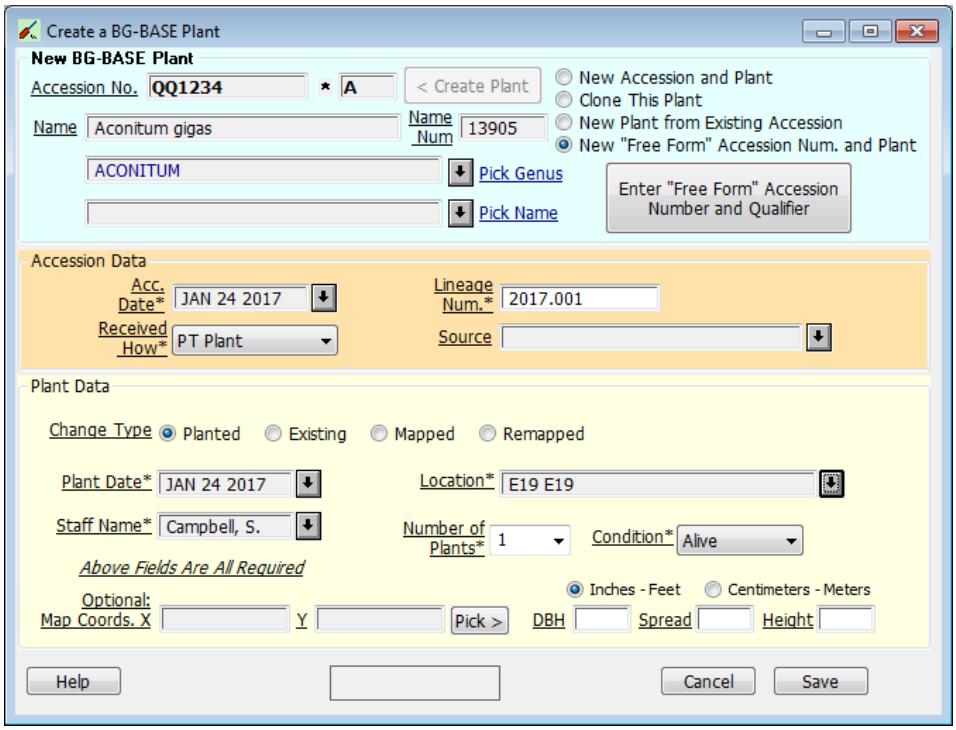
Then, click "Restore this Plant."

Deleting a Plant from the Archive File

Click "Delete from Archive." Once deleted, it can never be restored.

Create a *BG-BASE* Plant

This allows you to create a new *BG-BASE* Plant and, if needed, an associated *BG-BASE* Accession.



Before you can use this feature, you must enter your *BG-BASE* logon name and password.

Setting the Format for Creating New Accession Numbers

See Create BG-BASE Plant Options in the Tools/Options sub-menu.

Creating Plants and Accessions

There are three Options:

- Create a New Accession and Plant
- Clone This Plant
- Create a New Plant from an Existing Accession
- New "Free Form" Accession Number and Plant

Create a New Accession and Plant
This option allows you to create a completely new *BG-BASE* Accession record and then create a plant record for that accession.

Creating the Accession
First, select a genus by clicking the "browse" button. Then select a plant name by clicking the second "browse" button. The plant name must

already be entered in the *BG-BASE* NAMES file. After selecting a genus and a plant name, click "Create Plant.

Accession Date
The default is the current date. Click the "browse" button to select a different date.

Received How
The default is "Plant." Click the dropdown arrow to select a different code.

Lineage Number
The default is the accession number. You may enter a different number, if desired.

Source
Click the "browse" button to select the source for this accession.

Creating the Plant
Data will be sufficient to create a minimum new PLANTS record. All of the following must be entered.

Change Type
Select "Planted", "Existing", "Mapped" or "Remapped."

Location
Click the "browse" button to select a current *BG-BASE* location for this plant.

Plant Date
The default is the current date. Click the "browse" button to select a different date.

Number of Plants
The default is 1. Click the dropdown arrow to select a different number or type in the number or the word "MASS."

Condition
The default is "Alive." Click the dropdown arrow to select a different code.

Staff Name
Click the "browse" button to select your BG-BASE login name.

Adding Optional Plant Size Data

Size Units

To determine the size units to be entered for plant measurements, select either "Inches-Feet" or "Centimeters-Meters." If you select Inches-Feet, enter the DBH in inches and the spread or height in feet. If you select

Centimeters-Meters, enter the DBH in centimeters and the height or spread in meters.

Adding Optional Map Coordinates - For Plants Designated as Mapped or Remapped
Click the "Pick" button and then click the spot on the map where this plant is located. Do this before saving.

Saving the Plant
When you click "Save", the ACCESSION and PLANT records will be created in *BG-BASE*. If you entered map coordinates, the plant will be inserted into the map.

Note:	**You cannot use "List Plant" or "Mass Move" on this newly added plant until you re-generate the map.**

Clone This Plant
Choose this option if you have just saved a new plant and wish to create another plant record with the same accession number and a new qualifier.

After saving a new plant, click "Clone This Plant." The new record will be created. You can change the information under "Plant Data" if you wish - see "Creating the Plant" above. Then, save the record.

Create a New Plant from an Existing Accession
Choose this option if you wish to create a new plant record with an existing accession number with a new qualifier.

Click "New Plant from Existing Accession", and enter an existing accession number, less qualifier. Enter the required information under "Plant Data" - see "Creating the Plant" above. Then, save the record.

Creating a "Free Form" Accession Number and Plant
This option allows you to create a new accession and plant where the format of the accession number can be freely entered and is not controlled by the "Create *BG-BASE* Plant Options." Any accession number can be entered as long as it doesn't exist in the ACCESSIONS file.

Proposed Plants 

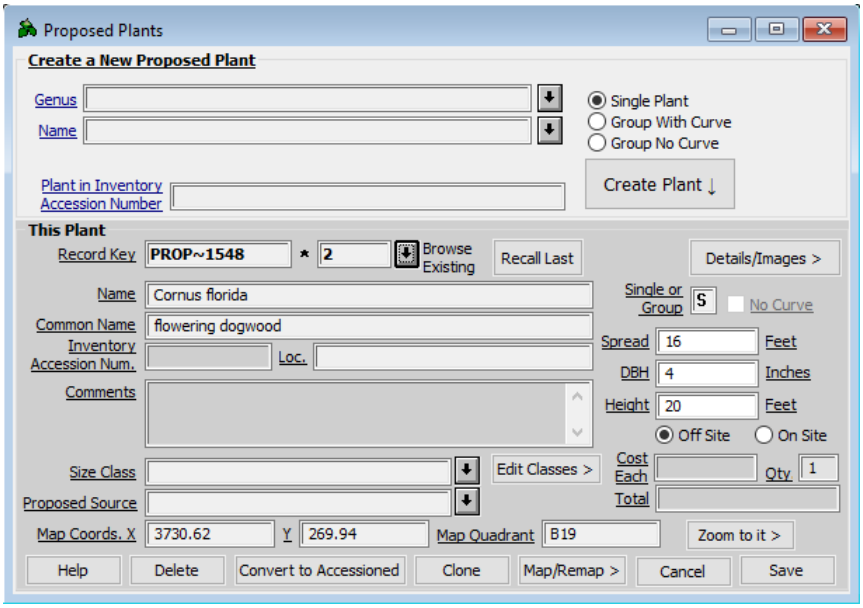
This feature allows you design garden areas by creating proposed plants, placing them on the map, and later converting them to mapped accessioned plants, if desired. You can access the Proposed Plants data entry window from the BG-Map "Map" menu or by clicking this icon.

What Is a Proposed Plant?

A Proposed Plant is a plant that you plan to plant in a specific location.

It can be an accessioned plant that is currently located in the nursery area of your garden, or it can be an unaccessioned plant that is to be purchased from an outside source. Proposed plants can be shown on maps along with accessioned plants. They are placed on a separate layer whose color you can control. They are identified by a Record Key, functionally similar to an accession number, which consists of the prefix "PROP~", followed by the BG-BASE name number of the plant and a numeric qualifier: for example PROP~8888*1, PROP~212*3, etc.

Creating a Proposed Plant



You can create a new proposed plant by picking a genus and then a plant name or by entering the accession number with qualifier of an existing unmapped living accessioned plant. After selecting a genus and a plant name or entering an accession number, select one of the options for single or group plantings. Then, click "Create Plant".

Inventory Accession Number (optional)

Enter the *BG-BASE* accession number with qualifier of this plant. This number must belong to an unmapped living plant. In addition, this number must not have been assigned to another proposed plant.

Comments (optional)

Enter any general comments about this plant.

Off Site/On Site

Select an option depending on whether this plant is already located in your on-site nursery or not.

Size Class (optional)

A Size Class is a general description of the size of a plant, which usually related to its cost. You can create Size Classes based on any applicable parameters such as container size, DBH, height, etc. Examples of size classes could be "10 Gal.", "DBH 8 - 10 cm." or "ht. 10 - 12 ft."

Select the Size Class of this plant. To add or edit Size Classes for this plant name, click "Edit Classes." For more details, click the "Help" button in the Size Classes data entry window.

When you select a Size Class, the default cost of this plant is automatically inserted into the "Cost Each" and "Total" fields, depending on the setting of "Off Site/On Site". You can revise the cost by changing the number in the "Cost" field.

Proposed Source (optional)

Select the source from which you intend to obtain this plant. The selection list is taken from the BG-BASE PSOURCES file.

Single or Group

This field is automatically filled in with an "S" or "G" when you create the plant.

No Curve

For group plantings, check this box to prevent the group outline from being automatically curved by BG-Map. Select "No Curve" for clipped hedges or other plant masses that have sharply defined corners.

Spread, DBH and Height (optional)

For single plants, you may enter values for spread, DBH, and height. Spread and DBH control the size of the plant as it appears on the map. Height is entered for reference purposes only. When you create a plant, the default spread, DBH, and height are automatically entered based on any values for "ultimate" size that have been entered in the BG-BASE NAMES file for this plant name. You may change these default values as desired. If no value is entered for spread, a canopy will not be shown on the map. If no value is entered for DBH, a trunk symbol will not be shown on the map.

Cost (optional) and Quantity

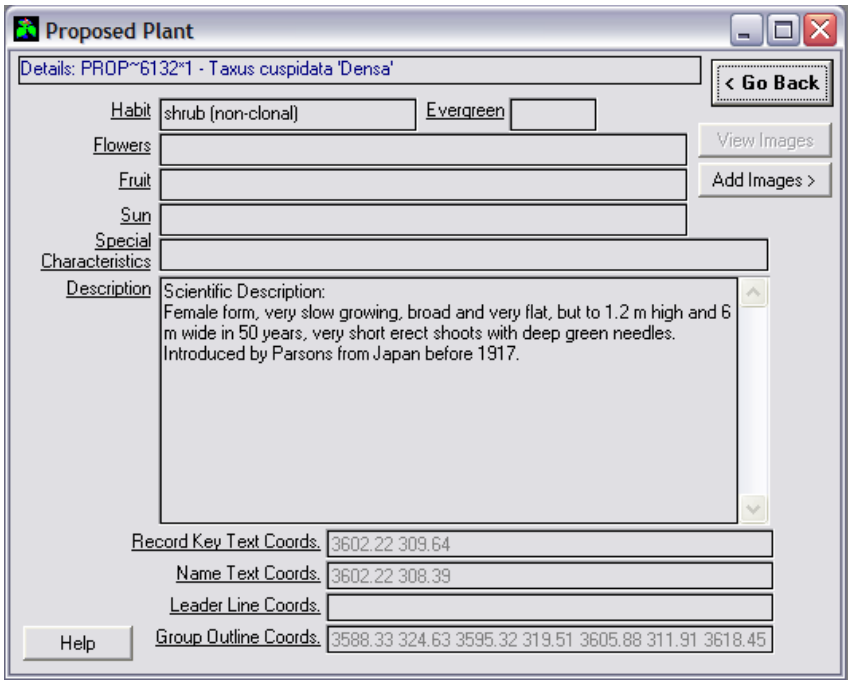
Enter the installed cost of this plant or, in the case of group plantings, for each plant. Enter the quantity of plants – for single plants, this is always set to 1. The total cost will appear automatically in the "Total" field. See also "Size Class" above.

ZOOMING TO A PROPOSED PLANT (not available with AutoCAD LT)

Click "Zoom to It." The map will zoom to and show the proposed plant. Any plants already shown on the map will not be deleted.

Mapping or Remapping a Proposed Plant

A proposed plant must be mapped before it can be saved. First generate a map on screen showing the area where the plant will be located and other existing and proposed plants. Then, click "Map/Remap." Position the plant as desired and save. The process is similar to "Add a Plant" for accessioned plants.



Details/Images

Click this button to view additional details about this plant, view images, or assign images to this Proposed Plant.

Note:	**The Proposed Plant must be saved before you can assign images to it.**

Saving Changes

Click "Save" to save any changes you have made to the record.

Note:	**A Proposed Plant must be mapped before the record can be saved.**

Opening the Record of an Existing Proposed Plant

Click the "Browse" button to select an existing Record Key. Or, click "Recall Last" to recall the last record saved.

Cloning a Proposed Plant

Open the record of an existing Proposed Plant. Click "Clone." A identical record for a new plant will be created.

Converting a Proposed Plant to a Mapped Accessioned Plant

You can convert a proposed plant to a mapped accessioned plant by clicking "Convert to Accessioned."

Note:	**You must first enter a valid Inventory Accession Number.**

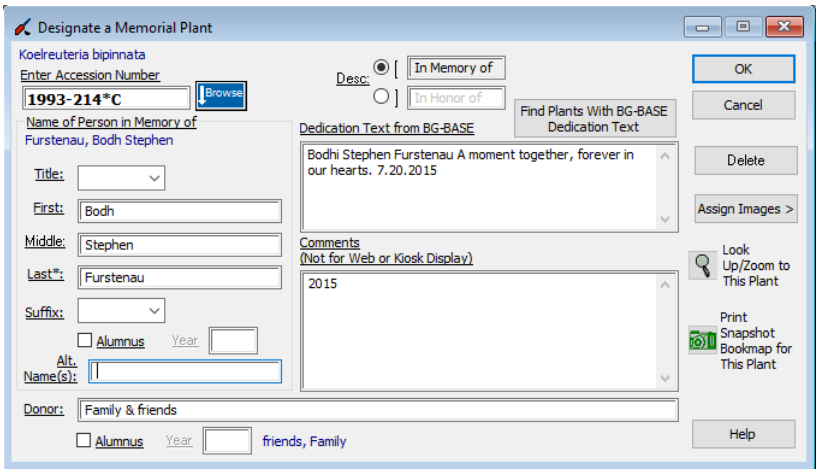
Generating a Map Showing Proposed Plants

Generate a Quadrant, Defined View, or Custom Site map, checking the box labeled "Show Proposed." Proposed plants can also be shown on Quadrant and Defined View Book Maps.

Generating a List of Proposed Plants in an Area of The Garden

You can create a list of proposed plants within any Defined View, including information such as plant sizes, sources, and costs. For details, see "Proposed Plants" in "Plant Lists" in the Print menu.

Designate a Memorial Plant



Designating a Memorial Plant

Enter the accession number with qualifier of the plant in the space provided.

To find mapped plants already designated as memorials in *BG-BASE*, click "Find Plants with *BG-BASE* Dedication Text", and select a plant.

Choose either the default description "In Memory of" or the alternate description "In Honor of". You may also change the wording of the alternate description, if desired.

Enter the name of the person this plant is in memory of. As a minimum, the last name is required. The "Last Name" space can also be used to another sort of name, such as "Graduating Class of 1997".

If this person is an alumnus of your institution, check the box and enter the year.

In the "Alternate Name(s)" field, you may enter any other names by which this person may be known. These names will also be searchable.

Enter the full name of the donor (optional). If this donor is an alumnus of your institution, check the box and enter the year.

Enter any additional comments on this entry. This information will not be displayed in Web-VQF.

Click "OK" to save the entry.

Dedication Text

By default, the dedication text entered into the Plants file in *BG-BASE* will be displayed. You can edit this text here.

Look Up Zoom to This Plant

Click the icon to look up information about this plant or zoom to it on the map.

Print a Snapshot Book Map For This Plant

Click the icon to print a snapshot book map that shows the location of this plant.

Editing an Existing Entry

Click the "browse" button, and select an existing memorial plant entry.

Edit the name as desired.

Click "OK" to save the entry.

Assigning Images

Click "Assign Images". Select images of this plant.

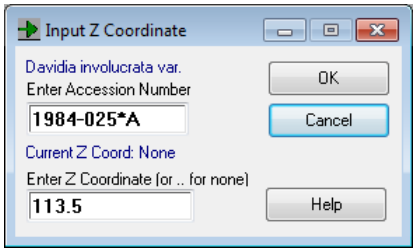
Deleting a Memorial Plant

Click the "browse" button, and select an existing memorial plant entry.

Click "Delete", and confirm your selection.

Input Z Coordinate

This function manually inputs a Z coordinate (elevation) for a currently mapped plant. Enter the accession number with qualifier of the plant (Capitalization doesn't matter). Only numeric values for Z coordinates will be accepted. If you enter "..", the Z coordinate will be deleted.



Note:	**Instead of using "Input Z Coordinate", the BG-Map Total Station Interface or GPS Interface can be used to record plant Z coordinates automatically.**

Using the Print Menu

The Print Menu contains options for printing Book Maps and plant lists on a laser or inkjet printer.

Book Maps

When you click "Book Maps" in the Print Menu, a sub menu will appear, listing the 7 types of Book Maps that BG-Map can produce. For a description of these Book Map types, refer to "Book Maps" in "The Basics of BG-Map". For details on how to print the Book Maps, see "BG-Map Step by Step".

Large Format Maps

This menu option performs the same function as the BG-Map Plot function in the Plot Menu of the CAD Window.

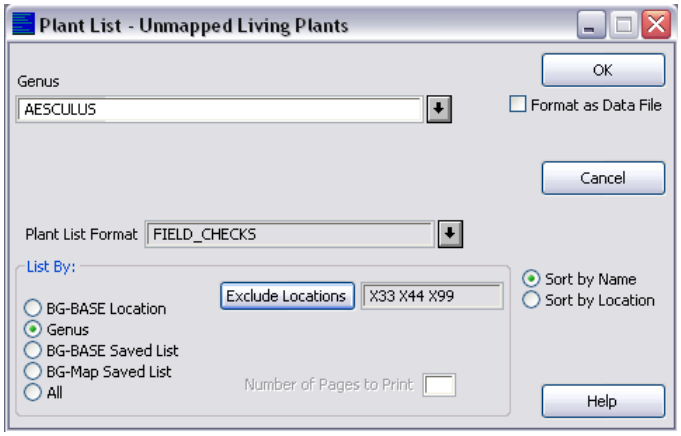
Note:	**If you are using AUTOCAD LT, this is the only way to initiate a BG-Map plot.**

Plant Lists

When you click "Plant Lists" in the Print Menu, a sub menu will appear, listing the various types of plant lists that BG-Map can produce.

Note:	**These plant lists are not associated with maps.** Plant Lists are stored in the C:\bgmapwin\Plant Lists Folder

Unmapped Living Plants



To List Unmapped Living Plants In One Or More *BG-BASE* Locations:
Select "List by *BG-BASE* Location." Then click "Browse" to select one or more *BG-BASE* Locations.

To List Unmapped Living Plants In A Genus:
Select "List by Genus". Then click "Browse" to select a genus, or type in a genus. If you wish, you may exclude plants in one or more *BG-BASE* Locations (a nursery or greenhouse for example). Click "Exclude Locations" to select.

To List Unmapped Living Plants Contained In A BG-Map Or *BG-BASE* Saved List:
Select "List by BG-Map Saved List" or "List by *BG-BASE* Saved List." Then click "Browse" to select a saved list. The list must contain a list of Plants. Lists of Accessions or Names cannot be used.

To List All Unmapped Living Plants:

Select "List All." If you wish, you may exclude plants in one or more *BG-BASE* Locations (a nursery or greenhouse for example). Click "Exclude Locations" to select. Also, you may select the number of pages to print by entering a number in the space provided. If no number is entered, all unmapped living plants will be printed. If you use a Plant List Format to create a web page list (See below), all plants will be listed and the number of pages setting is not enabled.

Listing Only Basic Information About The Plants

Select "NONE" under "Plant List Format."

Using a Plant List Format To List More Information About the Plants

Select a Plant List format other than "NONE", and click "Preview."

Format as Data File

Check this box to format the list as a data file for export to other applications. Then, after you display the list by clicking "Preview", open it in Excel and save it as a CSV file. In this case, no title is required.

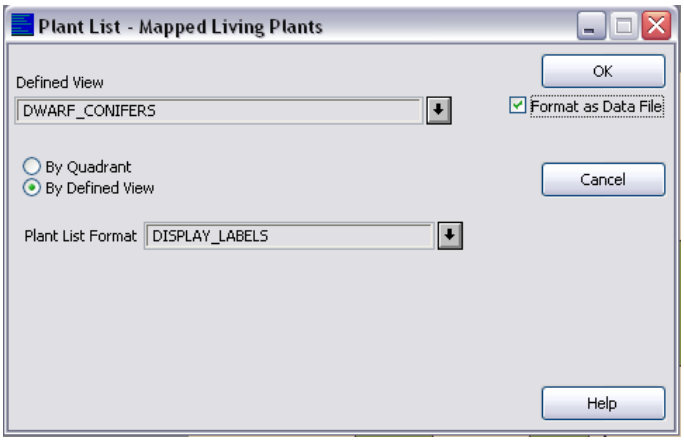
Making A Saved List Of The Plants Listed:

You can make a BG-Map or *BG-BASE* saved list of the plants listed. If you selected "NONE" as the Plant List Format, click "Preview" and then click "Make Saved List." If you chose a different Plant List Format, click "OK," and then click "Make Saved List" when the plant list is displayed.

Mapped Living Plants

This function allows you to print a list of mapped living plants in any quadrant or defined view.

Select either "By Quadrant" or "By Defined View". Then, click the "Browse" button and select a quadrant or defined view.



Note:	**If you choose the "NONE" format and a plant's map coordinates do not correspond with its *BG-BASE* Quadrant, an exclamation mark (!) will be printed after its Y coordinate.** If this occurs, correct the plant's *BG-BASE* Quadrant. If Total Station or GPS field data is available for a plant, a carat (^) will be printed after its accession number.

Mapped and Unmapped Plants – Include Dead Optional

This function lists all plants, both mapped and unmapped. The options for this function are the same as for "Unmapped Living Plants" plus an option to include dead plants.

Plants with Changed Location

This function lists all mapped plants whose location code was changed in *BG-BASE* since they were last mapped or remapped.

Hint:	**This is a good method to create a list of plants that need to be remapped in a situation where different staff members are responsible for database maintenance and mapping.**

Memorial Plants

This function lists all mapped plants designated as memorial plants, whether living or not.

Proposed Plants

This function lists all Proposed Plants within a selected Defined View.

Click the "Browse" button to select a Defined View. Then click "OK".

Plants Selected with Search Tool – Include Dead Optional

This function allows lists all plants selected by using the BG-Map Search Tool. See "Using the Search Tool" in "The Basics of BG-Map."

Inactive Plants

This function lists all living mapped plants which are currently inactive, i.e. they are not to be shown on the map. Click "Preview" to view the list on screen. Click "Print" to print the list.

Select the desired sort order - by Accession Number or Survey Date/Time.

Mapped Dead Plants

This lists by quadrant all mapped plants whose *BG-BASE* status is dead (condition codes "D", "R", or "U"). Select a quadrant from the popup list.

Archived Plants

This lists by quadrant all plants that have been archived. Select a quadrant from the popup list.

Raw Field Data

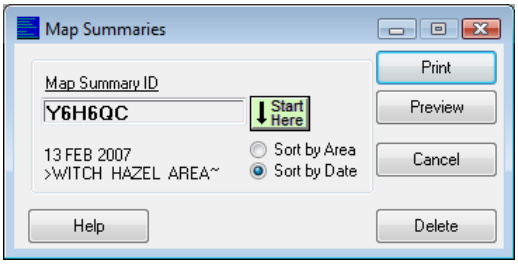
This lists all plants with uploaded raw Total Station or GPS field data (data that has been uploaded but has not been converted.) The list can be sorted by accession number or by date/time.

Converted Field Data

This lists all plants with Total Station or GPS field data that is converted and available. The list can be sorted by quadrant, name or by accession number.

Map Summaries

Whenever you generate a custom quadrant, defined view, view on the fly or site map, a summary of how the map was created is recorded by BG-Map. This summary is filed under a 6-character map identifier, which is printed in the plant list, which accompanies the map. To retrieve a description of exactly how a particular map was created, you can print a Map Summary.



Map summaries for only the last 50 generated maps are saved.

Previewing and Printing a Map Summary

Click "Preview" to view the Summary on screen. Click "Print" to print it.

Deleting a Map Summary

To delete a Map Summary for an obsolete map, click "Browse", and select. Then, click "Delete".

What is Displayed in a Map Summary

The information displayed in each map summary will include:

- **Created by** - the name of the person logged onto BG-Map when the map was created
- **On** - the date on which the map was created
- **For** - the name and description of the Quadrant, Defined View, or Site
- **Corners of area** - the coordinates of the lower left corner and upper right corner of the area within which plants were generated
- **Canopies** - "No Canopies", "Current size", "Ultimate size", or "not applicable"
- **Trunks** - "No Trunks", "Current size", "Ultimate size", or "not applicable"

- **Region Bounded** - whether a Defined View is region bounded - "Yes", "No", or "not applicable"
- **Reference plants** - whether or not reference plants were generated - "Yes", "No", or "not applicable"
- **Condition** - the condition codes that were used for plant selection
- **Provenance** - the provenance codes that were used for plant selection - "G", "W", "Z", or "A" for any
- **Family** - the family name that was used for plant selection
- **Genus** - the generic name that was used for plant selection
- **Species** - the specific name that was used for plant selection
- **Planting date** - the range of planting dates that was used for plant selection
- **Flowers from** - the range of peak flowering dates that was used for plant selection
- **Saved list used** - the name of the *BG-BASE* saved list that was used for plant generation
- **Saved list note** - the content of the note that was entered along with the saved list name

Living Collection Statistics

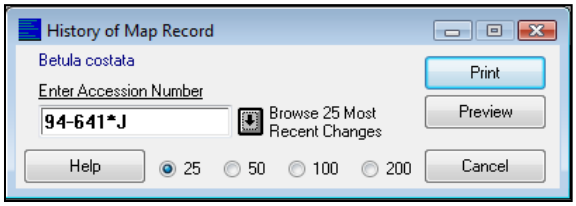
This creates a report showing the number of plants in the collection, broken down by map status, habit and single versus mass. You can also access this report by clicking "Show Full Collection Statistics" at the bottom right corner of the BG-Map window.

Your Botanical Garden Anywhere Worldwide
Living Collection Statistics
09 FEB 2015

Type	Taxa	Plant Records	Mapped	Indiv. Plants	Masses
Trees	1,076	4,020	3,566	4,264	17
Shrubs	1,223	3,303	2,800	5,080	232
Herbaceous	105	209	172	213	142
Vines	78	149	117	154	3
Bulb-Like	6	8	5	15	4
Total	2,488	7,689	6,660	9,726	398

History of Map Record

BG-Map maintains a history of each map record, i.e. each accessioned plant that is mapped, beginning with the creation of the record and including all updates to the record except for the editing of text or leader lines.



Previewing and Printing the History of a Map Record

Enter the accession number with qualifier of the plant. Or, click the "Browse" button to select from a popup list of plants whose map locations were most recently changed. You can select from the last 25,

50, 100, or 200 most recently changed plants.

Click "Preview" to view the list on screen. Click "Print" to print the list.

What is Displayed in the History of a Map Record

The following information is recorded when a new map record is created:

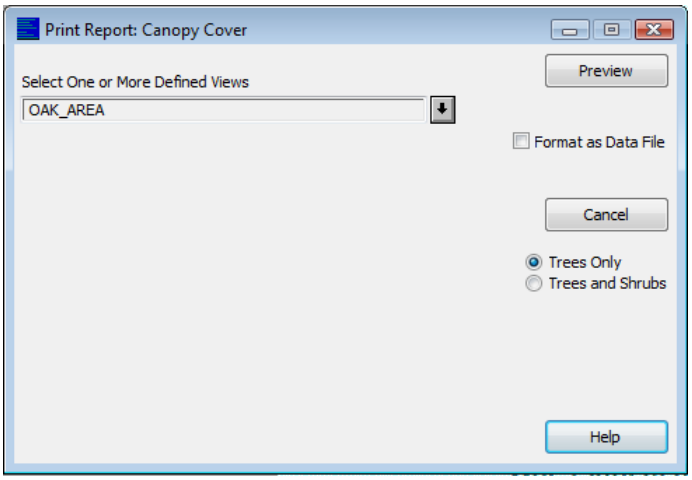
- **Originally mapped on** - the date that the record was created (If the Total Station or GPS Interface was used, this is the date that the data was transferred to the map, not the date that the plant was field surveyed.)
- **Mapped by** - The name of the person logged onto BG-Map when the record was created (For plants mapped with the Total Station Interface, this is not the name of the person doing the field surveying.)
- **Using** - How the map record was created, either Total Station/GPS or manual entry
- **Original Coordinates** - the original x, y, and z coordinates of the plant
- **Quantity** - either single plant or group, when the record was created

The following information is recorded for each record update:

- **Change No.** - the total number of changes to the record to date
- **Date** - the date that the change was recorded
- **Change Type** - one of these:
  - Relocate a Plant (manual)
  - Relocate a Plant (Total Station/GPS)
  - Edit Group Outline
  - Input Z Coordinate
- **Changed By** - name of person logged onto BG-Map when the change was made
- **Coordinates** - the new x, y, and z coordinates of the plant after the change was completed
- **Quantity** - either single plant or group, following the change
- **Reason Why Relocated** - one of these
  - **Plant Moved** -The plant was physically moved.
  - **Map Error** -The plant was previously mapped in error.
  - **Mass Move** -The plant was moved using the Mass Move function in the CAD Window.
  - **Other** - Some other reason

Note:	**History of Map Record is only available for plants that were mapped or changed after BG-Map version 3.0 was installed.** For records that were created or changed in earlier releases, these fields will be left blank or the word "unknown" will be displayed.

Canopy Cover Report



This function allows you to print a report listing the percentage of canopy cover for one or more Defined Views and the total for all views selected. The report is based on the canopy measurements entered in *BG-BASE* for the trees or trees and shrubs within one or more Defined Views.

Select One or More Defined Views
Click the "Browse" button, and select one or more Defined Views.

Trees or Trees and Shrubs
Select what to include in the calculation - trees or trees and shrubs, based on the Habit codes entered into BG-BASE.

Format as Data File
Check this box to format the report as a data file for export to other applications. Then, after you display the list by clicking "Preview", open it in Excel and save it as a CSV file.

Viewing, Printing and Saving the Report

The report will appear in a separate Window on-screen.

To Print the Report
Click the printer icon.

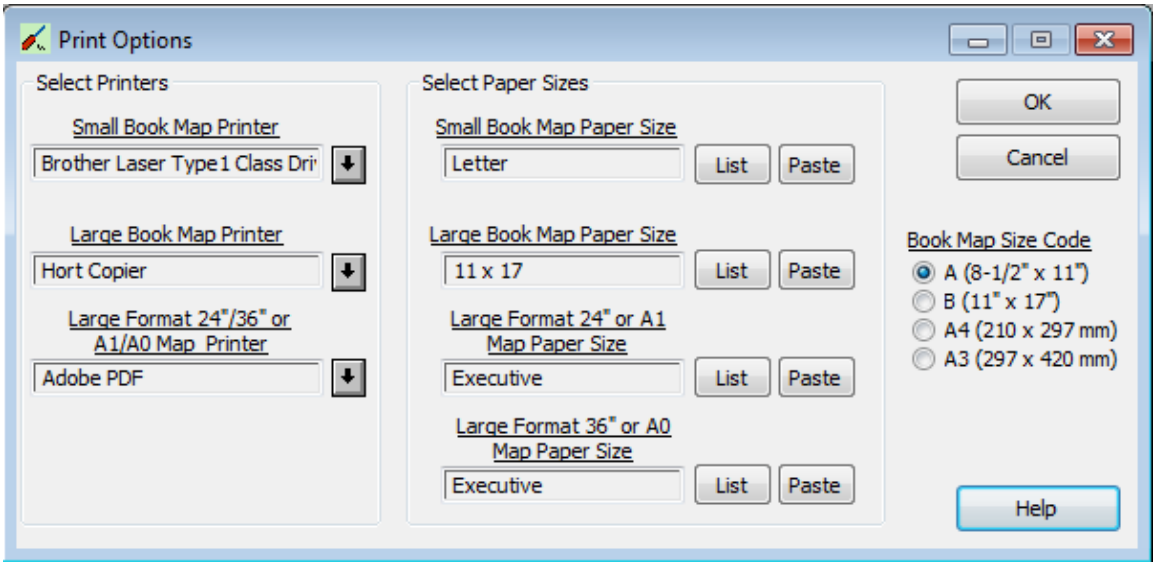
To Save the Report as an HTML or PDF File

Select the file type, and click the save icon. Select a file name to save as, and click "OK."

To Open the Report in Microsoft Excel
If Excel is installed on your computer, click "Open in Excel." You may then edit the list or save it in Excel format if desired.

Where Report is Saved
Plant list HTML and PDF files are normally stored in a folder on your C: drive: C:\bgmapwin\Plant Lists. You can choose a different folder if you wish.

Print Options



Note:	**Print Options settings must be entered separately for each BG-Map user.** BG-Map cannot print maps until print options have been set up for the user who is currently logged in. For more information on printer setup, see Configuring Printers and Plotters for BG-Map.

Printer Selection

You can select printers to print small book maps (8-1/2" x 11" or 210 x 297 mm), large Book Maps (11" x 17" or 297 x 420mm) and large format maps (24" or A1 minimum paper width.) The printers can be actual physical printers or virtual printers that print to a file.

Click the "browse" buttons to select a printer from the list of printers available on your computer. Printers selected must be capable of

handling the corresponding paper sizes.

Note:	**If you are using AutoCAD, the default printer names used in previous versions of BG-Map (prior to 2017) will be displayed (BGM-PR-SM, BGM-PR-LG and BGM-PLOT.)** If these printers have not already been set up, choose different printers.)

Setting Paper Sizes for Small Book Maps, Large Book maps, 24"/A1 Large Format Maps and 36"/A0 Large Format Maps

Click the corresponding "List" button.

CAD will display a list of paper sizes for the selected printer.

Choose the correct paper size for the type of map you wish to print.

Highlight all of the text for the selected paper size, including surrounding quotation marks, right-click and copy to the clipboard.

In the BG-Map window, click the corresponding "Paste" button to paste the selected paper size into the paper size box.

Repeat for each desired map type.

Book Map Size Code

This sets the default size for Book Maps. Choose one of the following:

- A (8-1/2" x 11" U.S. letter size)
- A4 (210 x 297 mm metric letter size)
- To print a Large Book Map, choose one of the following:
- B (11" x 17" U.S. ledger size)
- A3 (297 x 420 mm metric ledger size)

Force Preview Before Printing (Applies to IntelliCAD only)

Check this box to force a preview before printing. In some installations, this may be necessary to prevent printing a blank page.

Using the Tools Menu

Create Plant List Formats 

Plant List Formats are named lists of up to 20 fields that can be included in map plant lists. This function defines, deletes, or sets a Plant List Format as the default format.

Note:	**Plant List Formats are also used in conjunction with "List Plant".** See "List Plant" in "Using the Plants/Objects on Map Menu" in "Becoming Familiar with the CAD Window".

Note:	**In the case of Book Maps, only the first 6 fields of the Plant List Format are used**.

Creating a New Plant List Format

Click the "Start" button, and select "Define New". Then enter a name for the new format. A popup list of data fields will be displayed. Select the data fields you wish to include in the format - up to 20, and click "OK (Save)".

Formats Containing Information Available Only at the Taxon Level

If you include the word "TAXON" in the name of the format, the format will include only those fields available at the taxon (NAMES) level. Otherwise the format may include fields from either the taxon or plant level.

Special Formats for Web-ECM/VQF

The formats intended for use with Web-ECM/VQF must be named as follows:

ECM Student Access Level for PLANTS	**ECM_STUDENT**
Visitor Access Level Basic Information for PLANTS	**ECM_BASI**C
Visitor Access Level Extended Information for PLANTS	**ECM_DETAIL**
Staff Level Information for NAMES	**ECM_STAFF_TAXON**
Visitor Access Level Basic Information for NAMES	**ECM_TAXON_BASIC**
Visitor Access Level Extended Information for NAMES	**ECM_TAXON_DETAIL**

Setting a Default Plant List Format

Click the "Start" button, and select "NONE" or one of the existing formats. To set this format as the default, click "Set as Default".

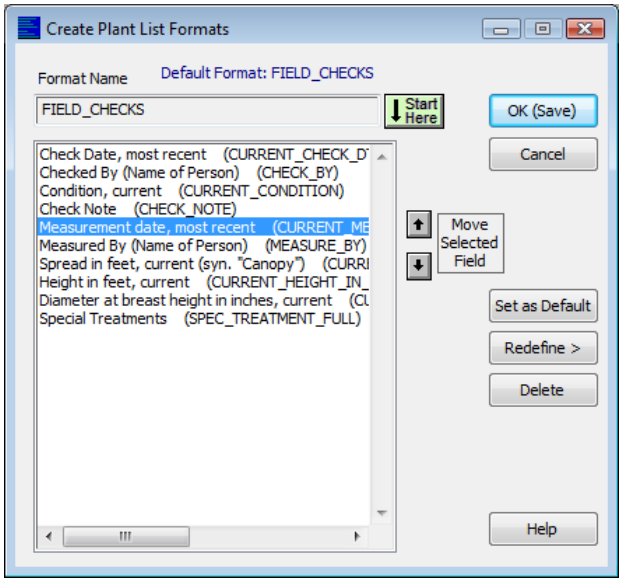
Redefining an Existing Plant List Format

Click the "Start" button, and select one of the existing formats. Click

"Redefine." A popup list of data fields will be displayed. The previously selected fields will be highlighted. Select the data fields you wish to include in the format - up to 20, and click "OK (Save)"

Reordering the Fields

After you have selected the fields, you can change their order. Click a field in the list, and click the "up" or "down" buttons to move it.



Deleting an Existing Plant List Format

Click the "Start" button, and select one of the existing formats. Click "Delete". You will be asked to confirm your selection.

More About the Standard Fields and the "NONE" Format

Regardless of format, each plant list always begins with several "Standard Fields". The "NONE" format is a preset Plant List Format that includes only these Standard Fields and no additional fields.

The Standard Fields are:

For Large Format Maps	For Book Maps:
Accession number*	Scientific name
Scientific name	Accession number
X-coordinate*	Key number (if required)
Y-coordinate*	
Key number (medium sized defined views only)	
Quadrant* (large defined views and Site Maps only)	

Note: **The Standard Fields marked with an Asterisk (*) can be excluded when you generate a map.** See "BG-Map Step by Step".

Note: **If you delete the default Plant List Format, the default Plant List Format will be reset as "NONE".**

Images in Plant List Formats

You can include images in plant lists by adding these fields to a Plant List Format.

Image Thumbnail (For Name)	Displays a thumbnail of an image that has been assigned to this taxon in *BG-BASE* or BG-Map.
Image Thumbnail (For Plant)	Displays a thumbnail of an image that has been assigned to this individual plant in *BG-BASE* or BG-Map.

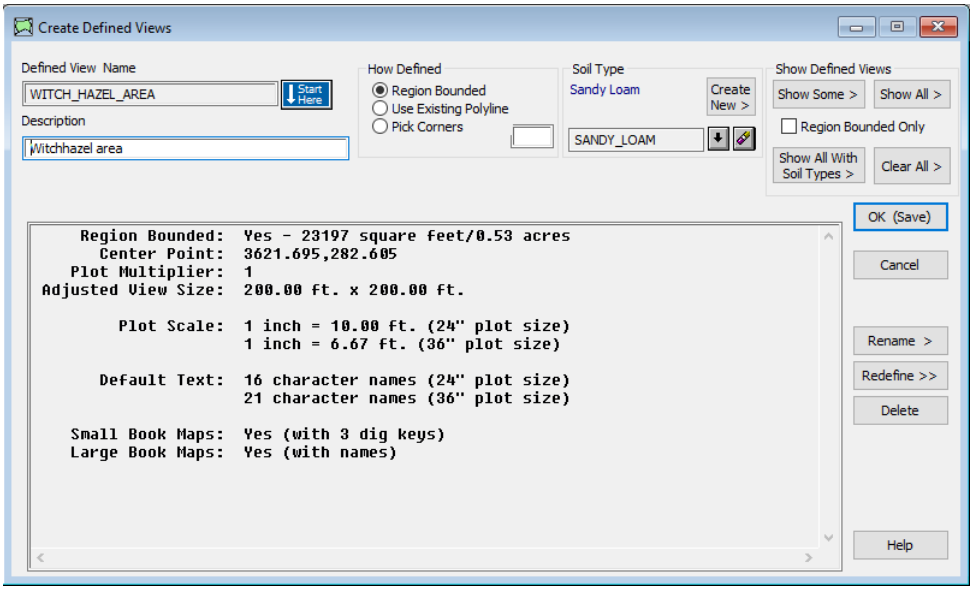
Create Defined Views 

Defined Views are user-defined areas within the garden for which you can create maps. You define the boundaries of each Defined View and assign it a name. When you generate a Defined View, only plants within the view's boundaries are displayed. When you plot a Defined View, the plot will automatically be scaled so that it fits the available plot area. The plot scale will be dependent on the size of the view.

Defined Views can also be used to perform special functions - creating Excluded Regions and *BG-BASE* Location Outlines.

Using a Defined View to Create an Excluded Region

If you prefix a Defined View name with EXR_ (note the underscore), the region defined by the view will be treated as an Excluded Region by Visitors QUICKFinder. Plants within the region will be ignored by Visitors QUICKFinder and Web-VQF. You can use this feature to prevent visitors from accessing plants in certain areas - nurseries for example. This type of Defined View can only be defined as Region-Bounded.



Using a Defined View to Create a *BG-BASE* Location Outline

The name of this special type of Defined View consists of the prefix LOC_ (note the underscore), followed by a *BG-BASE* Location Code. This type of Defined View can be used to allow Visitors QUICKFinder and Web-VQF to display maps showing the locations of unmapped plants, by outlining the *BG-BASE* location in to which the plant is assigned. For more details, see "VQF Options" in "Using the Utilities Menu". This type of Defined View can also be used to allow BG-Map to automatically update the *BG-BASE* Location when a plant is mapped or remapped. For details, see "Quad Up Options" in "Using the Tools Menu". A *BG-BASE* Location Outline Defined View can only be defined as Region-Bounded.

Working With Soil Types

You can assign a Soil Type to a Region Bounded Defined View. This Soil Type will then be associated with all plants mapped within this Defined View to indicate the type of soil the plants are growing in. Plant soil types can be searched with the Search Tool and can be included in Plant List Formats for use in reports. You can create Soil Types by clicking **Tools/Create Soil Types** or by clicking the **Create New** button in this window.

Displaying Some or All Existing Defined Views

Click "Show All" to display the boundaries of all existing Defined Views. If you check "Region Bounded Only", only region bounded defined views will be displayed.

Click "Show Some" to display the boundaries of selected Defined Views. Then, select the views that you wish to display.

Click "Show All with Soil Types" to display the boundaries of all Defined Views that have Soil Types assigned. The Soil Type code for each view will also be displayed.

Click "Clear All" to hide the boundaries.

Renaming an Existing Defined View

Click the "Start Here" button and select an existing view.

Click the "Rename" button, and enter a new name.

Deleting an Existing Defined View

Click the "Start Here" button and select an existing view.

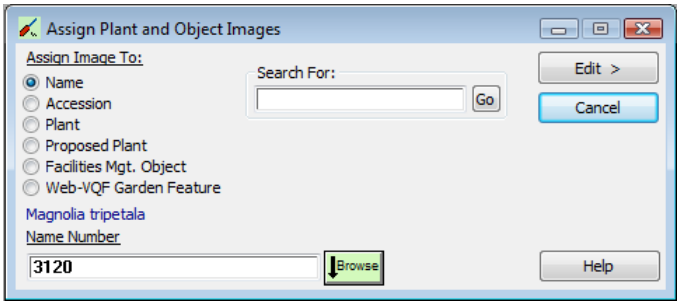
Click the "Delete" button.

For details on how to create Defined Views, see "How to Create a Defined a View" in "BG-Map Step by Step".

Assign Plant and Object Images

This function assigns images for display in BG-Map.

Images can be assigned to Names, Accessions, individual Plants, Proposed Plants, Facilities Management Objects, or Web-VQF Garden Features. You can assign more than one image to each.



Note:	**BG-Map can also display images assigned in the *BG-BASE* Images Module.**

Note:	**In order for images to appear in Web-VQF, they must be located within the folder designated as "Plantpix" in Web-VQF or in one of its sub-folders.** See the Web-VQF user's manual for more details.

The following image types can be displayed - .BMP .DIB .GIF .JPG .PNG

How to Add or Edit an Image

Assigning Images to a Name, Accession, Plant, or Object for the first time

Set "Assign Image To" to "Name", "Accession", "Plant", "Proposed Plant" or "Facilities Mgt. Object".

Enter the *BG-BASE* Name Number, Accession Number, Accession Number with Qualifier, Proposed Plant Record Key or Facilities Management Object Record Key in the space provided, and click "Edit".

For Images Assigned by Name, or Proposed Plant, you can enter all or part of the name in the search box in order to find the correct Name Number.

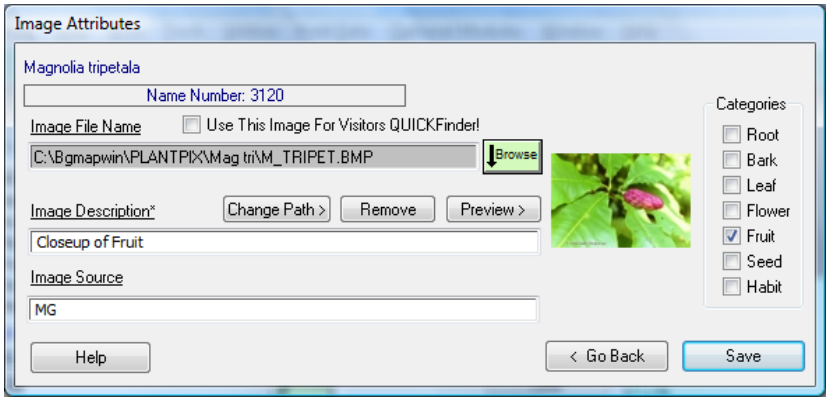
For Images Assigned by Accession Number or Accession Number with Qualifier You can click QUICKFinder! to find an Accession Number, or Accession Number with Qualifier for any living plant.

Redisplay List Button

This button is displayed only if you created a selection list using QUICKFinder! Click it to redisplay the selection list.

Modifying an Existing Image Assignment

Click the browse button to display the current list of image assignments of the selected type. Image Record ID's may have one of these prefixes:



(no prefix) - Images assigned to Plant Names
Prefix PL| - Images Assigned to Plants
Prefix AC| - Images assigned to Accessions
Prefix PROP~ - Images assigned to Proposed Plants
Prefix FM| - Images assigned to Facilities Management Objects

Select an entry, and then click the "Edit" button to add, delete, or change the assigned images. If this is the first time you are assigning images to a particular Name, Accession, Plant or Object, follow the instructions below.

How to Add an Image

Click the "Browse" button, and select "ADD NEW IMAGE FILE". Then, select an image file from the dialog box. The following image types can be used - .BMP .DIB .GIF .JPG

Add notes for image description and source. If you wish, you can preview this image along with the notes for description and source by clicking "Preview". Then, click "Save".

How to Delete an Image

Click "Browse", and select an image already assigned to this Plant, Accession, or Name. Then, click "Remove". Then, click "Save".

BG-BASE Images

BG-BASE also provides a feature for assigning images. If images have been assigned to this Plant, Accession, or Name in *BG-BASE*, the message "*BG-BASE* image record available" will be displayed.

How to Assign a Title Image for Web-VQF

To assign an image to be displayed at the top of the page in the Web-VQF taxon level display (Visitor mode), check the box marked "Use for Visitors QUICKFinder. This does not apply to images displayed for ECM Course Plants. The title image in ECM Course Plant mode is determined by its being in the top position in the image list.

How to Assign an Image for Use with Visitors QUICKFinder (VQF) - Deprecated

To specify which image to use, check the box marked "Use for Visitors QUICKFinder.

Note: Only one image per Plant, Accession, or Name can be assigned for use with VQF). The VQF image assignment has no effect if the option "Allow Multiple Images" is enabled in VQF Options - See "VQF Options" in "Using the Utilities Menu".

VQF will search for images in the following order of priority:

1. Images assigned in BG-Map to this Plant and flagged for use with VQF
2. Images assigned in BG-Map to this Accession and flagged for use with VQF
3. Images assigned in BG-Map to this Name and flagged for use with VQF
4. The first Image assigned in *BG-BASE* to this Plant
5. The first Image assigned in *BG-BASE* to this Accession
6. The first Image assigned in *BG-BASE* to this Name
7. The first Image assigned in BG-Map to this Plant
8. The first Image assigned in BG-Map to this Accession
9. The first Image assigned in BG-Map to this Name

How to Change The Notes For Image Description and Source

Click the "Browse" button, and select an image. Then, edit the description and source notes. Then, click "Save"

Assigning Image Categories

Check the appropriate box or boxes - Root, Bark, Leaf, Flower, Fruit, Seed and Habit - that describe the content of the image.

Changing the Stored Path To Image Files

If the location where you store image files changes, you can change the stored path so that BG-Map will be able to find the images.

Example:	Suppose you previously stored a number of images in this location: G:\Plant Images\Trees. You later moved the image files to N:\Plant Pix\Trees. Here's how to change the stored image path in BG-Map. First, open the image record for a previously stored image - for example G:\Plant Images\Trees\Quercus alba 23.jpg. Click "Change Path", and select the same image file in the new location - in this example, it would be N:\Plant Pix\Trees\Quercus alba 23.jpg. BG-Map will ask you if you wish to change the path for all images from G:\Plant Images\Trees to N:\Plant Pix\Trees. If you answer yes, the stored path for all images previously in G:\Plant Images\Trees will be changed to N:\Plant Pix\Trees.

Images for Facilities Management Objects

Images can be assigned to individual Facilities Management Objects. You can also assign images by creating entries in the Facilities Management Media file. "Image" entries are easier to use than "Media" entries if the image will be assigned to only one Object. If an image will be assigned to several Objects then "Media" entries are easier to use.

Images for Web-VQF Garden Features

Multiple Images can be assigned to Web-VQF Garden Features. The images must be located within the main Garden Features folder as set up for your Web-VQF site. You may create and use sub-folders within the Garden Notepad folder, if you wish.

Define Critical Root Zones

What Is A Critical Root Zone?

The Critical Root Zone (CRZ) is the area around a tree requiring protection from soil compaction during construction or other circumstances. The most common method for determining the CRZ is to assume that it falls within a circular area whose radius is equal to some multiplier (usually between 12 and 18) of the trunk diameter. The multiplier can be a general constant, or it can be set specifically for each genus or species.

How to Display Critical Root Zones On A Map

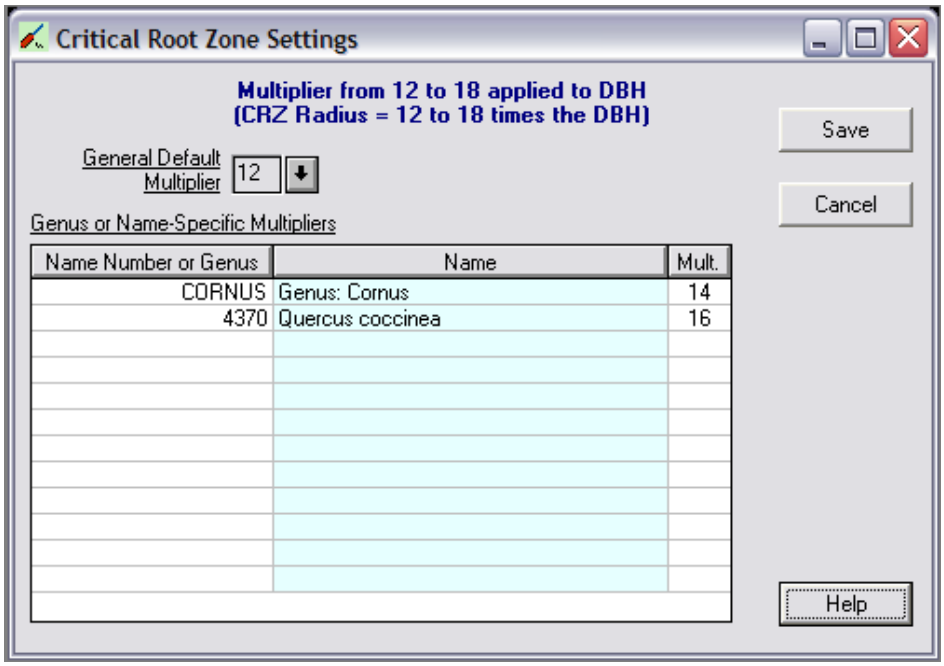
When generating a map, check the "Show CRZ's" box.

\

How to Change the Default Multipliers for Critical Root Zones

The multiplier is the ratio of the radius of the CRZ to the DBH of the tree. For example, if the multiplier is set to 16, and the DBH of the tree is 6 inches, the radius of the CRZ will be 6 x 16 inches (96 inches or 8 feet). In metric terms, if the DBH is 12 cm and the multiplier is set to 16, the radius of the CRZ will be 12 x 16 cm (192 cm or 1.92 meters)

The general default CRZ multiplier will be used for all trees for which a genus or name-specific multiplier has not been entered. A multiplier entered for a genus will be applied to all trees of that genus except those for which a name-specific multiplier has been entered.



Entering the General Default Multiplier
Click the browse button, and select a multiplier between 12 and 18.

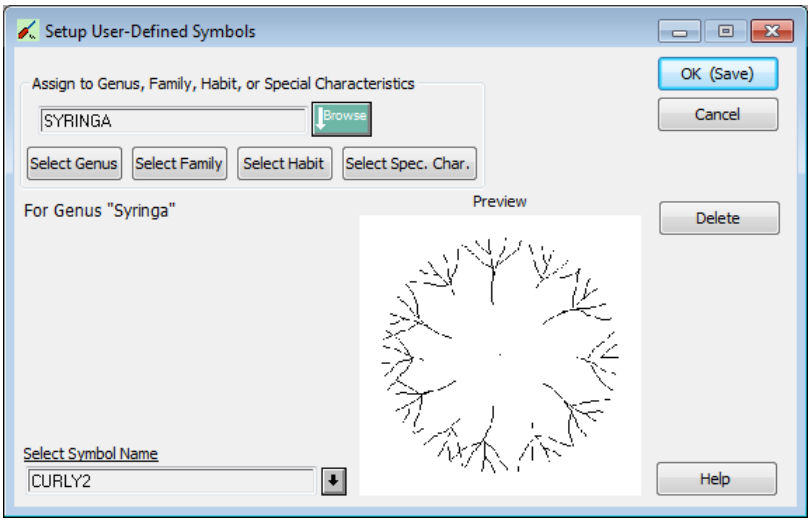
Entering a Multiplier Specific to a Genus or a Name
Click on an empty space in the "Name Number or Genus" column of the table. Then, right-click and select "Browse". Select "Genus" or "Name". Select a genus, or enter all or part of a name, and select from the popup list. Then, select a multiplier between 12 and 18.

Deleting a Multiplier
Click on a row on the table. Then, right-click, and select "DELETE".

Saving the Multipliers

Click the "Save" button to save the settings.

Assign User-Defined Canopy Symbols (Not Available with CMS IntelliCAD)



This function allows you to specify customized symbols to be displayed on the map instead of the standard BG-Map canopy symbols. These customized symbols will be displayed only if you check the box labeled "User-Defined Symbols" when you generate Quadrant, Defined View, or Site maps or check "User-Defined Symbols" under VQF options.

You can use pre-made symbols that come with BG-Map or create your own symbols.

A user-defined symbol can be assigned to a genus, to a family, to a plant habit or to a special characteristic (SPEC_CHAR). When generating a map, you can display custom symbols based on Family/Genus, Habit, or Special Characteristics.

If based on Family/Genus, all plants in the genus or family or having the selected habit will be displayed with the symbol that you specify. Symbols assigned to genera will take precedence over symbols assigned to families.

If based on Habit, all plants with the selected habit will be displayed with the symbol that you specify. If a plant name has more than one habit code assigned, only the first code listed will be checked.

If based on Special Characteristics, all plants with the selected characteristic will be displayed with the symbol that you specify. If a plant name has more than one Special Characteristic assigned, the first matching code listed will be used.

Using the Symbols That Come With BG-Map

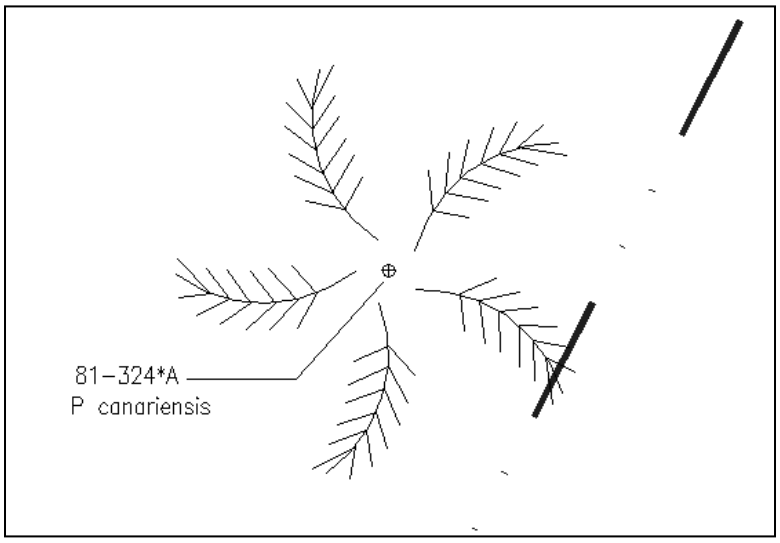
The pre-made symbols are stored in the folder: c:\bgmapwin\Symbols\User Defined. To add one of these symbols to your basemap - see the instructions below, "How To Import a Symbol From an External File". Be sure to save your basemap after the symbols have been imported.

Assigning a Symbol

Click "Select Genus", "Select Family", or "Select Habit". Then select a symbol name from the symbol files stored in the `c:\bgmapwin\Symbold\User Defined` folder. Click "OK" to save.

Note:	**To generate the symbol preview thumbnails, make sure you have installed the BG-Map Printers, PMP files and Plot Styles.** Click here for details

Note:	**If the symbol name begins with the letters CC the symbol will be inserted at a scale of 1 regardless of any size data stored in *BG-BASE*.** This is useful forcing the display of symbols even if size information is not present in *BG-BASE*.



Reassigning a Symbol

Click "Browse", and select one of the existing symbol assignments. Then, change the symbol name. Test to make certain the new symbol is currently defined in you basemap by clicking "Test". If the symbol is displayed on the map, the symbol name is valid. Otherwise, CAD will

display an error message. If no error occurs, go back and click "OK (Save)"

Deleting a Symbol Assignment

Click "Browse", and select one of the existing symbol assignments. Then, click "Delete".

Creating Your Own Symbols

Some symbols are included with BG-Map in the Bgmapwin\Symbols\User Defined folder. If these don't meet your needs, you can create your own symbols. Note, this requires some CAD skills or outside assistance.

You can create symbols as separate drawing files and import them into your basemap using the CAD block insert command - see the instructions below, "How To Import a Symbol From an External File". Be sure to save your basemap after the symbols have been imported.

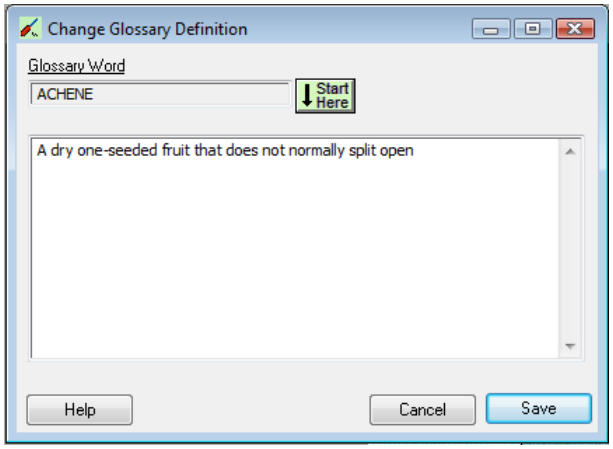
Here are some guidelines for symbol creation:

- All symbols should be created on layer 0
- If you wish the symbol to display in the colors of the BG-Map plant groups, define it with color BYLAYER. If you wish the symbol to always display in a constant color, assign it a specific color.
- The diameter of the symbol must be one drawing unit. (With the exception of symbols whose names are prefixed by the letters CC, which should be drawn at the intended display size. See above.)
- The insertion point must be at the center.
- There must be a CAD point entity located at the center (insertion point)

Keep the symbol fairly open and airy so as to minimize conflict with adjacent text.

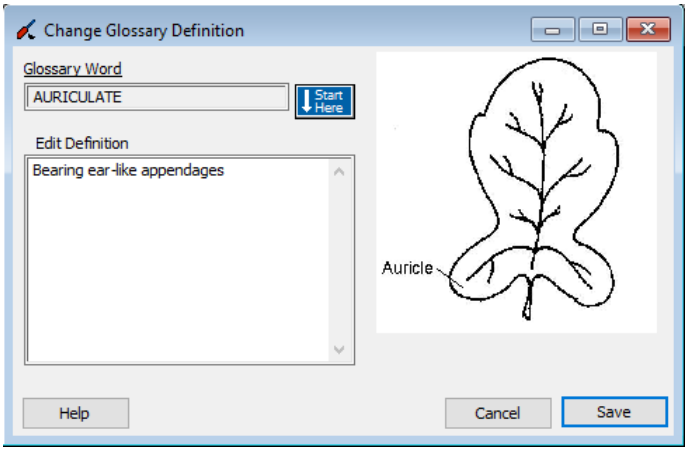
How to Import a Symbol from an External File

Zoom in to a close-up view of an empty spot on your basemap. In the CAD menu, choose "Base Map/Insert Block". Click the "Browse" button, and choose the drawing file for a symbol. The box labeled "Insertion point - specify on screen" should be checked. The boxes labeled "Scale", "Rotation", and "Explode" should not be checked. Click "OK", and click on an empty spot on the map. The symbol should appear, and the "Command" prompt should return. Once the symbol appears, erase it, and then save the basemap. Repeat the above for each symbol to be imported.



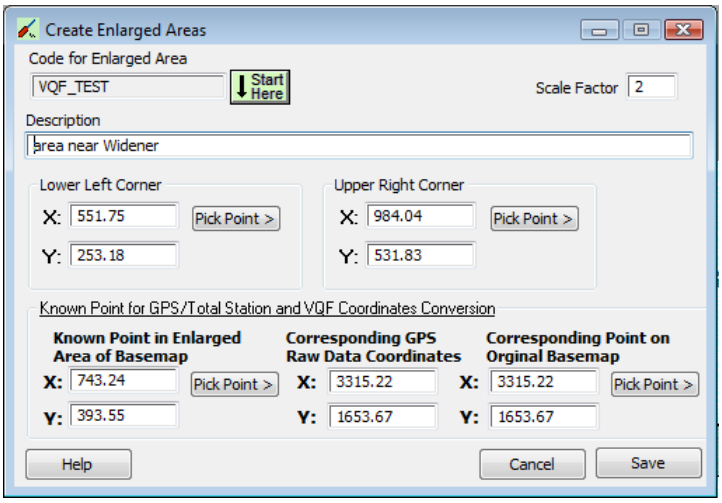
Edit Glossary Definitions

This window allows you to edit the definitions of the words that appear in the BG-Map glossary.



To change a definition, click the "Start" Button, and select a word. Then, edit its definition, and click "Save".

Create Enlarged Areas



This window allows you to create or modify an Enlarged Area of the basemap. Enlarged Areas are areas of the basemap that are drawn at a larger scale to be able to better display closely spaced plants. By defining an Enlarged Area, canopies and trunks will be displayed at their correct relative sizes within the area and Relative Measurements and GPS/Total Station data will be corrected when working within the area.

Creating an Enlarged Area

First, add the enlarged plan of the area to the basemap, using an unused (empty) section of the grid. If you need to expand the grid to accommodate the Enlarged Area, contact BG-Map.

Click the "Browse" button, and select "Define a new Enlarged Area". Enter a code of 12 characters or fewer for the new Enlarged Area. Then, fill in the information as indicated for each prompt.

Description (required)
Enter a description of this Enlarged Area.

Scale Factor (required)
Enter the magnification of the Enlarged Area relative to the rest of the basemap. For example, if the enlarged area is drawn twice as large as the rest of the basemap, enter 2. This value must be a positive number greater than 1.

Lower Left Corner (required)
Enter the X and Y coordinates of the lower left corner of the Enlarged Area. Or, click "Pick Point", and click the lower left corner on the map.

Upper Right Corner (required)
Enter the X and Y coordinates of the upper right corner of the Enlarged Area. Or, click "Pick Point", and click the upper right corner on the map.

Creating a Conversion for GPS Or Total Station Data (Optional)

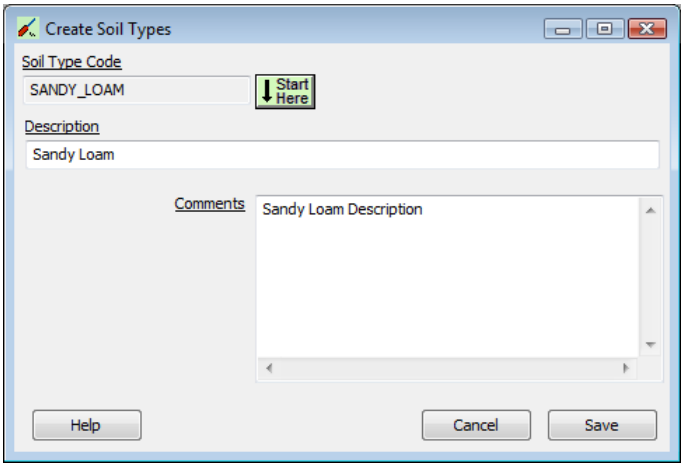
If you will be mapping plants in an Enlarged Area using GPS or total station data, you can set up a conversion that will correct the field data so that the plant is correctly placed within the Enlarged Area.

You will need to determine a point whose basemap coordinates within the enlarged area and GPS coordinates are both known. In order to do this, select a point within the enlarged area which is clearly shown on the basemap. Carefully, map its location using the GPS or total station, and print out the Raw Field Data for that point. Enter the coordinates of the point as shown on the basemap in the spaces labeled "Known Point in Enlarged Area of Basemap" (or click "Pick Point" to click the point on the map), and enter the coordinates of the same point from the raw field data in the spaces labeled "Corresponding GPS Raw Data Coordinates".

Creating a Conversion for Visitors QUICKFinder (Optional)
You can set up a conversion to allow Visitors QUICKFinder to point to the actual location of the plant in the garden rather its location within the enlarged area.

You will need to determine a point whose basemap coordinates within the enlarged area and coordinates in the original basemap are both known. In order to do this, select a point within the enlarged area which is also clearly shown on the original basemap. (NOTE: The same point can be used to create a GPS conversion - see above.) Enter the coordinates of the point in the enlarged area of the basemap in the spaces labeled "Known Point in Enlarged Area of Basemap" (or click "Pick Point to click the point on the map), and enter the coordinates of the same point on the original basemap in the spaces labeled "Corresponding Point on Original Basemap" (or click "Pick Point" to click the point on the map).

Create Soil Types



This allows you to create or modify Soil Types. A Soil Type may be assigned to a Defined View to describe the type of soil plants within the View are growing in.

Creating a Soil Type

Click the "Start" button, and select "Define a new Soil Type Code". Enter a code of 12 characters or less for the new Soil Type. Then, fill in the information as indicated for each prompt.

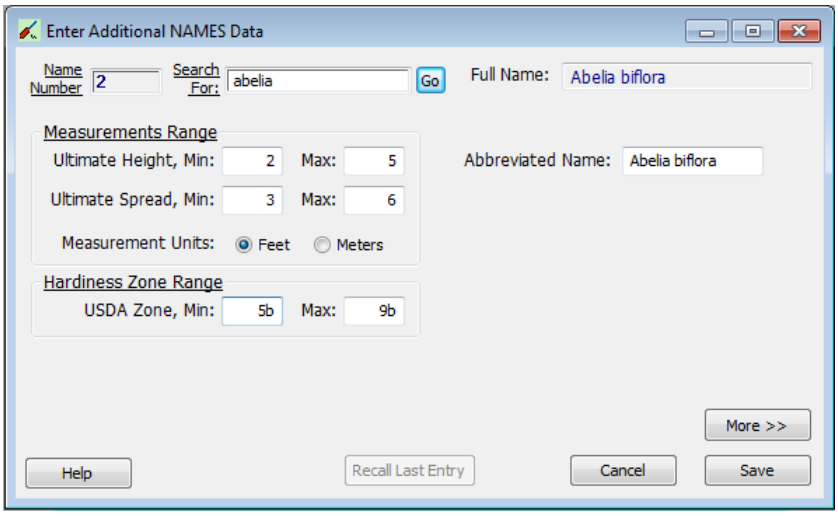
Description (required)
Enter a description of the Soil Type.

Comments
Fill in any general comments on this Soil Type.

Modifying an Existing Soil Type
Click the "Start" button, and select an existing Soil Type to be modified.

Enter Additional Names Data

This window allows you to enter additional data about a plant name (taxon.)



Selecting a Plant Name (Taxon)

Enter all or part of the name in the "Search for" box, and click "Go." Select a name from the list.

Abbreviated Name

You can enter or edit the abbreviated name for this plant. The name is stored in the *BG-BASE* NAMES file. The abbreviated name can be 16 characters maximum and is displayed on some of the types of maps generated by BG-Map. In order to edit the name, you must enter your *BG-BASE* login name and password.

Measurements Range
Use these fields to enter a range of measurements for ultimate height and ultimate spread. Enter the values as whole numbers, and select as units either feet or meters.

Hardiness Zone Range
Enter the minimum and maximum USDA zones for this taxon. You can include sub-zones (a and b) if desired.

Entering Information of Use to Web-VQF Visitors

Click "More" to enter additional information which may be of interest to visitors to Web-VQF. Be sure to add these fields to your Plant List Formats, ECM_TAXON_BASIC or ECM_TAXON_DETAIL, to make them accessible in Web-VQF.

Curator's Comments
Interesting Facts About This Plant
Products Made From This Plant

Using This Data

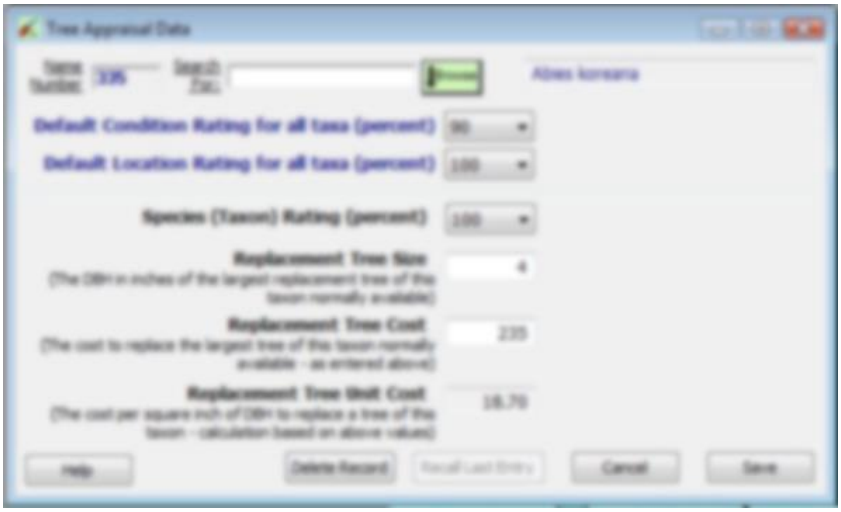
This data can be displayed in reports and in Web-VQF by including any of these fields in Plant List Formats:

- Height range in feet, ultimate
- Height range in meters, ultimate
- Spread range in feet, ultimate
- Spread range in meters, ultimate
- Hardiness zone range, USDA
- Curator's Comments
- Interesting Facts About This Plant
- Products Made From This Plant

If data for a taxon was not entered here, corresponding data from *BG-BASE* will be displayed instead. For example, if a USDA hardiness zone range for a taxon was not entered here, the USDA hardiness zone from *BG-BASE* (not a range) will be displayed instead.

Enter Tree Appraisal Data (disabled)

This window allows you to enter data that BG-Map can use to calculate the appraised value of trees.



Note:	**This tool should only be used as a guide for estimating tree values and should not be considered as providing data of absolute accuracy.** Other techniques may also be employed, and they may be favored by other authorities in the field.

Data That Apply to All Taxa

Default Condition Rating (percent)
Specifies the condition rating to be applied to the calculation if the tree's condition in *BG-BASE* is missing or recorded as "A" (Alive) Otherwise, the following condition ratings are applied:

Default Location Rating
Specifies the "Location" rating to be applied to the calculation for an individual tree, if a rating has not been entered in Plants - Additional Information

BG-BASE Condition Code	Condition Rating (%)
E (Excellent)	100
G (Good)	80
F (Fair)	50
P (Poor)	20
All Other Codes	0

Data That Apply to Specific Taxa

Selecting a Tree Name (Taxon)
Enter all or part of the name in the "Search for" box, and click the "Browse" button. Select a name from the list. To edit existing appraisal data for a taxon that has already been entered, click the "Browse" button without entering a name, and choose from the list.

Species (Taxon) Rating
This is a rating based on the assumption that some tree species are more valuable than others when planted in a certain region of the country. Charts listing species ratings are published by nursery associations or cooperative extension services in various states. Choose the species rating appropriate to this taxon.

Replacement Tree Size
Enter the DBH in inches of the largest replacement tree of this taxon, commonly available.

Replacement Tree Cost
Enter the cost of the replacement tree described above.

Replacement Tree Unit Cost
This is the calculated cost per square inch of trunk DBH of a replacement tree, based on the values entered above. This is then combined with the current DBH, condition and location rating of each tree to calculate the appraised value for use in reports generated by BG-Map.

How Tree Value is Calculated

The calculations are based information published by the Purdue University Cooperative Extension Service - see www.hort.purdue.edu/ext/HO_201.pdf

First, calculate the replacement tree unit cost, using the following equations, where:

```
RTUC = Replacement Tree Unit Cost per square inch
SR = Species (Taxon) Rating (%)
RTS = Replacement Tree Size (DBH in inches)
RSqIn = Replacement Tree Square inches
RTC = Cost of a replacement Tree
```

```
RSqIn = π × (RTS÷2) 2
RTUC = RTC ÷ RSqIn × (SR÷100)
```

Then, the value of each individual tree can be calculated, using these equations, where:

```
CTV = Calculated Value of this tree
DBH = This tree's measured DBH in inches
TSqIn = This tree's Square inches
CR = This tree's condition Rating (%)
LR = This tree's location Rating (%)
```

```
TSqIn = π × (DBH÷2) 2
CTV = TSqIn × RTUC × (CR÷100) × (LR÷100)
```

Tree Inventory Sheets

The Tree Inventory Sheets function allows you to collect data on the size and condition of trees in the field using Excel spreadsheets on a tablet or laptop computer.

Note:	**This function should only be used under the supervision of a certified arborist qualified in tree risk assessment.**

Creating an Inventory Sheet

Click the "Browse" button to select a Defined View. Select the measurement units you wish to use and whether you wish to collect trunk measurements as CBH or DBH. Check "Filter Non-Trees" if you wish to exclude plants whose habit is not entered as "Tree" in *BG-BASE*.

Select "Include All Dead Plants" to include living plants and dead plants with condition codes D, R or U in the export. Select "Include Only Plants with Code D" to include living plants and only dead plants with condition code D.

Click "Export" to save the sheet as a CSV file in the \bgmapwin\Plant Lists\Tree Inventories folder. If BG-Map is installed on a server, this folder will be on the server. The name of the CSV file will be the Defined View name, followed by the date and time that the sheet was created. Copy the sheet to your tablet or laptop computer for use in the field.

Note:	**Do not change the name of the file or modify the sheet in any way other than to enter data in the cells as already defined.**

Importing Tree Inventory Sheets

After you have filled in an inventory sheet in the field, save it as a CSV file with the same name as the original exported sheet, and copy it to a location on your computer or server.

In the "Import" section of the Tree Inventory Sheets window, click the "Browse" button, and select the filled-in file. Its contents will be displayed in the table. The columns represent the items as listed below. Note, the units and trunk measurement type will depend on what was selected when you created the blank sheet.

Click "Import" to import the data and insert it into *BG-BASE* and BG-Map. If errors in the data are found, you must correct them before the data can be inserted.

Current Observations (to be entered if observed)

- INV_DATE - inventory date (month/day/year)
- INV_BY - person doing inventory (use BG-BASE initials up to 3 characters)
- SECTION - section (free text)
- COND - *BG-BASE* condition code (A,E,G,F,P,Q,D,R or U) If left blank, A is assumed.
- 1DBH_IN - measurement of trunk 1 in units noted (number only)
- 2DBH_IN - measurement of trunk 2 in units noted (number only)
- 3DBH_IN - measurement of trunk 3 in units noted (number only)
- 4DBH_IN - measurement of trunk 4 in units noted (number only)
- 5DBH_IN - measurement of trunk 5 in units noted (number only)
- 6DBH_IN - measurement of trunk 6 in units noted (number only)
- MEAS_AT_FT - height at which trunk was measured
- SPRD_FT - tree spread in units noted (number only)
- HT_FT - tree height in units noted (number only)
- LIFE_EXP - life expectancy (must be 0 <5, 5-15 or >15)
- RE - tree removal recommendations - priority A, B, C, AI (I represent in-house), BI, CI or CR (consider removal), CIR (consider in-house removal) or HI (hazard inspection recommended)
- G_PR - general pruning recommendations - a priority (A,B or C), followed by a number representing amount (1,2 or 3) - example: B2
- SP_PR - specific pruning recommendations (free text)
- GD_RT - girdling root observations (free text)

- LGHTNG - lightning protection recommendations (free text)
- CBL - cabling recommendations (free text)
- MT_SC - previous maintenance score (free text)
- FM - tree form quality (must be A, E, F or P)
- PEST_DIS - pests and diseases (must be a code in the PESTS_AND_DISEASES table -separate multiple entries with forward slashes /)
- COMMENTS - inventory comments (free text)
- ACTION_COMMENTS - actionable comments (free text)
- LIKE_FAIL - tree hazard likelihood of failure (1, 2,3 or 4)
- LIKE_IMP - tree hazard likelihood of impacting target (1, 2,3 or 4)
- CONSEQ - tree hazard consequences (1, 2,3 or 4)
- ACC_NUM - Accession number with qualifier
- SCI_NAME - scientific name
- COM_NAME - common name
- LOCATION - current BG-BASE location
- Previous Observations (for reference)
- LINV_DATE - last inventory date
- L1DBH_IN - last measurement of trunk 1
- L2DBH_IN - last measurement of trunk 2
- L3DBH_IN - last measurement of trunk 3
- L4DBH_IN - last measurement of trunk 4
- L5DBH_IN - last measurement of trunk 5
- L6DBH_IN - last measurement of trunk 6
- LMEAS_AT_FT - last height at which trunk was measured
- LHT_FT - last measured tree height
- LSPRD_FT - last measured tree spread
- LCOMMENTS - last entered inventory comments
- LACTION_COMMENTS - last entered actionable comments
- LLIFE_EXP- last entered life expectancy
- LREMOVAL_REC - last entered removal recommendation
- LPRUNE_REC - last entered pruning recommendation
- LPRUNE_TYPE - last entered pruning type
- LGIRD_ROOT - girdling root description
- LLIGHTNING_REC - last entered lightning protection recommendation
- LCABLING_REC - last entered cabling recommendations
- LPREV_MAINT_SC - last entered maintenance score
- LTREE_FORM - last entered tree form quality
- LPESTS_DISEASE - last entered pests and diseases

Horticultural Management Module

The Horticultural Management Module allows you to create, assign and track the progress of Horticultural Management Tasks. It contains these components:

- Enter Additional Plants Data
- Horticultural Management Contacts
- Horticultural Management Tasks
- Horticultural Management Work Orders

You can also access the Horticultural Management Module by clicking this icon: 

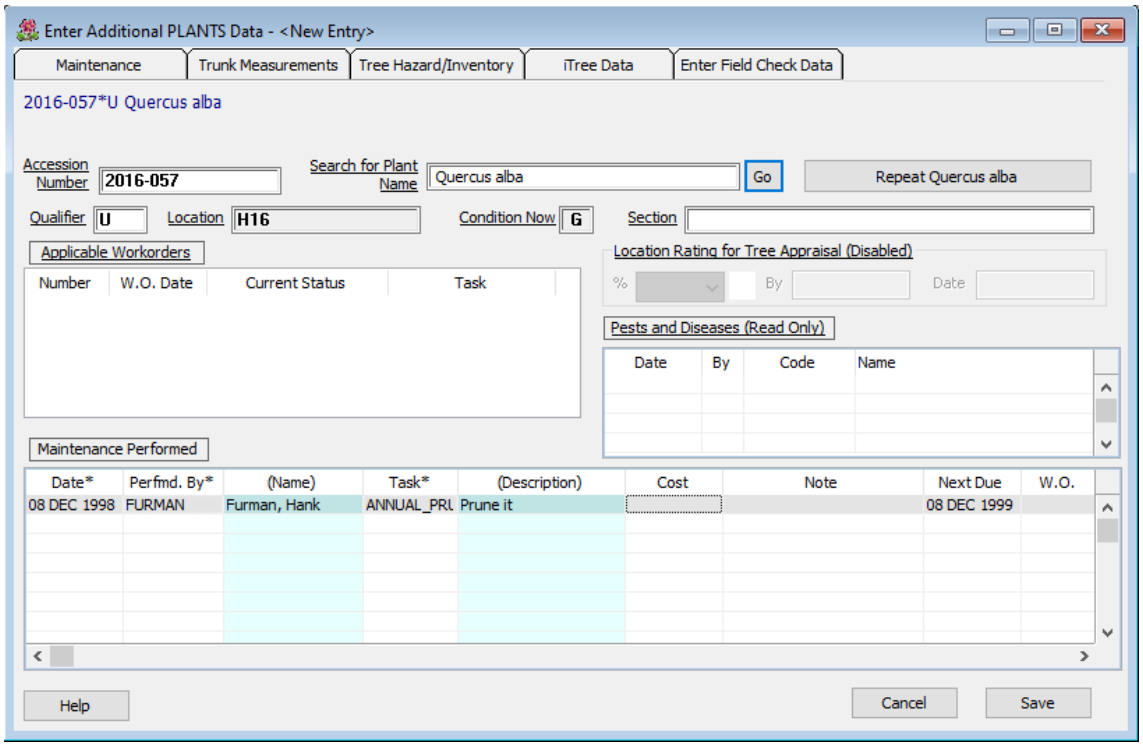
Enter Additional Plants Data

This window allows you to enter additional data about individual plants.

Selecting one or more Plants

Enter the accession number of the plant in the Accession Number box and the qualifier in the Qualifier box. Or search by plant name or by entering all or part of the name in the "Search for" box, and pressing [Enter] or clicking the "Go" button. Select a name from the list, and then select one or more plants. You can also search by accession number if an accession number without qualifier is entered. You can cycle through the selected plants by using the arrow keys.

You can click the "Repeat" button to repeat a previous name selection.



Maintenance Tab

Applicable Work Orders

This table lists Horticultural Management Work Orders, which are applied to this plant.

To open the record for the work order, click on a row. Then, right-click and select "Open Record."

Maintenance Performed

This table records the history of the maintenance performed on this plant.

Date (required)
Enter the date that the maintenance was performed or right click to enter today's date or select a date from a calendar.

Performed By (required)
Right click and browse to elect the Horticultural Contact code for the person or organization that performed the maintenance.

To create a new Contact, right click and select "Create New" or select "Contacts" from the "Other Functions" dropdown list.

Task (required)
Right click and browse to select the code for a Horticultural Maintenance Task.

To create a new Task, right click and select "Create New" or select "Maint. Tasks" from the "Other Functions" dropdown list.

Cost (Optional)
Enter the cost of this maintenance. Enter a numeric value only. Do not enter currency units.

Note (Optional)
Enter a general note about this maintenance.

Next Due
The date this maintenance task is next due is entered here. This is automatically filled in based on the normal interval assigned to this maintenance Task. If you wish, you can change the date to override the normal maintenance interval. If this is a one-time-only, non-recurring task, leave this field blank.

W.O. (Work Order)
This column is automatically filled in with the Work Order Number if this maintenance was entered via a Work Order. Note, you cannot enter a Work Order Number here. You must do so in

the Horticultural Management Work Orders data entry window.

Location Rating for Tree Appraisal (Disabled)

The Location Rating is used to help determine the appraised value of a tree. A tree in a more "desirable" location is considered more valuable. The Location Rating is a percentage value that is used as a multiplier. If no Location Rating is entered for an individual tree, a default is used instead. This default value can be entered in the Tree Appraisal Data window by clicking "Tools/Tree Appraisal."

Select a percentage value from the dropdown list. Your BG-Map login name and the current date are added automatically. To erase the value, click the "Erase" button.

Pests and Diseases

This table lists the Pests and Diseases that have been recorded for this plant.

Note:	**This table is read-only.** To enter Pests and Diseases for a plant, use GN3 or the Tree Inventory Sheet function.

Trunk Measurements Tab

This displays the individual trunk sizes for multi-trunked trees as recorded by Tree Inventory Sheets or in BG-Map using "Enter Field Check Data." The data displayed here is read-only.

Tree Hazard Rating

Note:	**This rating should serve as a guide only.** Accurate determination of hazard should be based on the full evaluation of the tree and its surroundings by a certified arborist qualified in tree risk assessment. To enter Tree Hazard Data, use GN3 or the Tree Inventory Sheet function.

Date (required)
Right-click and browse to select the date for this observation.

Probability of Failure (required)
This indicates the likelihood of failure of all or a portion of the tree. Right-click and browse to select a value from 1 to 4.

Probability of Hitting a Target (required)
This indicates the likelihood of the tree or a failed part striking a target, such as a person, vehicle or structure. Right-click and browse to select a

value from 1 to 4.

Consequences of Hitting the Target (required)
This indicates the expected consequences of the tree or a failed part hitting the target. Right-click and browse to select a value from 1 to 4.

Tree Hazard Risk Rating
This determined by 3 items described above. It is based on the tables in ISA Publication Tree Risk Assessment, Best Management Practices, companion publication to ANSI A300 Part 9.

Tree Hazard Action (required)
Enter the recommended action for this tree. You can right click to repeat a previous entry.

Tree Hazard Note
Enter any additional notes regarding this tree's hazard potential. You can right click to repeat a previous entry.

By (required)
This records the initials of the staff member making the observation. Right-click and browse to select from the BG-BASE Staff file. Or you can enter initials manually.

Tree Hazard Rating (Obsolete)

Click this to access tree hazard data that were recorded under a previous system, now obsolete.

Using This Data

This data can be displayed in reports and in Web-VQF by including the corresponding fields in Plant List Formats

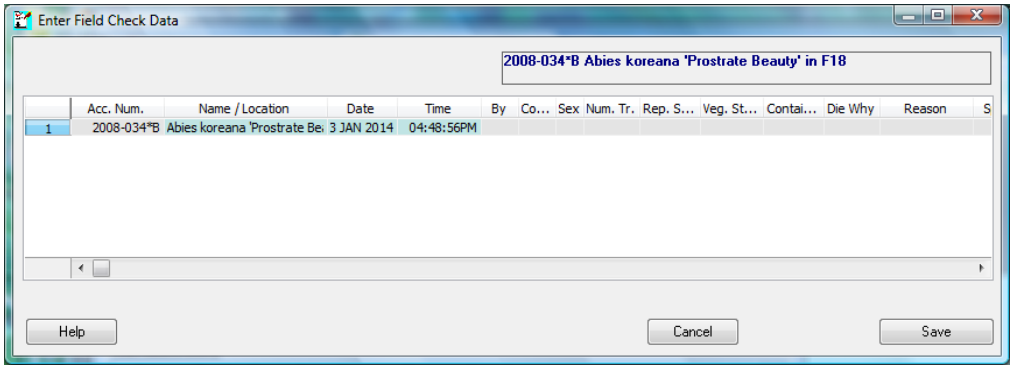
iTree Data Tab - Deprecated

i-Tree is a peer-reviewed software suite from the USDA Forest Service that provides urban forestry analysis and benefits assessment tools. The table displays any iTree data for this plant which was recorded using Garden Notepad Plus. All data in this table is read-only.

Enter Field Check Data Tab

Note:	**To enter Field Check Data, you must first enter your *BG-BASE* logon name and password.**

Click to enter update the *BG-BASE* record for the selected plant. For details on how to enter the information, see "Edit/Print Garden Notepad Data."



Horticultural Management Contacts

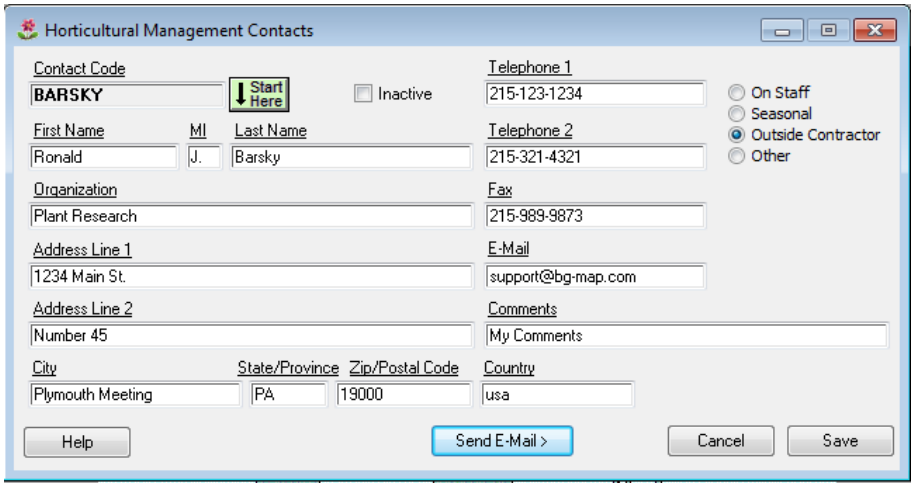
This window allows you to create or modify a Horticultural Management Contact.

Creating a Contact

Click the "Start Here" button, and select "Define a new Contact Code" Enter a code of 12 characters or fewer for the new Contact. Then, fill in the information as indicated for each prompt.

Category

Select "On Staff" if this contact is part of your internal staff. Only contacts marked as "On-Staff" can initiate Horticultural Management Work Orders. Otherwise, select a category for this Contact: "Seasonal", "Outside Contractor" or "Other."



Modifying an Existing Contact

Click "Start Here", and select an existing Contact to be modified.

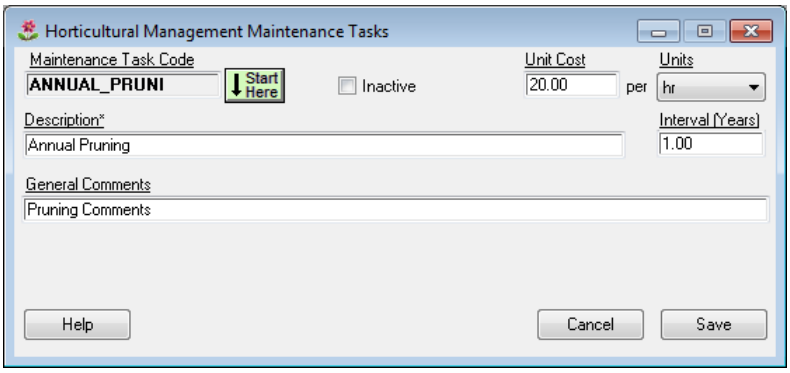
Making a Contact Inactive

Check the "Inactive" box to make a Contact inactive. Inactive Contacts will not appear in popup selection lists.

Sending an E-Mail to a Contact

Click the button to send an e-mail to this Contact. This function can be used if your computer has an Internet connection and a default e-mail program, and if you have entered a valid e-mail address for this Contact.

Horticultural Management Tasks



This window allows you to create or modify a Horticultural Management Maintenance Task.

Creating a Task

Click the "Start Here" button, and select "Define a new Task Code" Enter a code of 12 characters or fewer for the new Task. Then, fill in the information as indicated for each prompt.

Note:	**Special Task Code: "REMOVAL"** If you create a task with a code named **REMOVAL**, BG-Map will treat it in a special way. If you create a Work Order for this task, and it is completed, BG-Map will give you the option of automatically updating *BG-BASE* to indicate the plant has been removed.

Description (required)
Enter a description of this task - for example, "Annual Pruning."

Unit Cost
Enter the typical cost of this Task on a unit basis. Enter a numerical value only. Do not include currency symbols. For example, if the cost of a task is $1.75 per square foot, enter 1.75 at this prompt.

Units
Select the units that apply to the unit cost. If the cost is per-occurrence, select "ea." (each).

Maintenance Interval (required)
Enter the normal interval for this Task in years and decimal fractions of years. For example, if this Task should be repeated every 5-1/2 years, enter 5.5 at this prompt. If this is a one-time-only non-recurring task, enter a 0.

General Comments
Enter any other notes or comments concerning this Task.

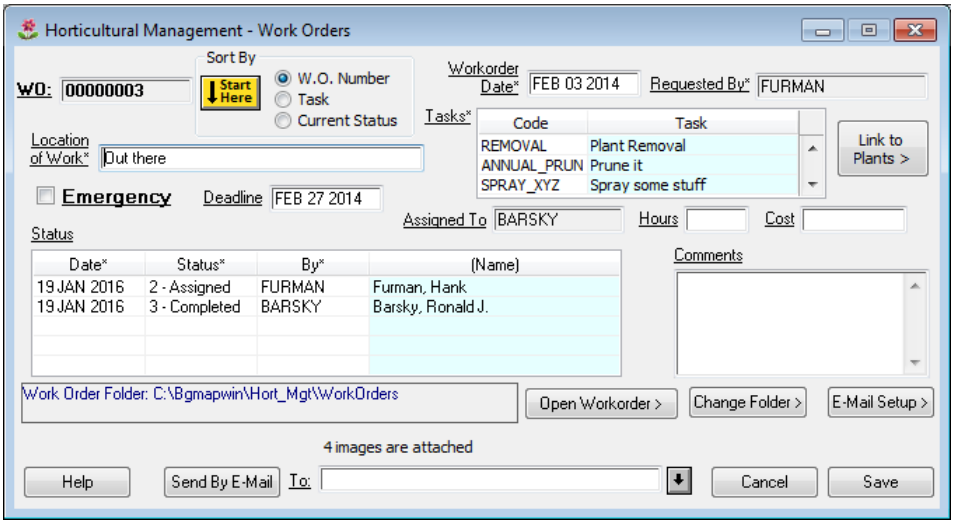
Modifying and Existing Task

Click "Start Here", and select an existing Task to be modified.

Making a Task Inactive

Check the "Inactive" box to make a Task inactive. If inactive, it will not appear in popup selection lists.

Horticultural Management Work Orders



This window allows you to create, and update Horticultural Management Work Orders.

Opening an Existing Work Order

Select a sort order, and click the "Start Here" button.

Creating a Work order

Click the "Start Here" button, and select "Define a New Work Order." The next available Work Order number will be automatically selected and applied to this Work Order. Fill in the form as follows, and click "Save" when finished.

Work Order Date (required)
The default is today's date, but you may enter any date or right-click to pick a date from a calendar.

Requested by (required)
Right-click and browse to select the individual who requested this work order. It must be an On-Staff entry in the Horticultural Management Contacts file.
To create a new Contact, right-click and select "Create New." Make certain that you check "On Staff" when creating the Contact.

Location of Work (required)
Enter a description of the work location.

Tasks (required)
Click on the table, then right-click and browse to select the one or more tasks to be performed. It must be an entry in the Horticultural Management Maintenance Tasks file. To create a new task, right-click and select "Create New."

Emergency (optional)
Check this box if this work order is for an emergency situation.

Deadline (optional)
Enter the date by which this work order must be completed or right click to pick a date from a calendar.

Hours and Cost (optional)
Enter the estimated hours and cost of this work.

Assigned to
Right-click and browse to select the individual or company that has been assigned this work. It must be an entry in the Horticultural Management Contacts file. To create a new Contact, right-click and select "Create New."

Comments (optional)
Enter any comments on this work order.

Status Table

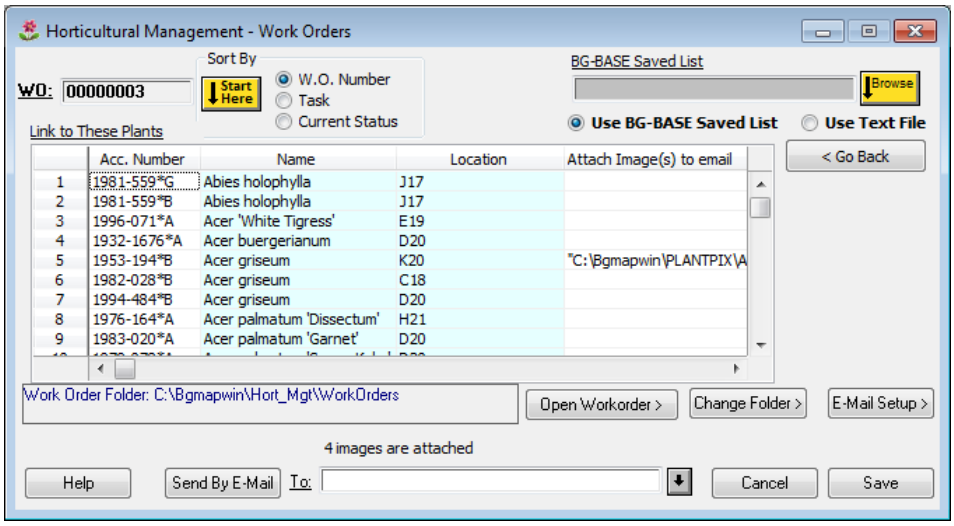
This table records the status of the work order received, assigned, completed, inspected, or cancelled. Each entry in this table is recorded with its corresponding date, and contact name.

Status Date (required):
Enter the date this status was applied to the work order, i.e., the date it was, received, assigned, completed, etc. You can type in the date or right-click to enter today's date or pick a date from a calendar.

Status (required):
Right-click and browse to select the status.

By (required):
This column records the person who received the work order, assigned it, completed it, etc. Right-click and browse to select a contact, which must be an entry in the Horticultural Management Contacts file.
Note, when entering the Assigned status, you must also select the person the work order was assigned to. To create a new Contact, right click and select "Create New." Make certain that you check "On Staff" when creating the Contact.

Note:	**When you assign a "Completed" status to a Work Order, the table in "Plants Additional Data" will be updated to show this task, and to list the corresponding Work Order.** Optionally, a check note will be added to *BG-BASE* to indicate that the Work Order has been completed.



Link to Plants (optional)

You can link this Work Order to one or more plants via their accession

numbers. Right-click on the table, and enter all or part of a plant name. Then, select one or more plants. You can select additional names and plants. To open the "Plants Additional Information" record for a listed plant. Then, select "Open Record."

Using a Saved List to Link to Multiple Plants

Select "Use *BG-BASE* Saved List" or "Use Text File", and click the "Browse" button to select a saved list or text file containing a list of accession numbers with qualifiers. BG-Map will check the list to make sure that each plant listed is living. The plants will be added to the table.

Adding Images

If you wish to attach images when e-mailing the Work Order, you must link the Work Order to one or more plants. Enter the images in the table. Select a cell in the Images column, then right-click and choose "Select Image(s)." Images associated with the plant or plant name will be displayed. Select one or more images. (See "Attaching Images to the E-Mail" below.)

Sorting the Plant List

Double-click a column heading to sort the list be accession number, name or location.

Work Order Folder

When you save a work order, it is saved as an HTML file. You may use any web browser, such as Mozilla Firefox, or Internet Explorer to view and print it. Before you can save a work order, you must specify the folder where work orders are to be saved. To do so, click Change Folder, and select the folder. If you are on a network, select a mapped network drive that is accessible to all users who may need to view or print work orders.

Viewing or Printing a Work Order

Click "Open Work Order" to open the work order to view, print or save as a PDF File. You must save the work order first.

Sending a Work Order by E-Mail

Note:	**A work order must be saved before it can be e-mailed.**

Open an existing work order. Enter the outgoing e-mail address or multiple addresses separated by commas (no spaces). Or, click the "browse" button, and select one or more contacts whose e-mail addresses have been entered (See "Horticultural Management Contacts"). Then,

click "Send By E-Mail" to send the work order.

Sending Using an SMTP Mail Server

Before you can use the e-mail feature, you must set up the e-mail options by entering the e-mail server, account, password, etc. Click "E-Mail Setup". E-Mail setup must be done separately for each BG-Map user.

Sending Using Your Default E-Mail Program

If you do not create an e-mail setup for an SMTP mail server as described above, you can send the work order using your default e-mail program such as Microsoft Outlook. When you click "Send By E-Mail", the default program will be opened, an e-mail to the selected address will be created, and the work order will be opened. Click "Copy All" in the work order display window, and then paste it into your e-mail.

Attaching Images to the E-Mail

If you entered images in the list of plants linked with the Work Order, they will be automatically attached to the e-mail if you are using an SMTP mail server. If you are using the default e-mail program, the images will not automatically be attached.

Updating an Existing Work Order

Click Start, and then select the work order to be updated.

Searching for Work Orders Using Pseudo-TCL

Here are some sample search commands you can use in Pseudo-TCL to search for work orders that meet certain criteria:

All work orders that are:
past-deadline:
```
LIST HORT_WORK ORDERS WITH PAST_DEADLINE = 1
DESCRIPTION BY WO_NUMBER
```

more than 30 days past-deadline:
```
LIST HORT_WORK ORDERS WITH PAST_DEADLINE_DAYS > 30
DESCRIPTION BY WO_NUMBER
```

emergency work orders:
```
LIST HORT_WORK ORDERS WITH EMERGENCY = 1
DESCRIPTION BY WO_NUMBER
```

linked to Object IN*ROM*1
```
LIST HORT_WORK ORDERS WITH OBJECT = "IN*ROM*1"
DESCRIPTION BY WO_NUMBER
```

linked to any Object
LIST HORT_WORK ORDERS WITH OBJECT DESCRIPTION BY WO_NUMBER

emergencies assigned to JOE_SMITH
LIST HORT_WORK ORDERS WITH EMERGENCY = 1 AND WITH ASSIGNED_TO = "JOE_SMITH" DESCRIPTION BY WO_NUMBER

received after 1/1/05
LIST HORT_WORK ORDERS WITH RECEIVED_DATE AFTER "1/19/05" RECEIVED_DATE DESCRIPTION BY WO_NUMBER

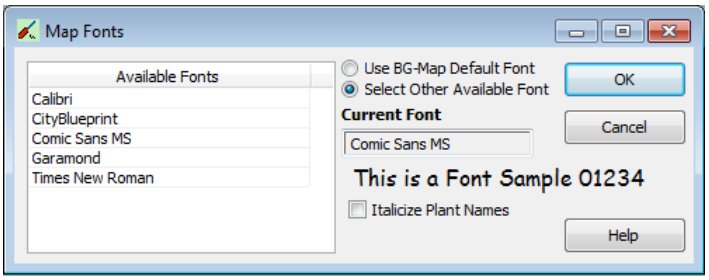
To obtain a list of data fields that may be searched or listed, enter:
LISTDICT HORT_WORK ORDERS by @ID

Options Sub-Menu

Print Options

This provides the same options as the Print Options in the Print menu.

Map Fonts (Not Available with CMS IntelliCAD)



This window allows you to select fonts for the display of plants on the map. The font settings must be entered separately for each BG-Map user.

Available Fonts

You must fill in this table with a list of the fonts that you wish to make available to BG-Map. To add a font, click on an empty white space on the table, then right-click, and select "Browse". Select a Font. To delete a font from the table, click on it, and then right-click and select "Delete This Font".

Setting the Current Font

If you select "Use BG-Map Default Font", BG-Map will use its normal default font to display plants. To select a different font, click, "Select Other Available Font", and then click on the desired font in the table to the left so that the font name appears in the box labeled "Current Font".

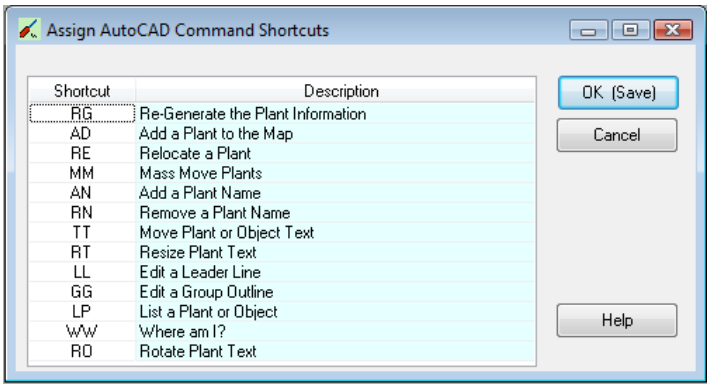
Italicizing Plant Names

If you check this box, all plant names on the map will be italicized.

Saving the Settings

Click OK to save the settings. To save settings for another user, log into BG-Map as that user, select the settings, and then save.

CAD Shortcuts



This function allows you to assign keyboard shortcuts for commonly used BG-Map functions within CAD.

A set of default shortcuts is provided, which you can change. Entering the shortcut on the CAD Command Line (followed by <Enter>) has the same effect as clicking the corresponding icon or menu item. For example, entering WW <Enter> has the same effect as clicking Where am I? Codes are case insensitive.

You can change the shortcuts by entering you own codes, from 1 to 6 characters in length. A different set of shortcuts can be programmed for each BG-Map user.

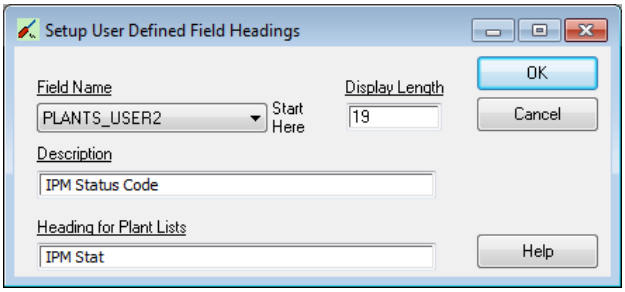
Note:	**CAD has its own built-in shortcuts - for example MT for multi-line text.** So, when creating your own BG-Map shortcut codes, you may wish to check that you are not replacing an existing CAD shortcut that you are likely to use. Your BG-Map shortcuts will supersede any that are programmed into CAD.

Note:	**To make the changes take effect, you must restart BG-Map.**

Note:	**These keyboard shortcuts are not available in AUTOCAD LT.**

User Field Headings

This defines the field descriptions and headings for the USER fields in the *BG-BASE* ACCESSIONS, PLANTS, and PSOURCES tables.



Changing a User Field Heading Definition

Under "Field Name", click the down arrow to display a list of user fields. Select one.

Under "Description", enter a description for this user field.

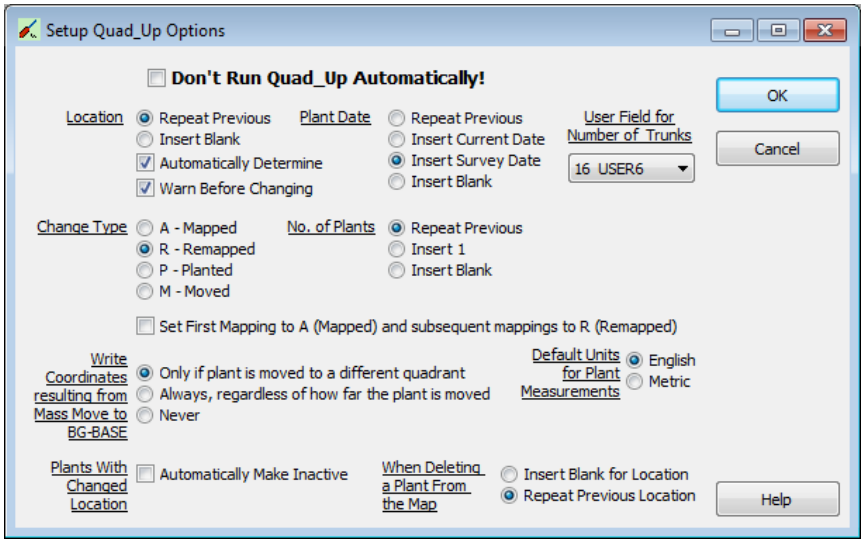
Under "Heading for Plant Lists", enter the heading for this field that you wish to appear on plant lists created by BG-Map.

Under "Display Length", enter the number of characters for this field that you wish to be displayed on plant lists created by BG-Map. This number cannot be less than the number of characters in "Heading for Plant Lists"

Click "OK" to save the field heading definition.

Note:	**After you have finished defining USER field headings, you must run "Fields List" under "Update Lists" in the Utilities Menu.**

Quad Up Options



This setup window allows you to customize the operation of the QUAD_UP program that is used to transfer BG-Map data to *BG-BASE*.

These options determine how data is inserted into the *BG-BASE* PLANTS table.

Don't Run Quad Up Automatically!

If you check "Don't Run Quad Up Automatically", BG-Map will not update *BG-BASE* unless you choose "Run Quad Up" from the Utilities Menu.

Location

Click "Repeat Previous" to repeat the previous value stored in *BG-BASE* for Location.

Click "Insert Blank" to insert a blank line in the Location field.

If you check "Automatically Determine", BG-Map will automatically determine the *BG-BASE* Location of a plant if it is located in a Defined View that corresponds to a *BG-BASE* Location (The view name must have a prefix LOC_) and will insert that location in *the BG-BASE* Plants table as the plant's current location. If it cannot determine the Location, then the setting "Repeat Previous" or "Insert Blank" will be take precedence. In order to use this feature, you must create a Defined View beginning with LOC_ for each Location where you intent to map plants.

Change Type

Click the code you wish to have inserted as the "Change Type" (A, R, P, or M)

Set First Mapping To A

If you check the box labeled "Set First Mapping to A (Mapped) and subsequent mappings to R (Remapped)", then the first time a plant is mapped, the change type "A" (Mapped) will be inserted, and each subsequent time, the plant is mapped, the change type "R" (Remapped) will be inserted. This setting supersedes the setting entered under "Change Type".

Planting Date

Click "Repeat Previous" to repeat the previous value for Planting Date.

Click "Insert Current" to insert the current date in the Planting Date field.

Click "Insert Survey Date" to insert the date the plant was surveyed (Select this option only if you are using the Total Station Interface or GPS Interface.) If no survey date is recorded, the current date will be inserted instead.

Click "Insert Blank" to insert a blank line in the Planting Date field.

Number Of Plants

Click "Repeat Previous" to repeat the previous value for Number of Plants.

Click "Insert 1" to insert a 1 for Number of Plants if no previous value was recorded. If a previous value was recorded, it will be repeated.

Click "Insert Blank" to insert a blank line in the Number of Plants field.

User Field for Number of Trunks

Choose the user field number you wish to use for storage of data for Number of Trunks (Created by BG-Map Garden Notepad or entered manually). The default field is 16 (USER6).

Note:	**Do not change the value after you have begun entering data on Number of Trunks once you have begun entering data for this field.** If you do, you will have to move the existing data to a different field!

Write Coordinates Resulting from Mass Move to *BG-BASE*

This determines if a new line of data will be written to the *BG-BASE* Plants file when a plant is relocated using Mass Move. The choices are:

- Only if the plant is moved to a different quadrant
- Always, regardless of how far the plant is moved
- Never

Plants with Changed Location

Check "Automatically Make Inactive" to change the status of plants whose *BG-BASE* location has changed since they were last mapped to "Inactive." These plants will not appear on maps. You can change the Active/Inactive status of any plant by going to Map/Make a Plant Inactive of Active.

When Deleting a Plant from the Map

When you delete a plant from the map (menu item: Map/Delete a Plant), you can update *BG-BASE* to insert a blank for the Location or repeat the previous Location.

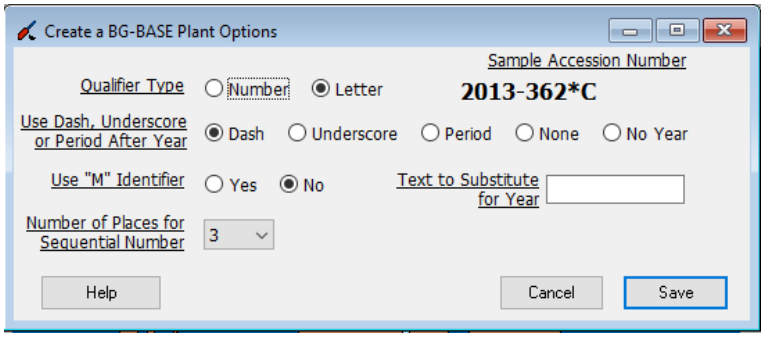
Default Units for Plant Measurements

Select the default units for plant measurements entered using "Enter

Field Check Data."

Create *BG-BASE* Plant Options

Before you can use this feature, you must enter your *BG-BASE* logon name and password.



This window allows you to set options for using BG-Map to create a new *BG-BASE* plant. It controls how new accession numbers will be formatted. Each new accession number will consist of the year followed by a sequential number and a qualifier. The sample accession number shows how a typical accession number will be formatted as these options are changed.

Qualifier Type

This allows you to select the type of qualifier to be attached to the accession number - either a letter or a number.

Use Dash, Underscore or Period After Year

This determines if a dash, underscore or period will be inserted between the year and the sequential number. If you select "No Year", the year will not be displayed.

Use "M" Identifier

This determines if the letter M will be inserted before the sequential number to identify that the record was created by BG-Map.

Number of Places for Sequential Number

This determines the number of places to be occupied by the sequential number. Unused places will be filled with leading zeros. If you select "float," no leading zeros and the number of places will not be constant.

Number of Places for Qualifier

If the qualifier type is numeric, you can select the number of places for the qualifier. Unused places will be filled with leading zeros. If you select "float," no leading zeros and the number of places will not be

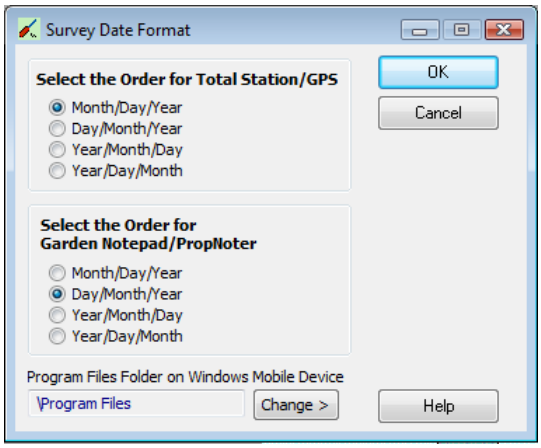
constant.

Text to Substitute for Year

You can enter here text to be used in the Accession number in place of the year.

Survey Date Format/Program Files Folder

Survey Date Format



This setting must match the date format of the computer or data collector that you use to gather survey data for Garden Notepad, the Total Station Interface or the GPS Interface.

You can store separate settings for Total Station/GPS and for GN3/Garden Notepad Classic, in the event that you use different data collectors for each.

If not set correctly, survey dates will not be stored properly by BG-Map.

Select One of the Following

Month/Day/Year	example: 07/24/2006 or 07-24-2006
Day/Month/Year	example: 24/7/2006 or 24-07-2006
Year/Month/Day	example: 2006/7/24 or 2006-7-24
Year/Day/Month	example: 2006/24/7 or 2006-24-07

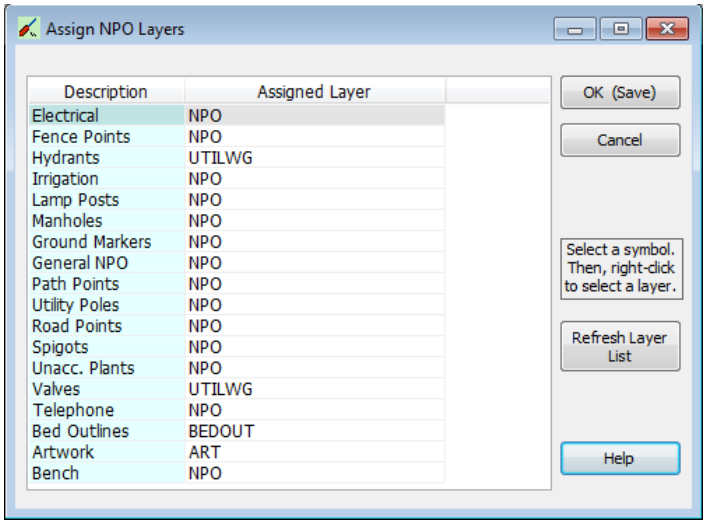
Windows Mobile Device Program Files Folder

This sets the location of the Program Files folder on the Windows Mobile device you use for Garden Notepad Classic or GreVid. A different location is saved for each BG-Map user login name.

The default location is \Program Files. To change it, click "Change" and revise the location as needed.

How to Determine the Correct Program Files Folder Location
Connect the mobile device using ActiveSync or Windows. In "My Computer", select "Mobile Device" and the "My Mobile Device." The Program Files folder name will be displayed. Enter it exactly as shown. Make sure to precede it with a backslash (\): Example: \Program Files.

NPO Layers



Assigns CAD layers for each of the Non Plant Object (NPO) Symbols. When you upload and convert field data, the symbols will be inserted on the assigned layers. If no layer is assigned, the default NPO layer will be used.

Refreshing the Layer List

If you added new layers during this session, click to update the list of available layers and save the basemap when prompted.

Assigning a Layer

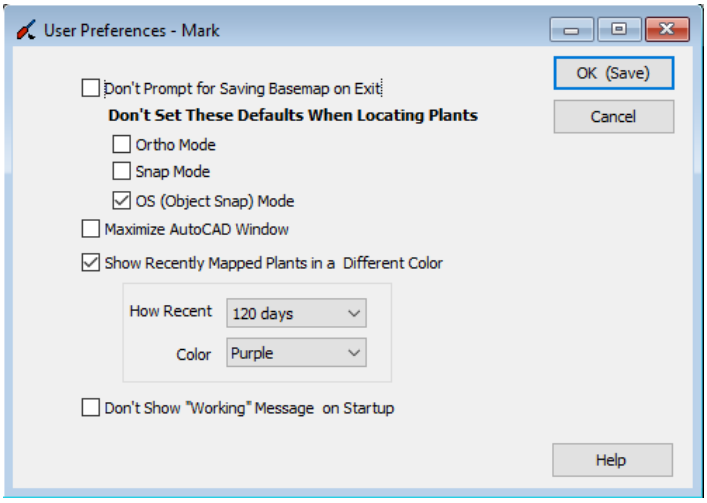
Select a symbol in the table. Then, right-click, and choose a layer from the list.

Saving the Layer Assignments

Click "OK (Save)" to save the layer assignments.

User Preferences

This window allows you to set individual user preferences for BG-Map.



Don't Prompt for Saving Basemap on Exit

Check this box to prevent being asked to save the basemap when you

exit BG-Map. You will be responsible to save any basemap changes when you make them.

Don't set Ortho Mode Default When Locating Plants

Check this box to prevent BG-Map from automatically turning the CAD Ortho Mode off when you locate or relocate a plant.

Don't set Snap Mode Default When Locating Plants

Check this box to prevent BG-Map from automatically turning the CAD Snap Mode off when you locate or relocate a plant.

Don't set OS (Object Snap) Mode Default When Locating Plants (Not Available With CMS IntelliCAD)

Check this box to prevent BG-Map from automatically turning the AutoCAD Object Snap Mode off when you locate or relocate a plant.

Maximize AutoCAD Window (Not Available With CMS IntelliCAD)

Check this box to maximize the AutoCAD Window when you start BG-Map and when BG-Map automatically switches to AutoCAD.

Show Recently Mapped Plants in a Different Color

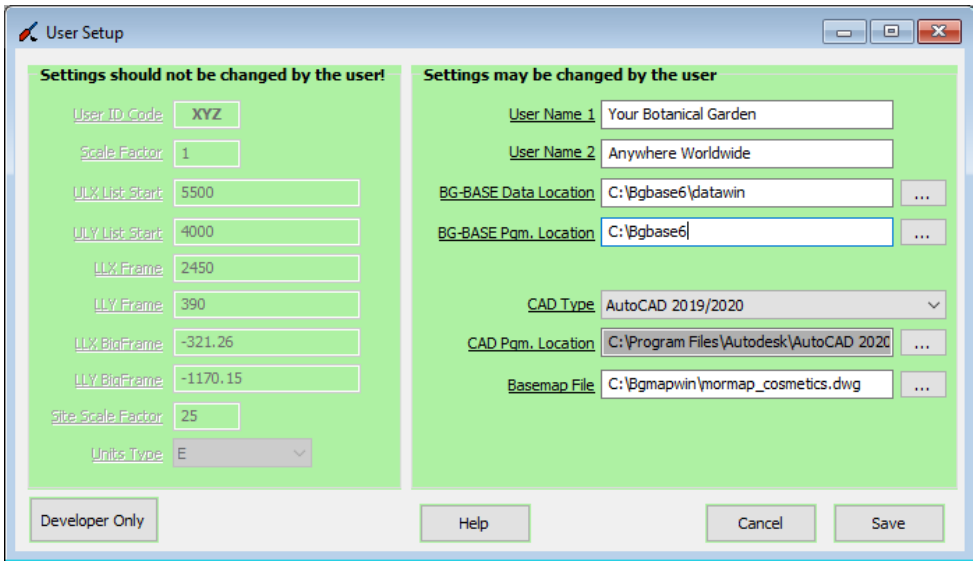
Check this box to show recently mapped plants in a different color when generating maps. You can select how recently the plants were mapped and which color to show. For example, if you select "7 days" and "Blue", all plants that were mapped or remapped within the last 7 days will be shown in blue.

Don't Show "Working" Message on Startup

Check to skip the "Working" message on BG-Map startup. You can still use the "Refresh" button to update the collection statistics.

User Setup

This window contains options for the basic setup of BG-Map. After new settings are saved, BG-Map must be restarted.



User-Changeable Items

These items, listed on the right side, may be changed by the user as needed:

- **User Name 1** - First Line of Institution Name (32 characters maximum)
- **User Name 2** - Second Line of Institution Name (32 characters maximum)
- ***BG-BASE* Data Location** - Location of BG-BASE data folder (click "Browse" to select or type in)
- ***BG-BASE* Pgm. Location** - Location of BG-BASE main program folder (click "Browse" to select or type in)
- **CAD Type** - Select your version of AutoCAD or IntelliCAD.
- **CAD Location** - Location of the CAD program file - acad.exe for AutoCAD, icad.exe for IntelliCAD CMS or aclt.exe for some versions of AutoCAD LT (Click "Browse" to select.)
- **Basemap File** - Name of basemap file to be used, including path (Click "Browse" to select or type in)

Developer - Only Items

The items, listed on the left side, are for developer use only and should not be changed by the user.

- **User ID Code** - 3-letter institution ID code
- **Scale Factor** - (The size of your quadrants divided by 200 units)
- **ULX List Start** - X Coordinate of upper left corner of plant lists

- **ULY List Start** - Y Coordinate of upper left corner of plant lists
- **LLX Frame** - X Coordinate of lower left corner of title block frame
- **LLY Frame** - Y Coordinate of lower left corner of title block frame
- **LLX BigFrame** - X Coordinate of lower left corner of site map title block frame
- **LLY BigFrame** - Y Coordinate of lower left corner of site map title block frame
- **Site Scale Factor** - Scale of site maps divided by scale of quadrant maps
- **Units Type** - Type of map units E = English feet or M = meters)

Using the Utilities Menu

Update Lists Sub-Menu

This sub menu is used to update various BG-Map selection lists to reflect the latest information obtained from *BG-BASE*. The following list update functions are provided:

Quadrants

Updates the quadrant selection lists that are used when generating Normal and Custom Quadrants and when printing Normal or Custom Book Maps. Update it whenever you add a new quadrant (See also "Adding Plants to a New Quadrant" under "BG-Map Step by Step").

Genera

Updates the genera selection list that is used for plant selection criteria when generating Custom Quadrant, Custom Defined View, and Custom Site Maps and when printing Custom Book Maps. QUICKFinder and Visitors QUICKFinder also use this list. It will include each genus that has at least one mapped living plant.

Update this list periodically so that it will incorporate any changes made to the *BG-BASE* Genera table as well as information on newly mapped plants.

Families

Updates the Families selection list that is used when generating Custom Quadrant, Custom Defined View, and Custom Site Maps and when printing Custom Book Maps. This list is also used by QUICKFinder. It will include that has at least one mapped living plant.

Update this list periodically so that it will incorporate any changes made to the *BG-BASE* Families table as well as information on newly mapped plants.

Common Names

Updates the common names selection list that is used by Visitors QUICKFinder. It will include each common name for which there is at least one mapped living plant.

Update this list periodically so that it will incorporate any changes made to the *BG-BASE* Genera table as well as information on newly mapped plants.

Fields List

Updates the list of fields that are available for defining Plant List Formats. Update this list whenever you make a change to USER field headings and descriptions. (See "User Field Headings" under "Using the Tools Menu")

Name Characteristics and Thumbnails

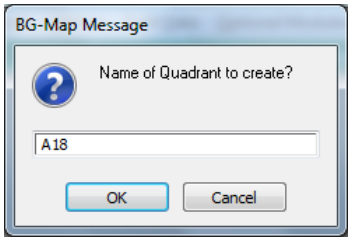
Updates an indexed list of taxon characteristics used to speed searches in Web-VQF, and generate thumbnail images related to taxa.

Purge Unused Lists

Purges all obsolete BG-Map saved lists.
Run this utility periodically to purge unneeded information and free up disk space.

Create a Quadrant

This allows you to add a new quadrant to the list of map quadrants without having to access *BG-BASE*. Enter the names of the new quadrant to be added. BG-Map will check the quadrant name for validity. If valid, the new quadrant will be added and the quadrants list updated.



Run QUAD_UP

BG-Map will run the QUAD_UP routine automatically each time you start BG-Map or convert field data. You can also run QUAD_UP here from the Utilities menu.

Export GreVid and PropNoter Data - Deprecated

This allows you to export BG-Map and *BG-BASE* data to for use by the GreVid™ and PropNoter™ database applications for Windows mobile devices. It also allows you to copy the exported data to a handheld device connected to this computer using Microsoft ActiveSync, Windows Vista or Windows 7. This function will only be active if you have the optional GreVid or PropNoter modules.

Exporting the Data

Click the "Browse" button to select the folder to export the data to. The default is C:\bgmapwin\Grevid Export or C:\bgmapwin\PropNoter Export. Click "Export Data". Data for all living Plants or Propagations will be exported.

Click "Export Data". Data for all living Plants or Propagations will be exported.

Note:	**You can reduce the number of plant records that are exported by selecting *BG-BASE* Location Groups to be included.** Click the browse button and select. If you select location groups to be included, only living plants in those location groups will be exported. If you leave this blank, all living plants will be exported.

Note:	**If a Propagation is noted as "completed", it will not be exported.**

Copying the Data to the Mobile Device

Connect the mobile device using Microsoft ActiveSync, Windows Vista or Windows 7 mobile device connection. Then, click "Copy Data". The data that was exported in the previous step will be copied to the mobile device. You may repeat this step to copy the same data to additional mobile devices.

Updating the GreVid or PropNoter Database on the Mobile Device

Start GreVid or PropNoter on the mobile device. Click the "SOS" button", and then click "Update Database". GreVid9 or PropNoter will be updated with the exported data.

Note:	The mobile device does not have to be connected to your computer during the update process.

Developer Sub-Menu

Note:	The Developer Utilities should only be used as directed by BG-Map Technical Support.

The Developer Utilities are provided as an aid to assist in the technical support of BG-Map. They are:

Remake Table Indexes

Rebuilds all indexes in a database table.

Delete an Item

Deletes a single row (record) from a database table.

Copy an Item to an Item

Copies a single row (record) from a database table to another record in the same table or a different one. You have an option of deleting the original record or leaving it in place.

Copy an Item to a File

Copies a single row (record) from a database table to a Windows file.

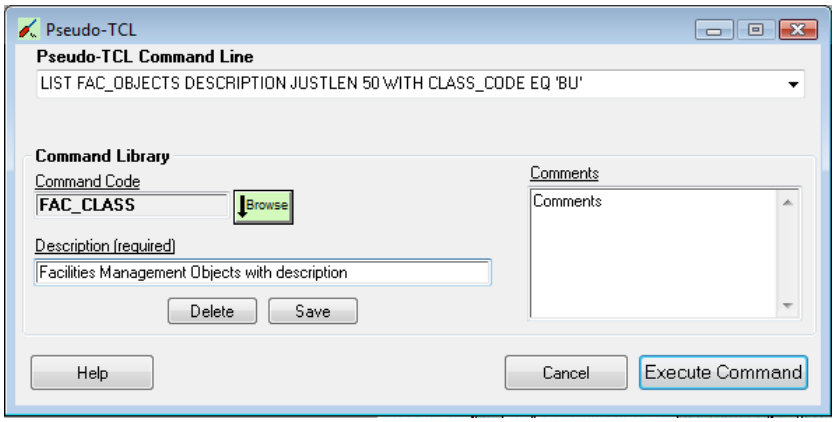
Copy a File to an Item

Copies the contents of a Windows file to a row (record) in a database table.

Clear Contents of a Table

Completely clears all data from a database table.

Pseudo-TCL



About Pseudo-TCL

The Pseudo-TCL command line performs some of the functions of the original TCL command line and S-List in *BG-BASE*. Commands can be entered on the command line and executed. In addition, the Command Library allows you to permanently save frequently used commands for future use.

Entering A Pseudo-TCL Command

The syntax is similar to the original Advanced Revelation TCL and S-List syntax. In many ways, it is also similar to standard SQL syntax. The following commands are supported - COUNT, LIST, LISTDICT, LISTTABLES, and MAPCOUNT (a command, specific to BG-Map) For further details, see below:

COUNT - Counts the number of rows (records) in a database table (file) that match specific criteria.

Examples:

COUNT PLANTS
returns the total number of plants in the Plants table

COUNT DEFINED_VIEWS BEGINNING "EXR_"
returns the number of defined views beginning with the prefix "EXR_"

COUNT MAP_COORDINATES WITH ALIVE = 1
returns the number of mapped living plants (This is equivalent to the MAPCOUNT command.)

COUNT MAP_COORDINATES WITH ALIVE = 0
returns the number of mapped dead plants

COUNT MAP_COORDINATES WITH GENUS = "ABIES" AND WITH ALIVE = 1
returns the number of mapped living plants in the genus ABIES.

COUNT MAP_COORDINATES WITH LOCATION_NOW = "GWV-18" AND WITH GENUS = "ALLIUM" AND WITH ALIVE = 1
returns the number of mapped living plants of genus ALLIUM in location GWV-18

LIST - Lists the contents of a data table (file) and specific columns (fields) and/or rows (records)

Examples:

LIST DEFINED_VIEWS BY VIEW_NAME PLOT_MULT VIEW_NOTE JUSTLEN 50
lists all Defined Views in order by the view name and includes the plot multiplier and description (spelled out to 50 characters) in the listing

LIST DEFINED_VIEWS BY PLOT_MULT PLOT_MULT VIEW_NOTE JUSTLEN 50
same as above but lists the Defined Views in order by plot multiplier

LIST MAP_COORDINATES WITH GENUS = "ABIES" AND WITH ALIVE = 1 NAME QUADRANT_NOW BY SORT_NAME
lists all mapped plants in the genus ABIES in alphabetical order by name, and includes the name and current quadrant in the listing.

Note:	**The results of the query are displayed in a window Titled "Preview report" that provides a print button.** This window is accessible from the Windows Task Bar. You can also export the text to a file by clicking "Export to DOS".

LISTDICT - List the dictionary of a data table (file)

Example:

LISTDICT DEFINED_VIEWS

LISTTABLES - lists all currently attached database tables (files)
The syntax is simply: LISTTABLES

MAPCOUNT - This command is unique to BG-Map. It will display the number of living plants that are currently mapped.

The syntax is simply: MAPCOUNT

Recalling Previously Used Commands

The last 100 commands will be displayed. You may select any of these to repeat the command.

Using the Command Library To Permanently Save Commands

The Command Library allows you to permanently save commands for future use.

To save a new command, click "Browse", and select "Define a new command". Enter a code of 12 characters or less to identify this command. Enter the command on the command line, and test it by executing it. Enter a description of this command (required). Enter any comments on this command (optional). Then, click "Save".

To recall a previously saved command, click "Browse", and select a command for execution.

To delete a previously saved command, click "Browse", and select a command. Then, click "Delete".

Visitors QUICKFinder (VQF - Deprecated)

Visitors QUICKFinder (VQF) is designed to provide public access to garden information, plant records, and mapping through a touch-screen kiosk. For details on how to customize Visitors QUICKFinder, refer to the TechNote: "How to Customize BG-Map Visitors QUICKFinder" at http://www.bg-map.com/userdata/cust_vqf.html.

Note:	**Visitors QUICKFinder is not available with CMS IntelliCAD.**

Note:	**For a web-based visitor interface, see Web-VQF.**

Note:	**Press Escape to exit Visitors QUICKFinder.**

VQF Setup Sub-Menu

This sets the various options for customizing the operation of Visitors QUICKFinder (VQF)

Note:	**VQF Options are set separately for each BG-Map user.** You can use this feature to separately customize the operation of kiosks at multiple locations.

For more details on how to set up and use Visitors QuickFinder, see these TechNotes:

- **How to Customize BG-Map Visitors QUICKFinder** http://www.bg-map.com/userdata/cust_vqf.html
- **How to Set Options for BG-Map Visitors QUICKFinder** http://www.bg-map.com/userdata/VQF_Options.html
- **How to Display Memorial Trees, Benches, and Other Memorials in BG-Map Visitors QUICKFinder** http://www.bg-map.com/userdata/VQF_Mem_Setup.html
- **BG-BASE Data Entry for Visitors QUICKFinder (VQF) Kiosk Software** http://www.bg-map.com/userdata/vqf_data.html
- **How to Display Unmapped Plants in BG-Map Visitors QUICKFinder** http://www.bg-map.com/userdata/VQF_Unmapped_Setup.html

VQF Setup/Edit Retail Nurseries

This window allows you to set enter data for retail nurseries, which can be displayed in Visitors QuickFinder as places to purchase plants.

Note:	**Nurseries will be displayed in VQF only if you check the option "Show Nurseries" in "VQF Options".**

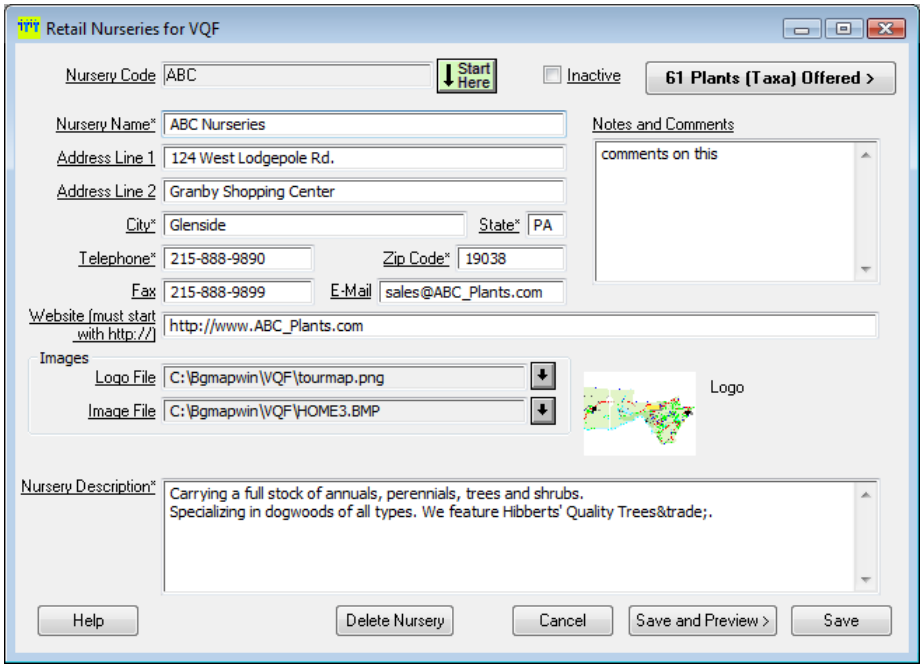
Creating a Nursery

Click the "Browse" button, and select "Define a new Nursery Code". Enter a code of 16 characters or fewer for the new Nursery. Then, fill in the information as indicated for each prompt. Items marked with an asterisk (*) are required.

Logo File:
Click the "Browse Button" (down arrow), and select a logo image to be displayed on-screen for this Nursery.

Image File:
Click the "Browse" Button  and select an image file to be displayed on-screen with this Nursery. This is typically a picture of the nursery.

Entering the Plants That Are Offered:



"Plants Offered" is a list of the plant names that are offered by this nursery. When details about a plant are displayed by VQF, the visitor may select from a list of nurseries that sell it. Plants are entered as *BG-BASE* name numbers in a table. To display the table, click the "Plants Offered" button. To return to the main screen, click "Go Back."

You may type the *BG-BASE* name numbers into the table manually. However, it is much easier to browse, and select plant names from a list. To browse, click on the table, and then right-click, and select "Browse" or click the "Add Plants" button. Enter all or part of a plant name, and click "OK". Choose one or more names from the pop-up list. You may then browse again to add more names.

Deleting Plants From the List:
To delete a name, highlight it and press the keyboard "Delete" key, or right-click and select "Delete".

Previewing the Nursery

Click "Save and Preview". The Nursery must be saved before previewing.

Modifying an Existing Nursery

Click "Browse", and select an existing Nursery to be modified.

Making a Nursery Inactive

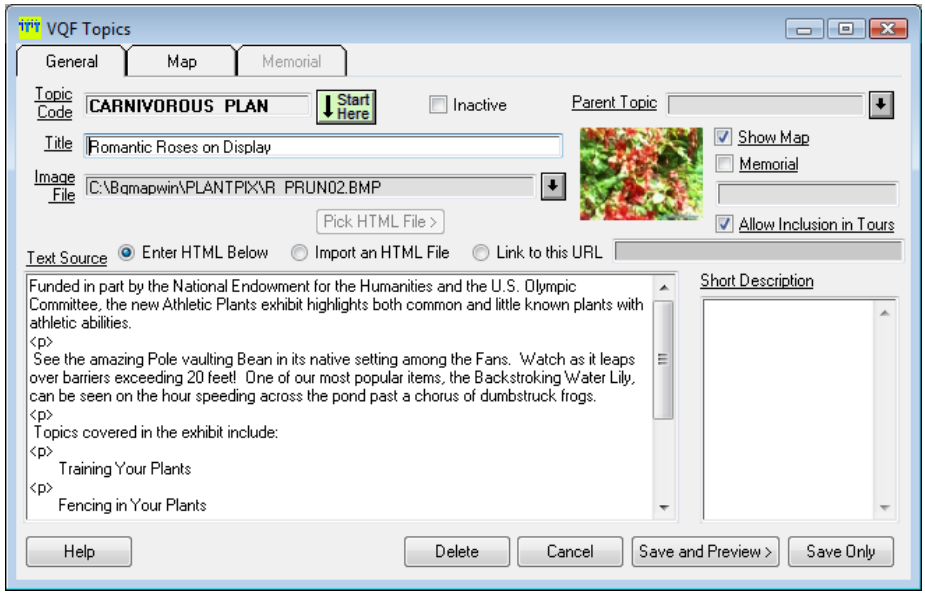
Check the "Inactive" box to make a Nursery inactive. If inactive, it will not appear in pop-up selection lists.

Permanently Deleting a Nursery

Click "Browse", select an existing Nursery, and click the "Delete Nursery" button.

VQF Setup/Edit Topics

This window allows you to create or modify Visitors QUICKFinder Topics. These are informational topics that appear on the VQF home page. Topics can describe events, special exhibits, classes, history of the garden, or other items of general interest to visitors.



Creating a Topic

Click the "Browse" button, and select "Define a new Topic Code". Enter a code of 16 characters or fewer for the new Topic. Then, fill in the information as indicated for each prompt.

Title (required):
Enter a title for this Topic.

Parent Topic (optional):
You can specify another Topic to which this Topic "belongs". In this way, you can create a hierarchy of topics and subtopics. For example, you could create a Topic called "Birds at the Arboretum". You could then create additional Topics for each bird species, and specify "Birds at

the Arboretum" as their parent. With this setup, visitors can select the main Topic ("Birds...") and then touch the "Details" button to display a list of all bird species, from which they can select.

To select the parent topic, click the "Browse" button.

Image File (required):

Click the "Browse Button"  , and select an image file to be displayed on-screen with this Topic. The selected image will be displayed to the right of the filename in the same format as it will appear in VQF. Note: Image files are typically .BMP or .JPG files, and should be horizontally oriented. Do not use .GIF files for this purpose.

Short Description (optional):

You can enter a short description of this topic. This will display in any popup that allows a visitor to select a topic. If you do not enter a short description, a truncated version of the full text of the topic will be used instead.

Text Source:

Choose "Enter HTML Below" to enter HTML code for the Topic description into the box below.

Choose "Import an HTML file to import an HTML file that you have created by another method. Then, click the "Pick HTML file" button to choose the file. The HTML code will be inserted into the box below. You can still edit it if you wish.

Choose, "Link to this URL", to link the Topic to a web page on the internet or an intranet. Enter the URL into the space provided.

Note:	**The Topic display window now supports all HTML formatting codes, including hyperlinks.** If you employ hyperlinks, you must be careful not to employ any links that create additional browser windows or links that may take the visitor to places you do not wish him to visit. Use links judiciously.

Note:	**You can create a hyperlink within the text of a Topic to jump to another topic.** To create the hyperlink, use a standard HTML "href" tag where "file://c:\bgmapwin\VQF\topic.htm#" plus the Topic Key of the Topic to jump to is the target.

For example, supposed you wish to jump to a new Topic whose Topic Key is CARNIV_PLANTS. You could enter these lines of HTML in your Topic description:

```
<a name="CARNIV_PLANTS"></a>
In May, be sure to visit our new
<a href="file:///c:\bgmapwin\VQF\topic.htm#CARNIV_PLANTS”>
Carnivorous Plants Display</a>
```

Note the additional line: `<a name="CARNIV_PLANTS"></a>` - which is needed to make the link work.

Showing The Location of a Topic on The Map

If you wish to allow the visitor to view a map showing the location of this Topic, check this box. Then, click the "Map" tab, and enter the coordinates of this Topic in the form X,Y or click "Pick Coords", and click the Topic's location on the map.

Memorials

A Topic can be set up as a memorial - for a bench, plaque, sculpture, etc. Memorial Topics must have map coordinates. To allow visitors to search for memorials, you must enable this feature in "VQF Options".

To designate a Topic as a memorial, check the "Memorial" box, and then click the "Memorial" tab to enter the name of the person this item is in memory of. As a minimum, the last name is required. The "Last Name" space can also be used to another sort of name, such as "Graduating Class of 1997".

In the "Alternate Name(s)" field, you may enter any other names by which this person may be known. These names will also be searchable.

If this person is an alumnus of your institution, check the box and enter the year.

Enter the full name of the donor (optional).

If this donor is an alumnus of your institution, check the box and enter the year.

Choose either the default description "In Memory of" or the alternate description "In Honor of". You may also change the wording of the alternate description, if desired.

Including a Topic in Tours

Check "Allow Inclusion in Tours" to permit this Topic to be included in "Create a Tour" tours selected by the visitor or in pre-selected "canned tours".

Note:	**Only mapped Topics can be included in tours.**

Previewing a Topic

Click "Save and Preview." The Topic must be saved before previewing.

Making a Topic Available on the Home Screen

To make a Topic available on the home screen, you must add it to the table under the "Topics and Special Collections" tab.

Modifying an Existing Topic

Click "Browse", and select an existing Topic to be modified.

Making a Topic Inactive

Check the "Inactive" box to make a Topic inactive. If inactive, it will not appear in pop-up selection lists.

Permanently Deleting a Topic

Click "Browse", and select an existing Topic. Click "Delete".

VQF Setup/Edit Special Collections

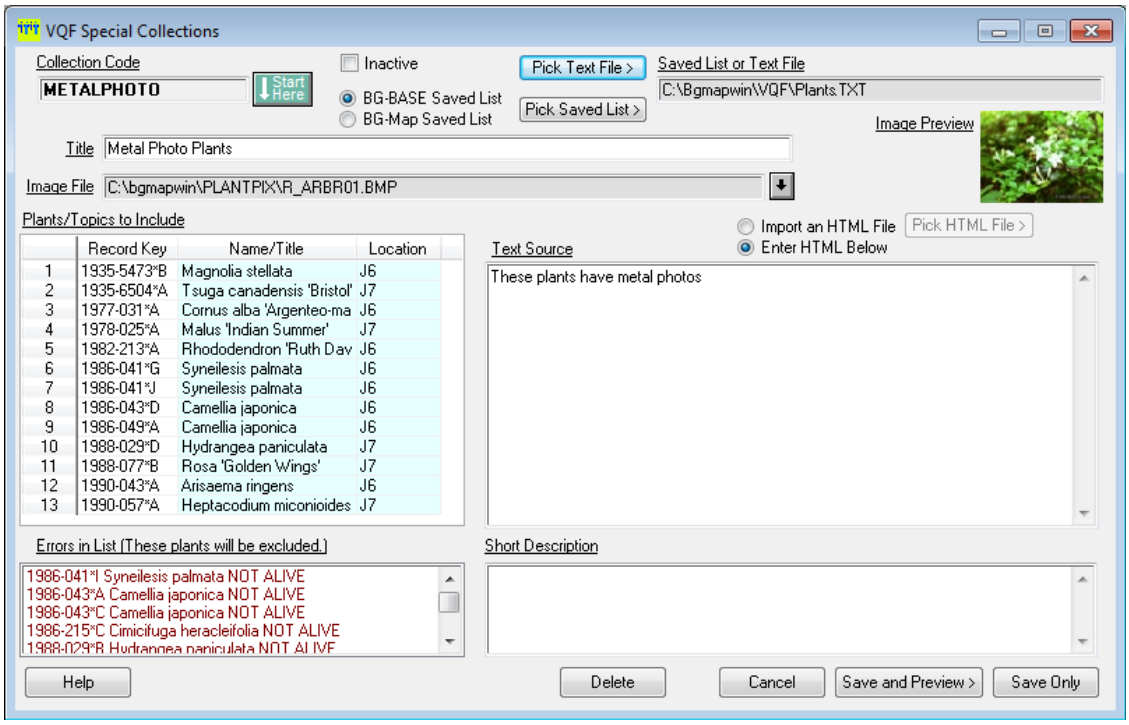
Special Collections are lists of plants from which the visitor can select. Each list can be based on a theme or category - for example - "Winter Blooming Plants", "Plants With Low Water Requirements", etc. Each Special Collection is identified by a code.

Including Topics in a Special Collection

You can also include selected VQF Topics in a Special Collection. These Topics are displayed as "Features" only when a Special Collection is used as a "Canned Tour" or when the visitor chooses to add a "Feature" to his or her tour. For details on Canned Tours, go to Utilities/VQF Setup/ VQF Options and click help under "Tours/Reports."

Note:	**Canned tours can only include a maximum number of plants or Topics as set in VQF Options in the "General" tab.** For example, if you set the maximum number of plants and Topics to 18 and a Special Collection used as a canned tour contains more than 18 valid usable plants and Topics, only the first 18 will be used to create the tour.

Creating a Special Collection



Click the "Browse" button, and select "Define a new Special Collection Code". Enter a code of 16 characters or fewer for the new Special Collection. Then, fill in the information as indicated for each prompt.

Title (required):
Enter a title for this Special Collection.

Image File (required):
Click the "Browse Button", and select an image file to be displayed on-screen with this Special Collection. The selected image will be displayed to the right of the filename in the same format as it will appear in VQF. Note: Image files are typically .BMP or .JPG files, and should be horizontally oriented. Do not use .GIF files for this purpose.

Short Description (optional):
You can enter a short description of this Special Collection. This will display in popups and selection lists. If you do not enter a short description, a truncated version of the full description will be used instead.

Text Source:
Choose "Enter HTML Below" to enter HTML code for the Special Collection description into the box below.

Choose "Import an HTML file to import an HTML file that you have created by another method. Then, click the "Pick HTML file" button to choose the file. The HTML code will be inserted into the box below.

You can still edit it if you wish.

Plants and Topics to Include:
You must enter at least 1 plant or topic in a Special Collection. Plants can be entered in one of 4 ways - typing in an accession number, browsing for an individual plant, using a *BG-BASE* saved list or using a text file. Topics can be entered by typing in a Topic Code, by browsing or by using a text file.

- Typing in an Accession Number or Topic Code - Click on an empty cell in the "Record Key" column, type in an accession number with qualifier or a Topic Code, and press . To create a new empty row, click on any row, then right-click and select "Insert Row Below."

- Browsing for an Individual Plant or Topic - Click on an empty cell in the "Record Key" column, then right-click, and select "Add a Plant/Topic." Use QUICKFinder to find a plant or select a Topic from the displayed list.

Note:	**Only those Topics that were designated for inclusion in tours will be displayed in the popup.** For information on how to designate a Topic for inclusion in tours, go to Utilities/VQF Setup/Edit Topics and click help.

- Using a *BG-BASE* or BG-Map Saved List (Plants Only) - Click the "Pick Saved List" button, and select a *BG-BASE* or BG-Map saved list. The list must contain at least 1 living plant. The plants will be inserted into the table, replacing any plants or Topics that are already listed there. Only valid living plants will be displayed in VQF. Unmapped plants will be shown only if you have selected "Show Unmapped Plants" in VQF Options.

- Using a Text File (Plants or Topics) - Click the "Pick Text File" button, and select a saved text file. Normally this kind of file is created using Windows Notepad, and has a filename extension of .txt The plants and Topics will be inserted into the table, replacing any plants or Topics that are already listed there. Only valid living plants and mapped Topics will be displayed in VQF. Unmapped plants will be shown only if you have selected "Show Unmapped Plants" in VQF Options. Unmapped Topics are never shown.

When creating the text file, list each accession number or Topic Code on a separate line. You may optionally add a comma after the accession number or Topic Code, followed by the plant name or notes to help identify the plant or Topic - as in this example:

```
86-142*C
86-257*H,Mag. virg. near Rose Garden
48-287*F
ROMANT_ROSE, Romantic Roses display (topic)
83-081*A
VEG_GARDEN
65-160*A,'Annabelle' Hydrangea
```

Deleting a Plant or Topic From the List:
Click on a row, right-click and select "Delete Row."

Previewing a Special Collection

Click "Save and Preview." The Special Collection must be saved before previewing.

Making a Special Collection Available to Visitors for Plant Selection

To make a Special Collection available to visitors for plant selection, you must add it to the table under the "Topics and Special Collections" tab.

Making a Special Collection Available to Visitors as a Canned Tour

To make a Special Collection available to visitors as a Canned Tour, go to Utilities/VQF Setup/VQF Options and click help under "Tours/Reports."

Modifying an Existing Special Collection

Click "Browse", and select an existing Special Collection to be modified.

Making a Special Collection Inactive

Check the "Inactive" box to make a Special Collection inactive. If inactive, it will not appear in pop-up selection lists.

Permanently Deleting a Special Collection

Click "Browse", and select an existing Special Collection. Click "Delete".

Log File and Feedback Reports

You can print two types of VQF Reports:

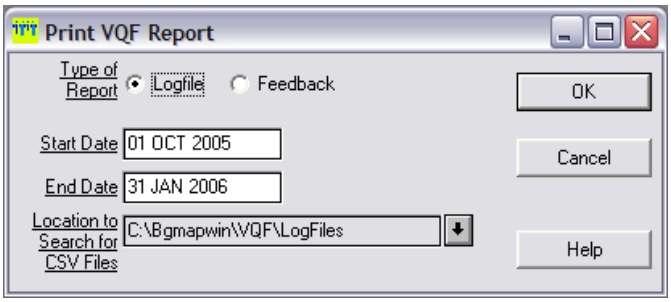
Log File Report:

This report gathers the information collected when VQF logging is enabled. It lists VQF activity that shows how often VQF is accessed and what types of information is being displayed. This data is normally stored in a set of .CSV files in the C:\Bgmapwin\VQF\logfiles folder on the kiosk computer. For details, see Log Definitions.txt in the VQF folder.

Feedback Report:

This report gathers feedback from visitors, including mailing list data, comments and suggestions. This data is normally stored in a set of CSV files in the C:\Bgmapwin\VQF\feedback folder on the kiosk computer. For details see the "Feedback" tab in "VQF Options."

Printing the Report:



Select the type of report, and enter the date range to be included in the report. For example, to list all VQF activity beteen 1/1/06 and 1/31/06, enter the dates and select "Logfile." Select the location to search for the CSV files to produce the report. If you are printing the report on the kiosk computer, this will be one of the default locations: C:\Bgmapwin\VQF\logfiles or C:\Bgmapwin\VQF\feedback. If you are printing the report on another networked computer, it will be the corresponding network location of the kiosk computer. If you transferred the CSV files to another location, select that location.

Next, select the file name and the location to place the report, which is generated in the form of a web page (html file). Click "OK." The report will be generated and automatically displayed in your web browser. If you wish to further manipulate the report, open the html file in a spreadsheet program such as Microsoft Excel, and save it as a spreadsheet.

Using the Field Data Menu

Note:	**The Field Data Menu can be accessed only if you have the BG-Map Total Station Interface, GPS Interface or GN3/Garden Notepad Classic.**

The Field Data Menu provides the tools for uploading and using field measurement data gathered on Windows Mobile computer or data

collector.

Upload

This is the first step in mapping after surveying plants. Data will be uploaded and stored in BG-Map as Raw Field Data.

Note:	**First, copy the field data file from the mobile device to a local folder on your desktop computer.** Then, click "Upload" in the Field Data menu.

After the uploading process is complete, you may disconnect the handheld.

Editing Garden Notepad Plus Images - Deprecated

Note:	**If you uploaded images collected by Garden Notepad Plus, you will be given the option of editing them first.** See below.

When uploading images collected by Garden Notepad Plus, you will be given the option of editing the images first or inserting them without editing.

Editing or Viewing One or More Images

Click on one or more image thumbnails. Then, select one of these options.

- **View** - to view the image
- **Reposition** - to rotate or invert the image
- **Delete** - to delete the image
- **Cancel** - to cancel the edit

Saving and Inserting the Images

Click "Save and Insert" to insert the images into BG-Map. The images will be associated with the individual plants by their accession numbers. To edit these associations, go to "Tools/Assign Plant and Object Images."

Note:	**If you are using the BG-Map web interface, Web-VQF, you can restrict display of images uploaded from Garden Notepad Plus to the Staff Level only by checking the option in the "Admin" tab of the Web-VQF Setup window.**

Convert

In this next step, the uploaded Raw Field Data is processed into Converted Field Data, which is usable by BG-Map. During this process, the field data is checked against *BG-BASE*. Any discrepancies that may render the data unusable will appear in an error report. Also, during this step, any Non-Plant Objects contained in the Raw Field Data will be inserted into the basemap. (See "Working with Non-Plant Objects", below.)

Note:	**You must set the date format used by your handheld computer or data collector.** See "Using the Tools Menu".

Note:	**Before you can convert Garden Notepad field data you must enter your *BG-BASE* logon name and password.** You will be prompted to do so if the data you are converting contains Garden Notepad data.

The following error codes may appear in the error report:

- **NF** – record not found in Facilities Management Objects table FAC_OBJECTS
- **NP** - plant is not in *BG-BASE* PLANTS table
- **NBG** – user is not authorized to insert Garden Notepad data into *BG-BASE*. You must log in first with your *BG-BASE* user name and password.
- **NL** - plant is not living

The **NP** error code indicates that the accession number with qualifier for the plant that was recorded in the field could not be found in the *BG-BASE* PLANTS table. This could occur because the accession number was entered incorrectly in the field or because the plant was never entered or entered incorrectly into *BG-BASE*. Verify the correct accession number with qualifier for the plant in question. Then, either correct the field data by clicking "Edit", or correct the plant's accession number in the *BG-BASE* Plants Entry Screen.

The **NL** error code indicates that the plant is not listed as living in *BG-BASE*. This could be because the accession number was entered incorrectly in the field, in which case you would click "Edit" to correct it. Or, the plant may have been erroneously entered as dead in *BG-BASE*, in which case you would make the required correction in the *BG-BASE* Plants Entry Screen.

Editing the Accession Numbers to Correct Them

To correct the accession numbers or object keys click the "Edit" button. This will open the Edit Accession Numbers window. After making all required corrections, run "Convert Field Data" again until no errors remain.

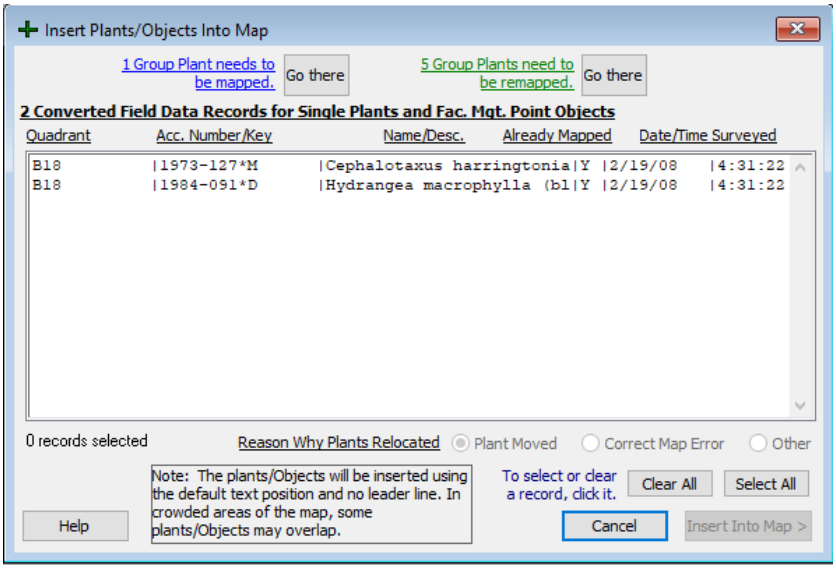
Note:	**Field data will not be available for your use until you successfully convert it**. You should continue making corrections and running "Convert Field Data" until no plants appear on the error list.

Insert Plants/Objects into Map

This function allows you to automatically insert into the map plants that have been surveyed using a total station or GPS. Before the plants can be inserted, you must upload and convert their field data.

Group Plants

If the converted field data includes group plants, notice of this will be displayed at the top of this window after all single plants have been inserted. To insert these group plants, click one of the "Go there" buttons. For single plants, see below.



Single Plants

Only single plants can be inserted by this method.

Note:	**Line and Area Type Facilities Management Objects must be mapped as Non-Plant Objects (NPO's) and then manually inserted into the map via the Facilities Management Objects window.** For more on NPO's see: http://www.bg-map.com/userdata/npo_syms.html

Selecting the Plants to Insert

A list of converted field data for single plants is displayed in the window. You can select one or more of these plants to insert into the map. To include all listed, click "Select All". To include only some, click to select or deselect each record. Or, click "Select All", and then deselect some of the objects by clicking them.

Reason Why Relocated

If you select one or more already-mapped plants, you can select a reason why these plants are being relocated.

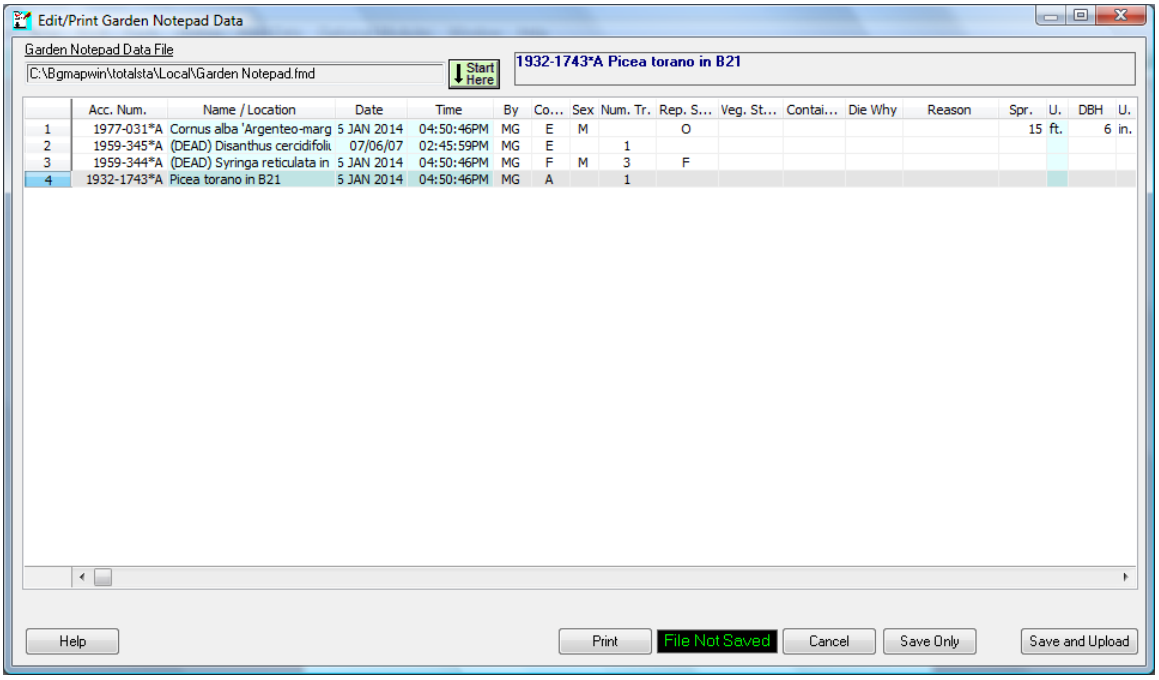
- **Plant Moved** -The plant was physically moved.
- **Map Error** -The plant was previously mapped in error.
- **Other** - Some other reason

You can review the reasons for previous moves by printing a History of Map Record.

After making your selections, click "Insert Into Map".

Note:	**The plants will all be inserted using the default text position and no leader line.** In crowded areas of the map, some plants may overlap. This can be corrected later using "Move Text", and "Edit Leader Line" in the CAD Window. Still, in very crowded areas it might be best to insert the plants into the map one by one using "Add a Plant" or "Relocate a Plant.

Edit/Print Garden Notepad Data



Before you can use this feature, you must enter your *BG-BASE* logon name and password.

This function allows you to view the Garden Notepad data in a data file, edit the data, add records, and print the data in tabular form. The data file must first be transferred from the handheld data collector to your PC.

Selecting a Data File

Click the "Browse" button and select a data file (file extension .FMD.) This can be any file which has been transferred from a handheld data collector to your PC. The file can contain a mixture of Garden Notepad and Total Station Interface records. Only the Garden Notepad records will be displayed or edited. The Total Station Interface records will remain untouched. The special file C:\Bgmapwin\Totalsta\totalsta.fmd - the "Raw Field Data" file containing all records that have been uploaded but not yet converted - can also be viewed and edited using this window.

Changing the Data Sort Order

To re-sort the data on any column, double-click on the column heading.

Deleting a Row of Data

Click on the row and then right-click and choose "Delete". The row of data will be deleted.

Adding a Row of Data

Click on the row where you wish to insert a row of data and then right-click and choose "Insert". Fill in the data as described below.

Editing the Existing Data

Data in the blue-colored cells is automatically filled in and cannot be edited. Data in all other cells can be edited. See the descriptions below. The cells are designated as follows:

- **Type Only** - data can only be typed into the cells
- **Browse Only** - data can only be filled in by browsing - see "How to Browse" below.
- **Type or Browse** - data can be filled in by either typing or browsing

How to Browse

Click on the cell so that it is outlined with a thin dotted line. Then right click, select "Browse" or "Edit" and select from the displayed pop-up list.

Data Fields That Can Be Edited

Accession Number (Type Only) - Enter an accession number with qualifier for a living plant.

Recorded By (Type or Browse) - Enter the initials of the person recording the data. Use the same initials as you would if entering data into *BG-BASE*. This field must consist of 2 or 3 characters.

Condition (Type or Browse) - Enter a valid Condition Code.

Sex (Type or Browse) - Enter a valid Sex Code.

Number of Trunks (Type or Browse) - Enter the number of trunks - a number from 1 to 6 or ">6".

Reproductive Status (Type or Browse) - Enter a valid Reproductive Status Code.

Vegetative Status (Type or Browse) - Enter a valid Vegetative Status Code.

Container (Type or Browse) - Enter a valid Container Code.

Die Why (Type or Browse) - If this plant is dead or removed, enter a valid Die Why Code.

Reason (Type Only) - If you entered a Die Why code, you can enter
Tree Hazard Target Probability (Not Editable) - The probability of failed part striking a target. This data can only be entered or edited using Garden Notepad or by going to Tools/Enter Additional PLANTS Data.

Tree Hazard Consequences (Not Editable) - The consequences of failure of the tree or a part. This data can only be entered or edited using Garden Notepad or by going to Tools/Enter Additional PLANTS Data.

Tree Rating (Not Editable) - The overall hazard rating. This data can only be entered or edited using Garden Notepad or by going to Tools/Enter Additional PLANTS Data.

Tree Hazard Action (Not Editable) - Enter the recommended action for this tree. This data can only be entered or edited using Garden Notepad or by going to Tools/Enter Additional PLANTS Data.

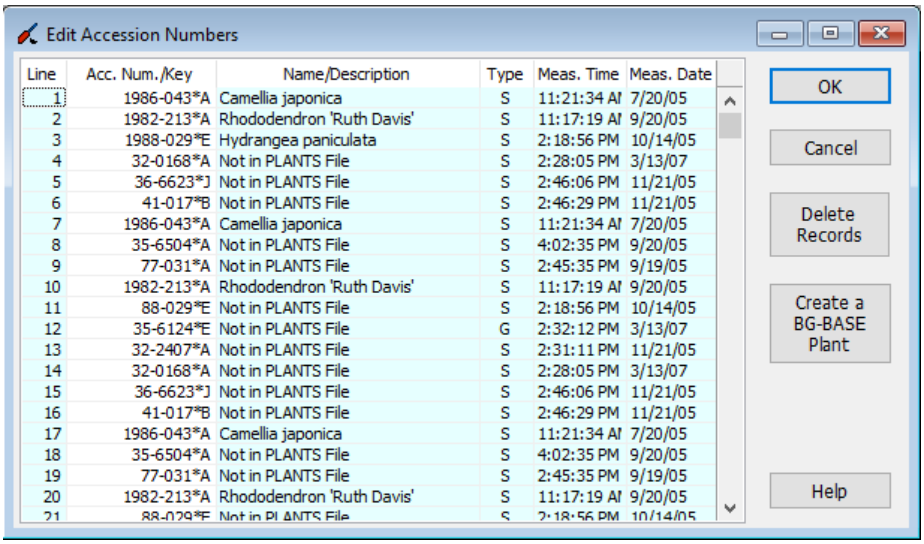
Tree Hazard Note (Not Editable) - Enter any additional notes regarding this tree's hazard potential. This data can only be entered or edited using Garden Notepad or by going to Tools/Enter Additional PLANTS Data.
Printing the Data

Printing the Data

Click "Print". The list will be exported as a web page (html) file. Select either the default file name, which is the same as the field data file, or enter any desired filename. After the list is completed, it will display it automatically. You can print the report or open the HTML file in Microsoft Excel or a similar spreadsheet program for further manipulation.

Plant list HTML files are normally stored in a folder on your C: drive: C:\bgmapwin\Plant Lists. You can choose a different folder if you wish.

Edit Accession Numbers



This window allows you to change or correct an accession number, NPO code or Facilities Management object key contained in Total Station, Garden Notepad or GPS raw field data.

Note: For more on NPO codes, see this Surveying Tip.

How to Correct an Accession Number, NPO Code or Object Key

Click on an accession number, NPO code or object key and enter the corrected number or code. If you click on the number and then press F2, you can edit just part of the number.

After you edit the number, the "Name/Description" column will be updated.
Start here

Delete Records

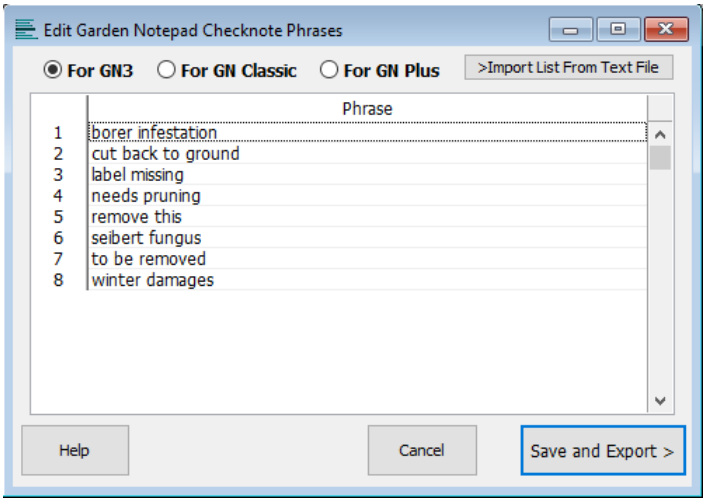
Click to delete one or more raw field data records after which you can re-convert the data.

Create a *BG-BASE* Plant

This allows you to create a completely new *BG-BASE* accession record and then create a plant record for that accession or to create a new plant record for an existing accession record. In order to access this feature, a user must have the Permission to "Use BG-Map to Create *BG-BASE* Plant Records" access privilege set in the password setup screen. See the help screen in Password Setup for details.

Edit Garden Notepad Check Note Phrases

Use this window to edit checknote phrases to for Garden Notepad and to export them for use on your mobile devices. These phrases can be used to record "Check Notes", "Performance Note" and "Tree Hazard Action" and "Tree Hazard Notes."



Note: **A different set of checknote phrases is saved for each BG-Map user.**

Importing Phrases from a Text File

Click the button to import phrases from an existing text file (one phrase per line.) Phrases imported in this way will replace any existing phrases.

Editing

Click an existing phrase and type to overwrite and replace it.
Click an existing phrase and press the [F2] key to edit the phrase.
Click an existing phrase and press the [Delete] key to delete the phrase.
Click an existing phrase and press the [Insert] key to insert a phrase.

Saving and Copying the Phrases for GN3

Click "Save and Export." The phrases will be copied to the C:GN3\Lists folder from which they can be copied to your Windows 10 device.

Saving and Copying the Phrases for GN Classic to Your Mobile Device

(Not applicable to GN3)

Connect the device to your computer using Windows Mobile Device Manager. Then click "Save and Copy to Mobile Device."

Use With Garden Notepad Plus - Deprecated
If you have installed Web-VQF, you can use Garden Notepad Plus for iPad devices. Click "Save and Export."

Edit PropNoter Check Note Phrases - Deprecated

Use this window to edit check note phrases for PropNoter and to copy them to your mobile devices. These phrases can be used to Record "Observations."

Note:	**A different set of check note phrases is saved for each BG-Map user.**

Importing Phrases From a Text File

Click the button to import phrases from an existing text file (one phrase per line.) Phrases imported in this way will replace any existing phrases.

Editing

- Click an existing phrase and type to overwrite and replace it.
- Click an existing phrase and press the [F2] key to edit the phrase.
- Click an existing phrase and press the [Delete] key to delete the phrase.
- Click an existing phrase and press the [Insert] key to insert a phrase.

Saving and Copying the Phrases to Your Mobile Device

Connect the device to your computer using ActiveSync, Windows 7 or Windows Vista. Click the button to save and copy the file to your device.

Print Raw Field Data and Print Converted Field Data.

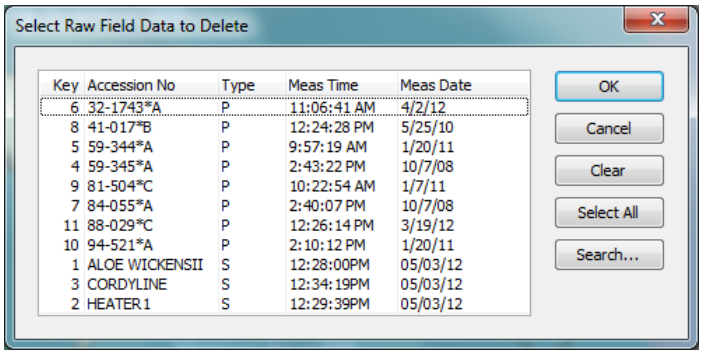
Raw Field Data

This lists all plants with uploaded raw Total Station or GPS field data (data that has been uploaded but has not been converted.) The list can be sorted by accession number or by date/time.

Converted Field Data

This lists all plants with Total Station or GPS field data that is converted and available. The list can be sorted by quadrant, name or by accession number.

Delete Raw Field Data

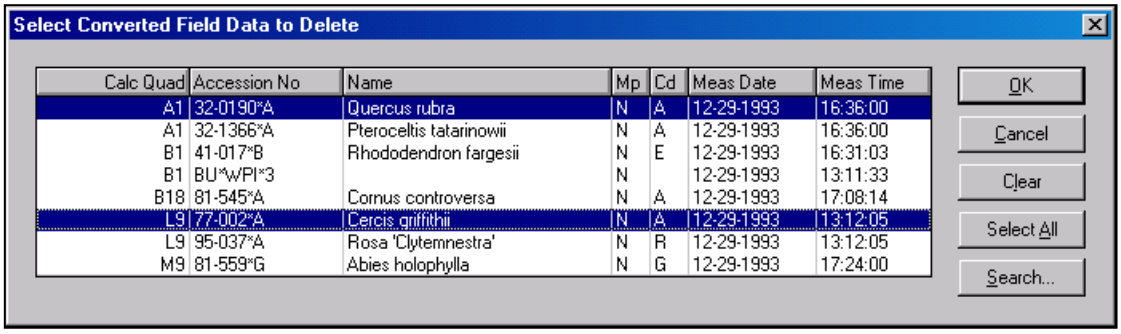


This deletes unneeded or unusable Raw Field Data. . The following data is displayed:

- **Key** – The line number in the raw data file (totalsta.fmd)
- **Type** – S = Single Plant G=Group P=Garden Notepad data
- **Meas Time** – Time plant was surveyed
- **Meas Date** – Date plant was surveyed

Select one or more records from the selection list, and confirm your selections.

Delete Converted Field Data



This deletes unneeded or unusable Converted Field Data. The following data is displayed:

- **Calc Quad** – The quadrant in which the plant is located
- **Mp** – Is this plant currently mapped (yes/no)
- **Cd** – Current condition
- **Meas Time** – Time plant was surveyed
- **Meas Date** – Date plant was surveyed

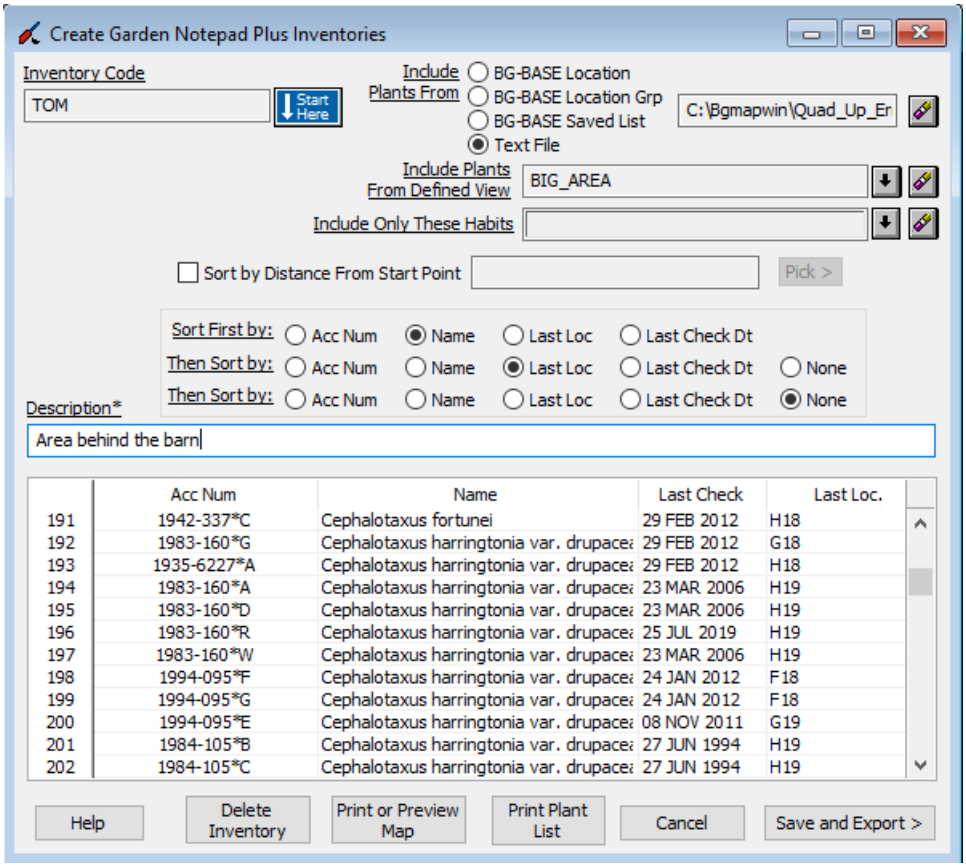
Select one or more records from the selection list, and confirm your selections.

Create Garden Notepad Plus Inventories - Deprecated

This window allows you to create and export plant inventories to be used with Garden Notepad Plus. An inventory is a list of plants to be checked in the field. It can be based on a *BG-BASE* Location, Location Group or a

saved list.

Creating an Inventory



Click the "Start Here" button, and select "Define a new Inventory Code". Enter a code of 16 characters or less for the new Inventory.

Create an Inventory From One of These Sources

Click one of these options

- **BG-BASE Location** - The list will include all living plants in a *BG-BASE* Location.
- **BG-BASE Location Group** - The list will include all living plants in a *BG-BASE* Location Group.
- **BG-BASE Saved List** – The list will include all living plants in a *BG-BASE* Saved List.
- **Text File** - Select a text file containing a list of accession numbers.

Note:	**If you create an inventory from a Location Group, and you wish to prevent the selected Location Group from being displayed in in Web-VQF in Visitor mode, prefix the name of the Location Group in BG-BASE with "GNP_"** For example: GNP_CONSERVATORY_WEST.

Including Only Plants with Selected Habits
If you wish to restrict the inventory list to include only plants with selected habits, click the "Browse" button, and select one or more habit codes. Click the "Clear" button to clear the habits. If left blank, all habits will be included in the inventory.

Description (required)
Enter a description of the Inventory or keep the default as entered by BG-Map.

Adding Plants From a Defined View

In addition to plants in the selected Location or Location Group, you can add mapped living plants within a selected Defined View. Click the "Browse" button to select. Duplicates are eliminated.

Sorting the Inventory List

1. Sorting by Name, Accession Number, Location or Check Date

You can sort the inventory list - up to 3 levels. Choose the field to sort for each level. The second and third levels are optional. Select "None" to not sort. For example, to sort the entire list by current location, and sort alphabetically within each location, select "Current Location" for the first level, "Name" for the second level, and "None" for the third level.

2. Sorting by Distance from a Start Point

First, select the plants to be inventoried. Then, check the box "Sort by Distance from Start Point" and click "Pick" to select a start point from the map.

Saving and Exporting the Inventory

Click the "Save and Export" button, and the inventory list will be saved and exported for upload by Garden Notepad Plus.

Printing a Map of the Plants in the Inventory
Click "Print or Preview Map."

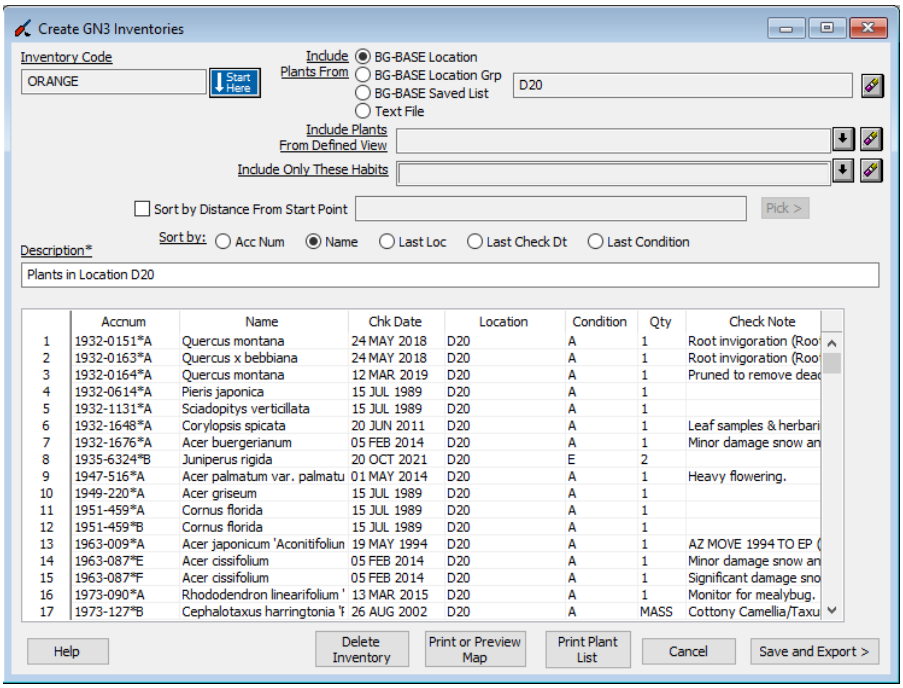
Printing the List of Plants in the Inventory
Click "Print Plant List."

Deleting an Entire Inventory

Click the "Start" button, select an inventory and then click the "Delete" button.

Create GN3 Inventories

This window allows you to create and export plant inventories to be used with Garden Notepad 3 (GN3.) An inventory is a list of plants to be checked in the field. It can be based on a *BG-BASE* Location, Location Group or a saved list.



Creating an Inventory

Click the "Start Here" button, and select "Define a new Inventory Code". Enter a code of 10 characters or less for the new Inventory.

Create an Inventory from One of These Sources

Click one of these options

- **BG-BASE Location** - The list will include all living plants in a *BG-BASE* Location.
- **BG-BASE Location Group** - The list will include all living plants in a *BG-BASE* Location Group.
- **BG-BASE Saved List** - The list will include all living plants in a *BG-BASE* Saved List.
- **Text File** Select a text file containing a list of accession numbers.

Description (required)

Enter a description of the Inventory or keep the default as entered by BG-Map.

Adding Plants from a Defined View

In addition to plants in the selected Location or Location Group, you can add mapped living plants within a selected Defined View. Click the "Browse" button to select. Duplicates are eliminated.

Including Only Plants with Selected Habits

If you wish to restrict the inventory list to include only plants with selected habits, click the "Browse" button, and select one or more habit codes. Click the "Clear" button to clear the habits. If left blank, all habits will be included in the inventory.

Sorting the Inventory List

1. Sorting by Name, Accession Number, Location or Check Date

You can sort the inventory list - up to 3 levels. Choose the field to sort for each level. The second and third levels are optional. Select "None" to not sort. For example, to sort the entire list by current location, and sort alphabetically within each location, select "Current Location" for the first level, "Name" for the second level, and "None" for the third level.

2. Sorting by Distance from a Start Point

First, select the plants to be inventoried. Then, check the box "Sort by Distance from Start Point" and click "Pick" to select a start point from the map.

Saving and Exporting the Inventory

Click the "Save and Export" button, and the inventory list will be saved and exported for upload by GN3.

Printing a Map of the Plants in the Inventory

Click "Print or Preview Map."

Printing the List of Plants in the Inventory

Click "Print Plant List."

Deleting an Entire Inventory

Click the "Start Here" button, select an inventory and then click the "Delete" button.

Export *BG-BASE* Label Types, Container Codes and

Die Why Codes

This function exports the codes used in *BG-BASE* to your handheld device for use with Garden Notepad Classic or GN3.

Working with Non-Plant Objects

BG-Map allows you to map certain objects other than plants using the Total Station Interface or GPS Interface. These "Non-Plant Objects" (NPO's) are entered into the handheld computer or GPS data collector using codes to identify the type of object plus a specific ID number for each object. When the field data is converted, the non-plant objects are automatically inserted into the basemap on the layers specified under Setup/NPO Layers.

Entering Non-Plant Objects into the Handheld Computer or GPS Data Collector

Three-letter codes are used to identify non-plant objects. For details, see: http://www.bg-map.com/userdata/npo_syms.html

Placing Non-Plant Objects into the Basemap

Note:	**Before converting field data, make certain that your basemap is not opened in "read-only" mode.** That would prevent you from being able to save your symbols.

It is also a good idea to print out the raw field data containing the NPO's before proceeding. This will provide you with a backup of their locations should something go wrong. Follow these steps:

- Upload the field data containing the NPO's. Print it out as a backup.
- Make certain that your basemap is open with read-write rights and that CAD is currently at the "Command:" prompt.
- Convert the field data. The NPO symbols will be automatically inserted into the basemap. You will be prompted to save the basemap.

Toolbar Shortcuts

Along the left edge of the BG-Map Window is a toolbar with icons for some of the most commonly used functions in BG-Map. To access these functions, click the corresponding icon.

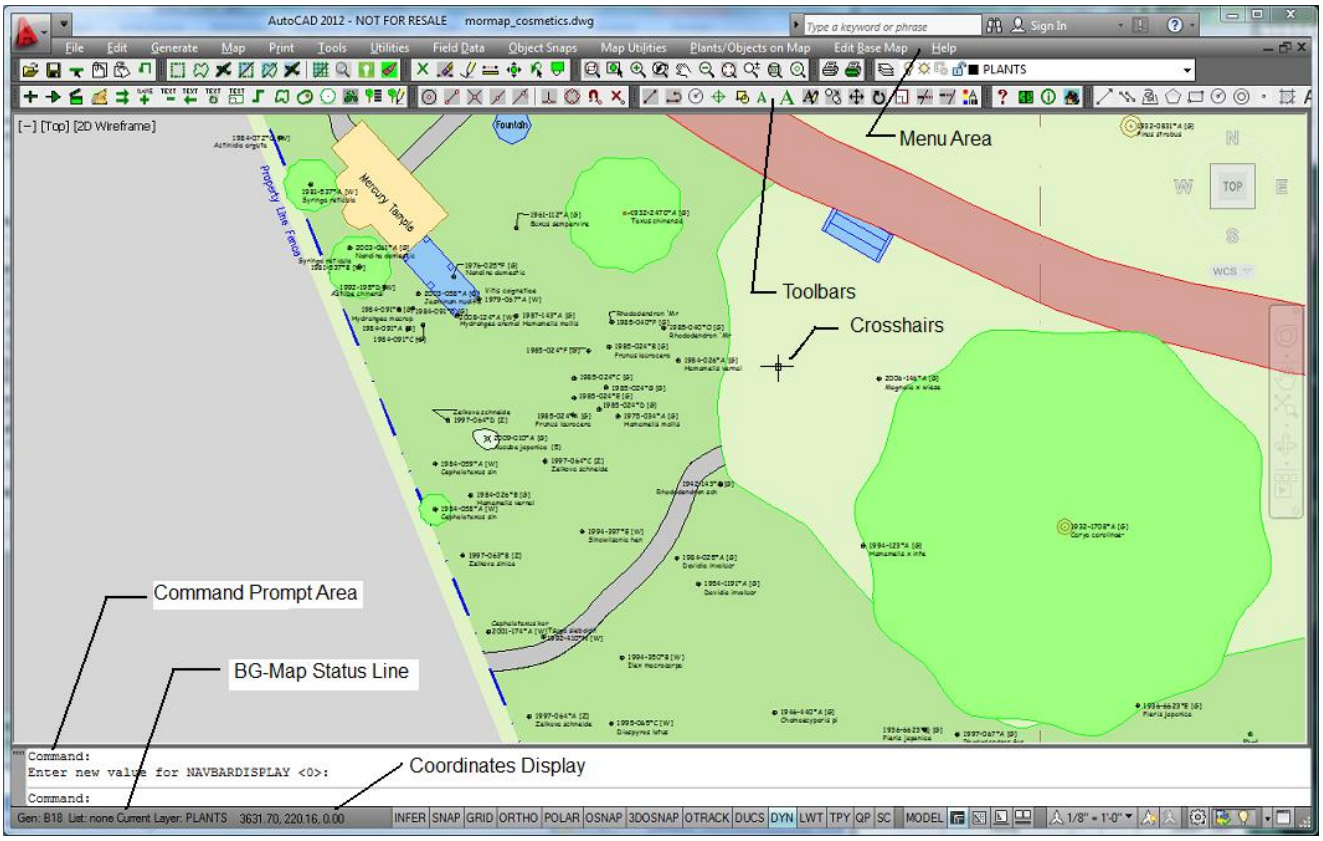
Becoming Familiar with the CAD Window

Setting Up CAD

For use with BG-Map, set up CAD as described in Step 5 of the TechNote Moving BG-Map to a New Computer.

The Command Line

In the CAD Window, the text display near the bottom of the screen is called the Command Prompt Area. The last line, the Command Line (the bottom line) is most important. Here you will find the CAD "Command:" prompt. Here also will appear system prompts for user input.



Note:	**In some version of CAD, the command line and Command Prompt Area may float within the CAD Window or may be dockable as an option.** In any case, the function of the command prompt is the same as described here.

You can look at the Command Line to determine the status of the process currently being performed. The Command Line will also indicate whether or not CAD is waiting for a response from you. If the word "Command:" appears, CAD is idle and ready to do something new. So, whenever you are in the CAD Window, it is advisable to get into the habit of keeping an eye on the command line.

Dynamic Display – An Alternative to the Command Line
(Not Available With CMS IntelliCAD)

If the dynamic display button labeled "DYN" or with this icon:  at the bottom of the screen is turned on, a dynamic display mimicking the command line will be displayed and will follow the cursor location. This provides a convenient way to avoid the need to constantly check the bottom of the screen.

The Status Line

The status line is located at the bottom left corner of the CAD Window. It displays information about the current status of BG-Map.

Status Line Display for Type of Plant Information Generated

When you generate plant information, The word "GEN:" - followed by one of the following displays will appear on the status line:

Type of Map	Text Displayed on Status Line
Quadrant Maps	A quadrant name
Defined View Maps	A Defined View name preceded by an arrow (>)
Site Maps	The word "SITE"
Quadrant Book Maps	The word "BOOK" followed by a quadrant name
Defined View Book Maps	"BK:>" followed by a Defined View name
Quarter Quadrant Book Maps	"QQ:" followed by a quadrant name
Snapshot Maps and "Look Up/Zoom to A Plant"	An "at sign" (@) followed by an accession number

If the currently generated map is "Custom" the above designation will be followed by a tilde (~). If a *BG-BASE* saved list was used, a slash (/) followed by "Pdf." will appear after the tilde.

Status Line Display for Type of Plant List Generated

After the type of plant information generated, the Status Line will display the word "LIST:" followed by information that indicates the type of plant list that has been generated. The possibilities are:

Type of Plant List	Text Displayed on Status Line
No list generated	"none"
Plant list sorted by plant name	"by name"
Plant list sorted by accession number	"by acc. num."
Plant list with sort order determined by a *BG-BASE* saved list	"yes"

Status Line Display when Adding or Relocating Plants

During the process of adding or relocating plants, the status line displays the accession number and name of the plant being located.

Status Line Display when Defining a View

During the process of creating a Defined View, the status line displays the name of the view being defined and the method being used to define the view. This can be any of the following:

|**C**| Pick Corners
|**P**| Preset Plot Multiplier
|**R**| Region Bounded

Status Line Display when Editing Text, Group Outlines, and Leader Lines

When moving name or accession number text or editing group outlines or leader lines, the status line will display the accession number of the plant and process being performed.

Restoring the Status Line 

To restore the status line, select "Restore Status Line" in the File Menu or click the icon.

The Coordinates Display

When you use the mouse to move the crosshairs around the map, you will notice two numbers on the status line at the bottom of the screen changing constantly. This is the coordinates display. These numbers correspond to the x and y coordinates of the current crosshairs position.

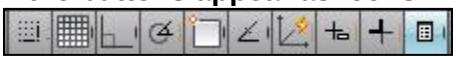
The map coordinate system is set up in units of feet and decimal feet or meters and decimal meters, with a resolution of 0.01 feet or 0.01 meters. The origin of this coordinate system is normally at the lower left corner

of the lower leftmost quadrant. (See "About Coordinates and Quadrants" in "The Basics of BG-Map")

Note:	**If the coordinates display does not change when you move the mouse, press the F6 function key.**

The Little Buttons at the Bottom of the CAD Screen

On the same line as the Status Line and Coordinates Display, you will find buttons labeled **INFER, SNAP, GRID, ORTHO, POLAR, OSNAP, 3DOSNAP, OTRACK, DUCS, DYN, LWT, TPY, QP, SC and MODEL**. **For normal BG-Map operation, only the DYN, and MODEL button should be depressed.** Here's a very brief rundown on their functions. For more details, consult your CAD documentation.

Note:	**If the buttons appear as icons like this:**  **and you wish to display them with text labels, right click on them and un-check "Use Icons."**

SNAP - When this button is down, CAD activates Snap Mode. This is a mode for locking the screen cursor into alignment with an invisible rectangular grid. When Snap mode is on, the screen crosshairs and all input coordinates are snapped to the nearest point on the grid, making it easy to draw rectangular objects of predetermined size. The spacing of the invisible grid can be set by right-clicking the SNAP button and choosing "Settings". For general BG-Map use SNAP should be off.

GRID - When GRID is on, you can see the invisible grid described above. For general BG-Map use, GRID should be off.

ORTHO - When ORTHO is on, you can only draw lines that are perfectly horizontal or vertical. Obviously, this makes it easy to perform some drawing tasks, but impossible to perform others. For general BG-Map use, ORTHO should be off. You can also turn ORTHO on and off by pressing the F8 key on the keyboard.

POLAR - When polar tracking is on, you can easily draw lines at predetermined angles. CAD will display the angle and line length as you move the mouse. The predetermined angle can be set in increments of 90, 45, 30, 22.5, 18, 15, 10, or 5 degrees. To change the angle setting, right-click on the POLAR button. For general BG-Map use, POLAR should be off.

Object Snap (OSNAP) - When the OSNAP button is down, CAD turns on Running Object Snaps. When a Running Object Snap is on, it remains in effect, until turned off. For example, if you set running object snaps

for Center and Endpoint, each time you try to pick a point on the map, CAD will try first to find an endpoint or center point of some object in the vicinity of the cursor. To set the current Running Object Snap modes, right-click on the OSNAP button. For general BG-Map use, OSNAP should be off.

OTRACK - When OTRACK is down, CAD turns on Object Tracking Mode. This works sort of like polar tracking and allows you to draw lines at predetermined angles from an Object Snap Point. First set the desired Running Object Snap modes. Then, to draw a line, first pass the cursor over an object to acquire its snap point, which will be identified by a plus sign. Then move the mouse until the desired angle and distance are displayed, and click to begin the line. Continue with other points. For general BG-Map, use OTRACK should be off.

Dynamic UCS (DUCS) – When DUCS is active, you can temporarily and automatically align the XY plane of the UCS with a plane on a solid model while creating objects. For general BG-Map use, DUCS should be off.

Dynamic Input (DYN) – (Not available with CMS IntelliCAD) When DYN is active, command displayed on the Command Line are also displayed near the cursor, eliminating the need to constantly look down. This can be useful.

LWT - When LWT is down, CAD displays lines at their predetermined lineweights (thickness), which can be assigned on the basis of layer or on a line by line basis. When the button is up, all lines are displayed with the same minimum lineweight (except for polylines that have a "width", but that's another story). To assign a line weight to a layer, select "CAD Layer Dialog" in the Edit Base Map/Layers sub-menu . Select a layer, click on the "lineweight" column, and choose the desired thickness. To make the lineweight permanent, you must save the basemap. For example you could use this method to make every line on the "ROADS" layer thicker. You can also assign a lineweight to an individual line. To do so, click the line. Then select "Change Properties" in the Basemap menu (or click the tricolor icon). Click on the column next to "lineweight", and select the desired thickness. Remember that you will not be able to see the lineweights unless the "LWT" button is down. To make lineweights permanent, you must save the basemap. When, you plot using "BG-Map Plot", lineweights are displayed automatically. When you plot using "CAD Plot", the box "Plot Object Lineweights" must be checked. For general BG-Map use, the setting of LWT doesn't matter.

MODEL - When the MODEL tab is down, you are looking at "Model Space" as opposed to "Paper Space". When any of the "Layout" tabs is down, you are looking at Paper Space. Paper Space is used to compose CAD plots that may show multiple views and scales. "BG-Map Plot" uses Paper Space automatically; you don't have to think about it. For general BG-Map use, MODEL should be on. If you accidentally turn it

off, click the MODEL tab.

Using the Mouse

In the main display area of the CAD Window (the area containing the map), a pair of crosshairs appears instead of a cursor. When a function involving object selection is being performed, a small box called a "pick box" replaces the crosshairs. To select an object on the map, position the pick box so that it encloses at least a portion of the object to be selected, and click the left mouse button.

Note:	**If the pick box seems to disappear or is too small, enter this command on the Command Line, and then press <Enter>.** PICKBOX 3

On the menu line at the top of the CAD Window, an arrow shaped cursor is displayed. Menu items are selected by clicking on them.

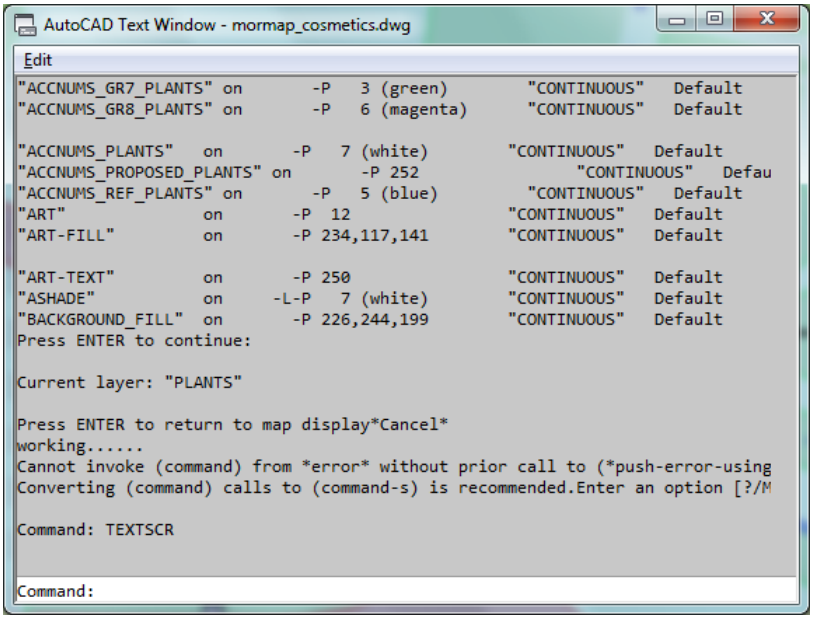
The function of the mouse in the CAD Window can be summarized as follows:

Left button	Use to pick menu items and to pick points or objects on the map
Right button	When clicked over the map, displays the Right-Click Menu
Move the mouse	To move the crosshairs or the pick box around the map and to move the arrow shaped cursor between menu items
Scroll wheel Rotate	Zoom in and out
Scroll wheel down and move mouse	Pan

Note:	**If rotating the scroll wheel does not cause the map to zoom in and out, check your mouse driver settings in the Windows Control Panel.** The wheel should be set for default behavior. Turn off any special settings for the wheel.

Note:	**If pressing the scroll down does not cause panning, enter the command MBUTTONPAN <enter> and change the setting to 1.**

The CAD Text Window



Certain commands and functions will cause information to be displayed in a separate CAD Text Window – for example, the "Layer Status" command. To toggle the CAD Text Window on and off, press the F2 key.

Note:	**You can e-mail the contents of this text window to Technical Support to help debug a problem.** For details, see: http://www.bg-map.com/userdata/Acad_history.html

Toolbars

Toolbars provide shortcuts for many of the most commonly used functions in the CAD Screen. The corresponding icons, if available, are shown next to the descriptions of each of the menu items in the following sections. The toolbars can be dragged and repositioned in a manner similar to many Windows applications. If a particular toolbar is not visible, right-click on another toolbar and check the name of the hidden toolbar.

Menu Area

Menus are displayed across the top of the screen. Each menu duplicates the commands found in the toolbars plus additional commands not found in the toolbars.

Note:	**If the menus do not appear across the top of the screen (a problem usually associated with CAD 2009,) enter this command: MENUBAR 1<enter>.** The menus should then appear.

Using the File Menu

Log in as Different User

Allows you to log in as a different BG-Map user.

Open Another Drawing 

Allows you to open another CAD drawing file for editing while you are in BG-Map. If you have made any changes to the basemap, save it when prompted.

Note:	**If you open another drawing for editing and then return to the basemap, you must Reinitialize BG-Map Functions – See below.**

Save Base Map 

Saves the basemap, making permanent any changes you have made. BG-Map will display this prompt on the Command Line:

```
Do you wish to save changes to the base map?
```

To continue, click "Yes." BG-Map will execute a number of commands, and then will save the map file. When the CAD "Command:" prompt returns, the basemap has been saved.

Note:	**When you save the basemap, any currently displayed plants will be erased, and any attached reference blocks can be detached.** This is normal.

Save Base Map As

This is similar to Save Base Map, except it allows you to save the map to a different CAD version.

Force AutoCAD to Shut Down (Not Available With CMS IntelliCAD)

Use this to close AutoCAD only if normal shutdown by BG-Map does not occur. This could happen if OpenInsight shuts down or must be

closed because it is not responding. You will be prompted to save the basemap. If you have made changes to the basemap, answer "Yes". On the Command Line, confirm again that you want to force CAD to shut down.

Show All Toolbars

Displays all of the BG-Map toolbars.

Hide All Toolbars

Hides all of the BG-Map toolbars.

Attach Reference Block (Xref) 

If you created external reference blocks (Xrefs) for your map, this command inserts them. Select the name of the reference file from the pop up CAD dialog box, and the reference block will appear on screen. (See also "External References" in "The Basics of BG-Map".)

Hint:	**It's a good idea to place your external reference files in a separate folder named "XREFS" under your main "BGMAPWIN" folder.** If you have many reference files, you may wish to organize them in additional sub-folders within the "XREFS" folder.

Detach All Reference Blocks 

Detaches (removes) all external reference blocks from the map. (When you save the basemap, all external reference blocks will be detached automatically.)

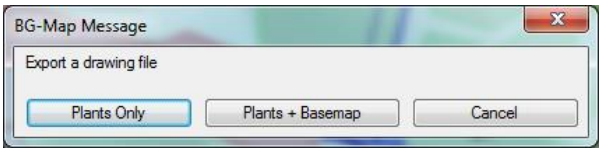
Reinitialize BG-Map Functions 

Reinitializes the CAD Window and reloads all the custom BG-Map commands. It should be used if you open another drawing file while in BG-Map and then reopen your basemap file. None of the custom BG-Map commands will work unless you "Reinitialize" first.

Restore Status Line 

Restores the BG-Map status line information to the screen.

Export Drawing File



This creates a CAD drawing file containing the currently generated plants or the plants plus the basemap. This will facilitate sharing of BG-Map data with landscape architects and others.

Select "Plants Only" or "Plants + Basemap", and choose a name for the exported file.

Note:	**The plant symbols in the exported drawing file contain invisible attributes that contain the accession number and name of each plant.** This data can be used by landscape architects and others.

Exit BG-Map

As you might have guessed, exits BG-Map.

Using the Edit Menu

The Edit menu duplicates the commands found in the Edit menu of "regular" CAD and is provided for the convenience of experience CAD users. For details, refer to your CAD documentation.

Using the Generate Menu

The Generate menu duplicates commands found in the BG-Map Generate menu. These include:

Normal Quadrant	
Normal Defined View	
Normal View on the Fly	
Custom Quadrant	
Custom Defined View	
Custom View on the Fly	
Custom Site Map	
All Plants to Fit	
Look Up/Zoom to a Plant	
Where Am I?	
Turn Plant Groups On and Off	
Set Plant Group Colors	

For details, see "Using the Generate Menu" in "Becoming Familiar with

the BG-Map Window."

Using the Map Menu

The Map menu duplicates the commands in the Map menu in the BG-Map window. Click here for details.

Using the Print Menu

The print menu duplicates the functions found in the Print menu in the BG-Map window. Click here for details.

Using the Tools Menu

The Map menu duplicates the commands in the Tools menu in the BG-Map window. Click here for details.

Using the Utilities Menu

The Map menu duplicates the commands in the Utilities menu in the BG-Map window. Click here for details.

Using the Field Data Menu

The Map menu duplicates the commands in the Field Data menu in the BG-Map window. Click here for details.

Using the Object Snaps Menu

Use the Object Snaps Menu to help locate points on the map in relation to other objects.

Note:	**You can also call up the object snaps menu by right-clicking while you press the Shift key.**

Center 

This picks a point at the center of a circle. (Useful for finding the exact center of a plant symbol.)

Endpoint 

This picks a point at the endpoint of a line or arc.

Intersection 

This picks a point at the intersection of two lines, arcs, or circles. (You must include the two intersecting objects in the "pick box" that appears at the intersection of the crosshairs when you use this function.)

Midpoint 

This picks a point at the midpoint of a line.

Near 

This picks a point on any object nearest to the center of the "pick box".

Perpendicular 

Picks a point in a line perpendicular to a selected line.

Quadrant 

This picks a point at one of the quadrant points (0,90,180,or 270 degrees) on the perimeter of a circle.

Note:	**This has nothing to do with BG-Map quadrants.**

Set Running OSNAPS 

This allows you to set one or more Object Snaps snap modes for continuous use. These object snap modes will remain in effect until you clear them.

Clear Running OSNAPS 

This clears all currently running Object Snap modes.

For more information about using Object Snaps, refer to your CAD documentation.

Using the Map Utilities Menu

Zoom/Navigate Sub-Menu

This menu contains commands that permit you to zoom to any area of the map. These include:

Quadrant

This zooms to a full view of the current quadrant, i.e. the last quadrant that was generated.

Defined View

This zooms to a full view of the currently generated Defined View. (If a Defined View is not currently generated, it does nothing.)

'Bird's Eye 

This zooms back for an overall view of the section of the map in which you are currently working. This is very useful for stepping back to an overall view after using "Lookup/Zoom to a Plant".)

'Window 

This zooms to a window within the currently displayed view. (You pick the corners of the window.)

Closeup 

This zooms to a closeup view, the center of which is picked at the prompt, "Pick center point of zoom..." (This is ideal for zooming in on a plant.)

Step In 

This zooms in to a view that is 20% narrower than the current view. The center point of the view remains the same. To repeat, right click.

'Previous 

This zooms to the previous view. (Can be used repeatedly to return through a number of previous views.)

'Pan 

This shifts position in any direction from the currently displayed view. Hold down the left mouse button and drag the map to the desired position. To exit, right click and then click "Exit".

Note:	**If you have a mouse with a scroll wheel, you can also pan by pressing the scroll wheel down and moving the mouse.**

Step Back

This zooms out to a view that is 20% wider than the current view. The center point of the view remains the same. To repeat, right click.

'Dynamic

This permits you to quickly zoom to almost any location on the map. To become proficient at using Dynamic Zoom, refer to your CAD documentation, and practice a bit!

'Realtime

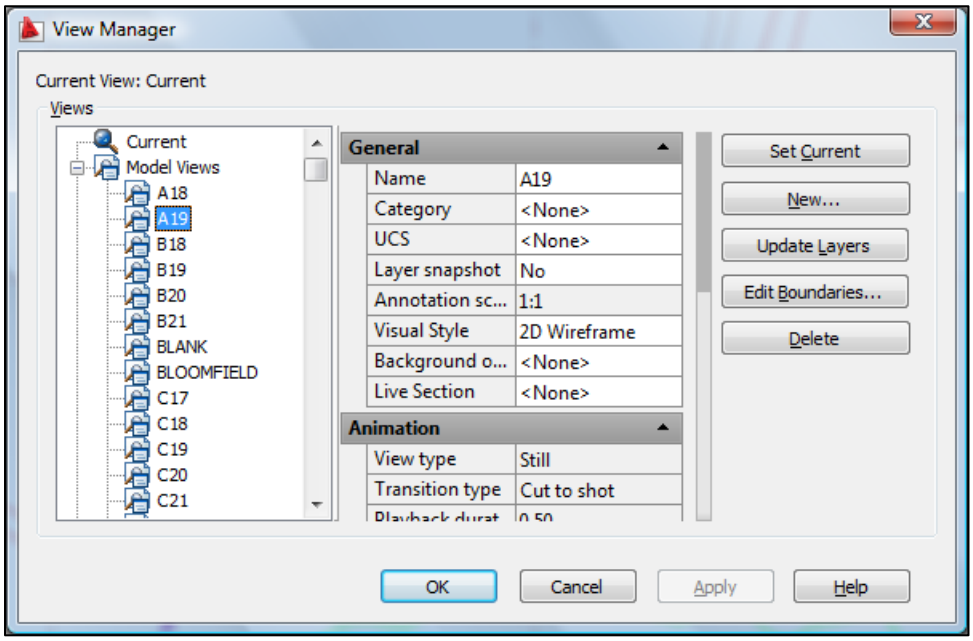
This permits you to smoothly and continuously zoom in and out. To zoom in, hold down the left mouse button, and drag the mouse up. To zoom out, drag the mouse down. To exit, right click and then click "Exit".

Note:	**If you have a mouse with a scroll wheel, you can also zoom in and out by turning the wheel.**

'CAD View

This zooms to a saved CAD view. You must type in the name of the view. However, this command has an advantage over the CAD View Dialog (below) because it is transparent.

CAD View Dialog



This permits you to zoom to a saved CAD view and to create saved CAD views.

To Zoom to a Saved CAD View:

Select the view from the list. Then, click "Set Current." Then, click "OK".

To Create a New Saved CAD View:

Zoom to the area of the map that you wish to save as a CAD view. Click "New". Type in a name for the view. Leave the other settings as-is. Then, click "OK" to exit the dialog window. Finally, save the base map.

Note:	**An CAD view will not be permanently saved unless you save the basemap.**

Transparent Zoom Commands

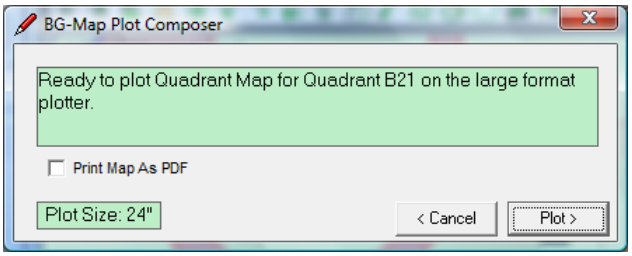
You will notice that some of the zoom commands are preceded by an apostrophe '. These are transparent zoom commands. A transparent zoom command can be used in the middle of another process without interrupting it. If you attempt to use a non-transparent zoom command in the middle of another process, the process will be interrupted. For example, if you are in the middle of locating a plant or defining a view and you find it necessary to use a zoom command, you may use any of the transparent zoom commands without interrupting the plant location or view definition process.

Plot Sub-Menu

CAD Plot (gray printer icon) 

This calls up the standard CAD plot dialog box, which allows you to select a plot device, paper size, plot area, and scale. For further details, refer to your CAD documentation.

BG-Map Plot (green printer icon) 



This is the automatic plotting utility of BG-Map. You can use it to plot a quadrant, defined view or site map on your large format plotter – either

24" or 36" paper width.

Before plotting, you must generate the desired map and plant list using the Generate menu in the BG-Map window. When you click BG-Map Plot, the "BG-Map Plot Composer" window will be displayed. Simply click "Plot" to initiate the plot and send it to your large format plotter. Or check "Print Map As PDF" to print the map as a PDF file.

Note:	**PDF printing is not available with CMS IntelliCAD or AutoCAD versions prior to 2007.**

Layers Sub-Menu

The Layers Sub-Menu contains commands for determining or changing the status of map layers. In BG-Map, layers are normally either ON (visible) or OFF (not visible). Other possible layer states are FROZEN (turned off in a more permanent way), THAWED, and LOCKED/UNLOCKED. Layer commands include:

Status

This displays the current status of all map layers.

Turn Off

This turns off one or more layers. (To specify more than one layer name, separate the names with commas.)

Turn On

This turns on one or more layers. (To specify more than one layer name, separate the names with commas.)

Hint:	**You can use an asterisk (*) as a "wild card" character for specifying layers.** You can make use of this feature to simultaneously turn off or on several layers. For example, to turn off all utilities layers, pick "Turn Off" from the Edit Base Map/Layers sub-menu, and specify UTIL* as the layer name. This will cause BG-Map to turn off all layers whose names begin with "UTIL".

CAD Layer Dialog 

This is the standard CAD layer control dialog box. It provides complete control over all layer functions.

Note:	**Be careful when using the CAD Layer Dialog. In particular, make certain to always leave the GRID layer in the locked mode.** For more information on layers and the layer dialog box, refer to your CAD documentation.

Map Utilities – Other Commands

Cancel 

This cancels any command that is currently in progress and returns you to the CAD "Command:" prompt. It is equivalent to pressing the Escape key.

Erase 

This erases object(s) from the map - Select one or more objects by clicking on them using the left mouse button. Click the right mouse button (or press Enter) when you have finished selecting objects to erase.

Note:	**Erasures will not be permanent unless you save the basemap.**

'Redraw 

This redraws the CAD Window It is used to clean up the screen display by getting rid of "blip marks" and gaps. This command is transparent, i.e. it can be used while performing another process.

Measure Distance

This measures the distance between any two points on the map. Click the first point and then the second point. The distance will be displayed.

Insert Ruler 

This inserts the image of a ruler, 100 units long, into the map at any desired location and orientation. The ruler provides a means to estimate distance and scale. You can place as many rulers on the map as you wish. All rulers will stay on the map until you erase them or until you generate new plant information or save the basemap, in which case all rulers on the map will be erased. Each unit on the ruler represents one meter or one foot, depending on which units of measure you employ. When you insert the ruler, BG-Map will display this prompt on the Command Line:

```
Insertion Point:
```

Click the point where you wish to place the 0 on the ruler. (You can also

use one of the options under the Object Snaps Menu.) BG-Map will display this prompt on the Command Line:

```
Rotation angle <0.0>:
```

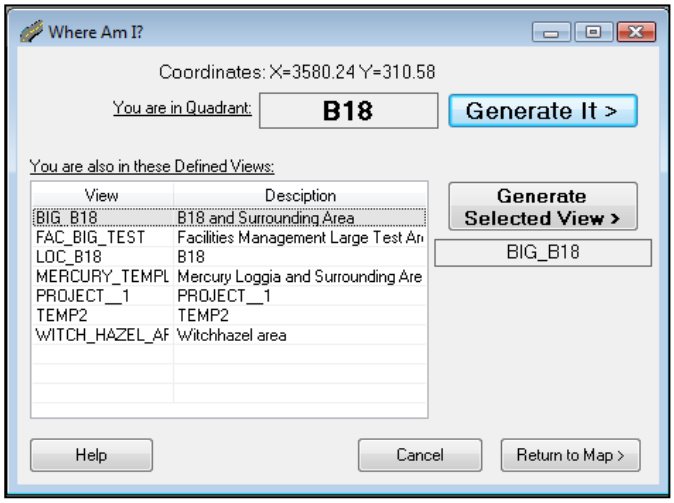
As you move the mouse, you will notice that the ruler rotates around the 0 point. Rotate the ruler to the desired orientation, and click the left mouse button. (Or, you can, again, use one of the Object Snap options.)

Where am I?

This feature can be used to determine which quadrant any point on the map is located in. It can also be used to generate any quadrant by simply clicking any point on the map. BG-Map will prompt:

```
Click a point on the map
```

Click any point on the map. BG-Map will display a window indicating which quadrant and which Defined Views the clicked point is in.



Identifying the Quadrant You are In and Generating It

The quadrant you clicked in is identified. Click "Generate It" to generate this quadrant.

Identifying Which Defined Views You are In and Generating One of Them

If the point you clicked is within one or more Defined Views, they will be listed. To generate one of these views, select it, and click "Generate Selected View."

Other Options

Click "Return to Map" to return to the map without generating anything.

Click "Cancel" to close this window and remain in the BG-Map window.

Forced CAD Regen 

This forces CAD to regenerate the map on screen. This is sometimes used to redisplay circles as true circles instead of polygons.

Send Last Object to Back 

This causes the last object inserted into the map to be displayed in the background instead of in front of the map. This is most often used when you attach an Xref containing an aerial photograph. If invoked immediately after attaching the photo, it causes it to be displayed behind the map instead of in front of the map.

Note:	**Before using this function, make certain that at least one edge of the photo is visible on screen.**

Using the Plants/Objects on Map Menu

Restart Add/Relocate a Plant 

This restarts the process of adding or relocating a plant if it has been interrupted. This is covered in detail in the next section - "BG-Map Step by Step".

Wipe Off All Plants 

This removes all generated plant information from the map, leaving only the basemap and any attached reference blocks.

Wipe Off Dead Plants 

This removes all generated dead plants from the map, leaving only the basemap and any attached reference blocks.

Add a Plant to the Map 

This function adds a previously unmapped plant to the map. For further details, see "Add a Plant by Manual Entry" and "Add a Plant Using Total Station or GPS" in "BG-Map Step by Step".

Note:	**The same function can be found in the BG-Map Map menu.**

Relocate a Plant 

This function relocates a previously mapped plant. For further details, see "How to Relocate a Plant" in "BG-Map Step by Step".

Note:	**The same function can be found in the BG-Map Map menu.**

Mass Move Plants 

This feature allows you to simultaneously move one or more accessioned or proposed plants from one point to another.

How to Mass Move Plants 

Generate any map showing the accessioned or proposed plants you wish to move. Click "Mass Move" in the "Plants/Objects" menu. CAD will prompt:

```
Click on the plants to move...
Select objects:
```

Click on the *symbols or trunks* of all the plants that you wish to move so that they are highlighted. You can also use the CAD "window" or "crossing" selection options. Any objects selected other than plant symbols or trunks will be ignored. When you have selected all the plants, right-click or press <Enter>. CAD will prompt:

```
4 plants were selected
Click on the base point and the point to move to...
```

Click the point from which you move the plants. Then click the point to which you wish to move the plants to. CAD will prompt:

```
Save these new plant locations?
```

Click "OK" to save the new locations, or click "Cancel" to return them to their original locations.

Note:	**Once you click "OK", you cannot undo the move.** The previous locations will be recorded in History of Map Record.

Add Name 

This adds a name for a plant that previously displayed only an accession number. This command can only be used if you have generated a Normal

Quadrant. Click the symbol of the plant. Release the mouse button. Move the mouse to position the name as desired. Then click again.

Remove Name

This removes a plant name so that only an accession number will be displayed. This command can only be used if you have generated a Normal Quadrant. Click the name to be removed. BG-Map will prompt "Remove this name?"

Click "Yes" and the name will be removed.

Note:	**To replace a name that was just removed, you must first generate the quadrant again.**

Move Text

This repositions an accession number or a name. This command can only be used if you have generated a Normal Quadrant. BG-Map will display this prompt on the Command Line:

```
Click on an accession no. or name or object tag text
to move...
```

Click the accession number or name text to relocate. (Release the mouse button!) The text can then be repositioned by moving the mouse. When the text is in the desired position, click the left mouse button.

Rotate Text

This allows you to rotate a plant name and accession number to make the text fit more easily within a crowded area of the map. Leader lines are also rotated along with the text. Text rotation is saved and may be changed again at any time.

Generate a map that contains plant names and accession numbers, such as a Quadrant or Defined View. In the CAD Plants/Objects on Map Menu, choose "Rotate Text", or click the icon.

CAD will prompt:

```
Click on the symbol of the plant to rotate…
```

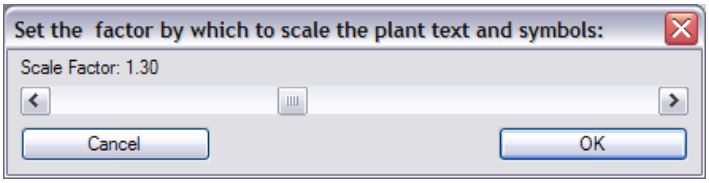
Click the symbol or trunk of a plant.

Move the mouse to rotate the text. Click again when the text is in the desired position

Save when prompted.

Resize Plant Text and Symbols

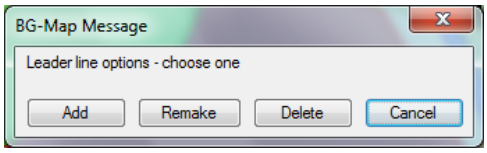
This resizes the plant text and symbols, even after a map has been generated.



Drag the slider bar to the desired setting and click OK. For example, a setting of 2 will make the text twice as large; a setting of .5 will make it half as large, etc. You can resize more than once.

Edit Leader Line

This adds a new leader line or deletes or modifies an existing leader line. This command can only be used if you have generated a Normal Quadrant. BG-Map will prompt "Leader line options – choose one".



Adding a Leader Line:

Click "Add" to add a leader line to a plant that currently doesn't have one. BG-Map will display this prompt on the Command Line:

```
Click on accession no. of plant...
```

Select a plant by clicking its accession number. BG-Map will display this prompt on the Command Line:

```
Click the first point on leader line.
```

Draw the leader line using the same procedure as in "Add a Plant" or "Relocate a Plant". (See "BG-Map Step By Step - How to Draw a Leader Line")

Redrawing an Existing Leader Line:

Click "Remake" to redraw an existing leader line. BG-Map will display this prompt on the Command Line:

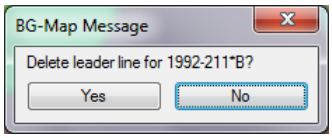
```
Click the leader line to remake...
```

Click a leader line. BG-Map will highlight the selected leader line and prompt:

```
Click the first point on the leader line.
```

Proceed to draw a new leader line using the same procedure as in "Add a Plant" or "Relocate a Plant". (See "BG-Map Step By Step - How to Draw a Leader Line") When the new leader line is complete, the original leader line will be erased.

Deleting a Leader Line:



Click "Delete" to delete an existing leader line. BG-Map will display this prompt on the Command Line:

```
Click on the leader line to delete...
```

Click the leader line to be deleted. BG-Map will highlight the selected leader line and prompt "Delete leader line for (Acc No)?" Click "Yes", and the leader line will be deleted.

Edit Group Outline 

This redraws an existing group outline. This command can only be used if you have generated a Normal Quadrant. BG-Map will display this prompt on the Command Line:

```
Click on the group outline to edit...
```

Click a group outline. BG-Map will highlight the selected group outline and prompt:

```
Click a point on the group outline or asymmetric
canopy.
```

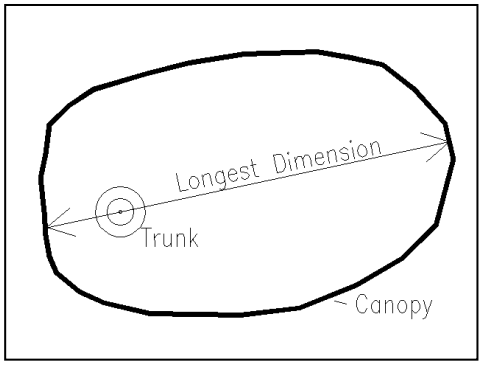
Proceed to draw a new group outline using the same procedure as in "Add a Plant" or "Relocate a Plant". (See "BG-Map Step By Step - How to Draw a Group Outline") When the new group outline is complete, the original group outline will be erased.

Asymmetric Canopies 

This feature allows tree canopies to be displayed as asymmetric shapes. If you create an asymmetric canopy definition for a tree, it will be used. Otherwise, a generic symmetrical canopy will be displayed. In all cases, the canopy size is determined by data stored in *BG-BASE* – Current Spread (PLANTS file) or Ultimate Spread (NAMES file).

What is an Asymmetric Canopy Definition?

An asymmetric canopy definition defines the shape of a tree canopy but not its size. It is a shape that you draw on-screen in a manner similar to a group outline. For example, if a tree canopy is oblong due to the shade cast by an adjoining tree, draw in the oblong shape. Sketching the shape in the field on a piece of paper and using your sketch as a guide is the best way to accomplish this.



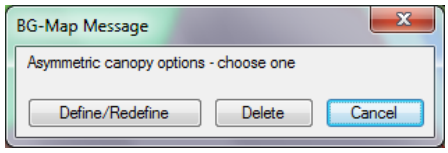
How BG-Map Uses the Asymmetric Canopy Definition

When displaying canopies, BG-Map uses the asymmetric canopy definition (if available) to determine the canopy shape, and *BG-BASE* data to determine the canopy size. The shape is drawn and scaled so that its maximum dimension (on a line passing through the tree trunk) is the same as the recorded *BG-BASE* spread. Therefore, when recording asymmetric canopy spreads in the field for input into *BG-BASE*, measure the canopy in the direction that results in the longest dimension. This will yield the most accurate map representation of the canopy.

Creating an Asymmetric Canopy Definition

To create an asymmetric canopy definition, you must first generate a Normal Quadrant map. Zoom in on the plant, and select "Asymmetric Canopies" in the Plants/Objects on Map Menu.

Click "Define/Redefine" to create a new asymmetric canopy definition or redefine an existing one. Click "Delete" to delete an existing asymmetric canopy definition.



If you choose "Define/Redefine", CAD will prompt:

```
Click on the accession no. of the plant...
```

Click the accession number of the plant. CAD will prompt:

```
Click a point on the group outline or asymmetric
canopy.
```

Click a point on the outline of the canopy shape. Continue drawing the canopy shape in the same way that you draw a group outline. Remember that it's only the shape that you are defining, so you need not be concerned with size. Right click to close in the outline. Unlike a group

outline, a canopy shape is not automatically smoothed. The next time that you generate a map containing this tree, the asymmetric canopy shape will be displayed.

Note:	**You must enter size data into *BG-BASE* in order to display the canopy.**

Turn off Solid Canopy Fills

If you generate a map with canopies solid filled, this will turn off the fills, leaving only canopy outlines.

Proposed Plants

Accesses the Proposed Plants feature. For details, click here.

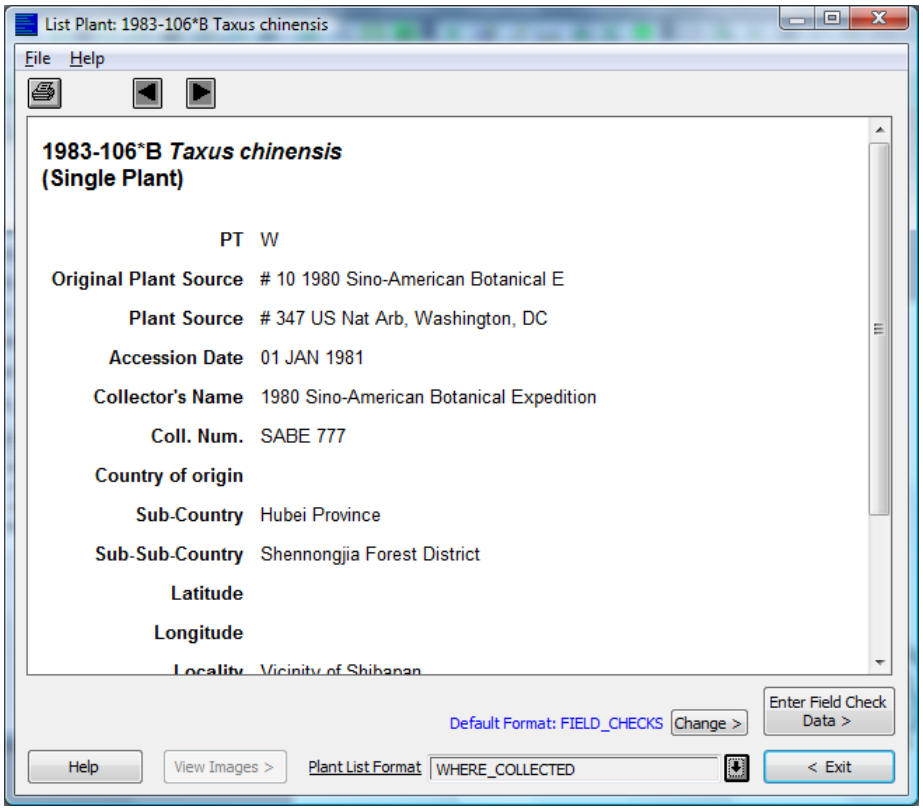
List Plant/Object

This lists on-screen detailed information about any currently displayed plant. It can be used with any type of generated plant information – Quadrant Maps, Defined Views, Site, or Book Maps. BG-Map will display this prompt on the Command Line:

```
Click the symbol of the
plant or object to
list...
```

Accessioned Plants

Click the plant symbol or trunk of a plant. BG-Map will prompt "(Acc. No. and Name) has been selected…List more information?" If you click "OK", additional plant information will be displayed.



You can use any existing Plant List Format to display the information. Click the "Browse" button to select a different format. If plant images are available, you can view them by clicking "View Images". And, you can enter field check data. When you have finished viewing information, click "Exit."

Note:	**You cannot use List Plant/Object with a newly added or relocated plant.** You must regenerate the plant information first.

Proposed Plants

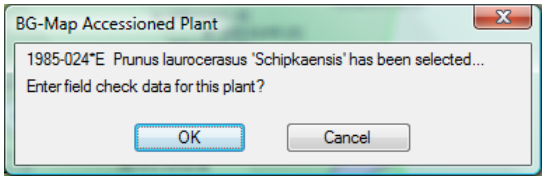
Click the plant symbol or trunk of a plant. BG-Map will prompt "(Plant No. and Name) has been selected…Do you wish to open the database record for this plant?" If you click "OK", the record for this Proposed Plant will be displayed.

Enter Field Check Data

This allows you to update BG-BASE with field check data for any plant displayed on the map. Click a plant symbol or trunk. BG-Map will display this prompt:

```
Click on a plant symbol or trunk...
```

Click the plant symbol or trunk of a plant. This message will be displayed:



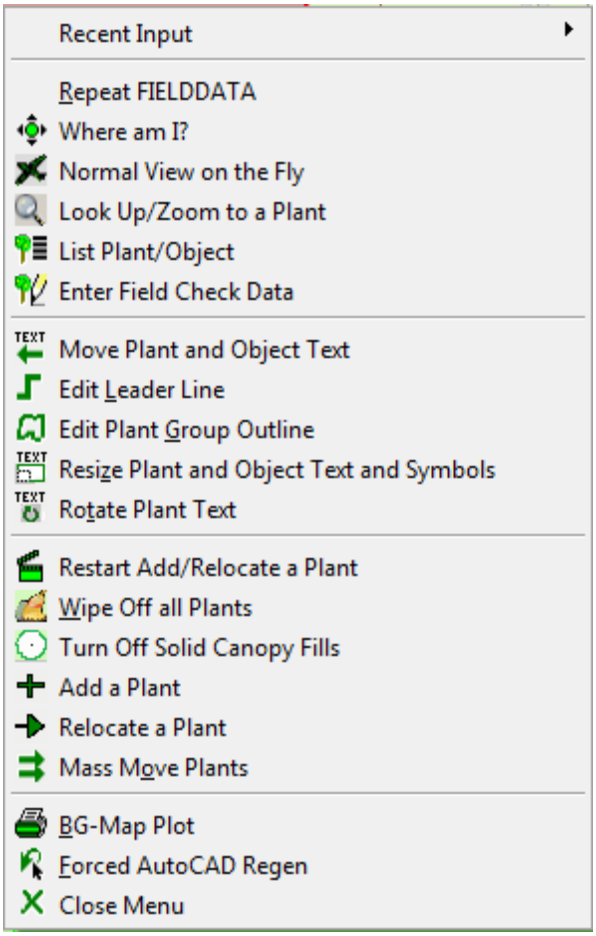
For details on how to enter field check data, click here.

Using the Edit Base Map Menu:

The Edit Base Map Menu contains commands used to edit the basemap. For details, see "Using the Edit Base Map Menu" in "Editing the Base Map."

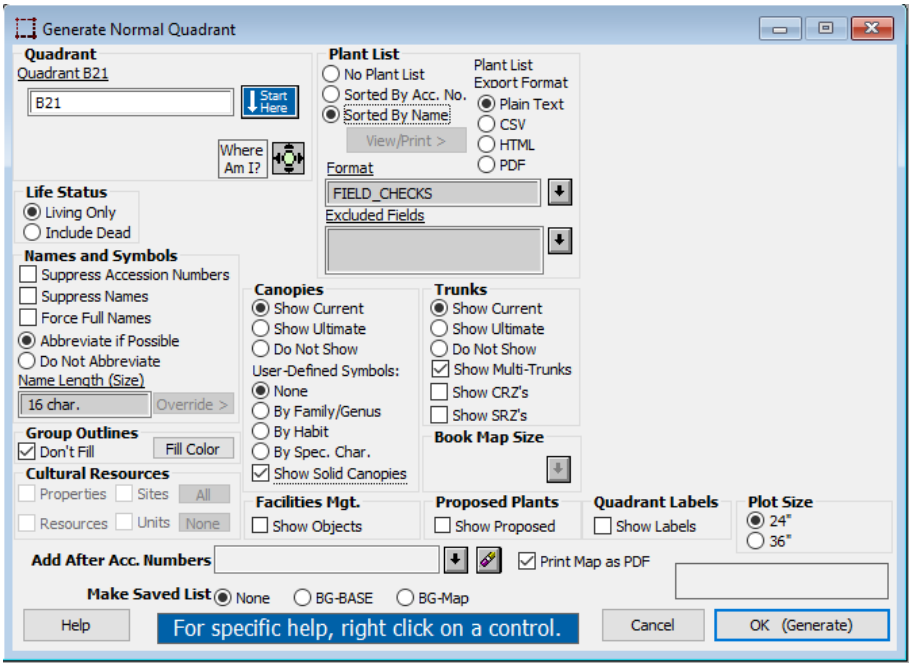
Using the Right-Click Menu

Right-clicking the map will display a popup menu containing some of the most often used BG-Map commands. These commands are described in detail in the sections above.



BG-Map Step by Step

How to Generate a Normal Quadrant Map 



Choose the "Normal Quadrant" option from the Generate Menu or click the "Normal Quadrant" icon.

The "Generate" dialog window will appear. This contains a number of options that will affect how the map will be generated.

Quadrant

Select a quadrant by one of these methods:

- Type in the name of a quadrant.
- Click the "Start Here" button and select from the selection list of quadrants.
- Click the "Where Am I?" icon and then click a spot on the map that is in the quadrant you wish to generate. 

Note:	**If the quadrant you wish to generate is has not been generated before, you may need to "create" it.** See "Becoming Familiar With The BG-Map Window/Using the Utilities Menu – How to Create a Quadrant".

Life Status

- Click "Living Only" to generate only living plants.
- Click "Include Dead" to generate both living and dead plants.

Note:	**Dead plants will appear on the map in a different color.** See "Becoming Familiar With The BG-Map Window/Using the Generate Menu - Plant Group Colors".

Plant List

- Click "No Plant List" to generate no plant list. (This is the default.)
- Click "Sorted by Accession Number" to generate a plant list sorted by accession number.
- Click "Sorted by Name" to generate a plant list sorted by scientific name.

Plant List Format

Click the "Browse" button to select a format for the plant list. The default format is initially displayed.

Exporting the Plant List

The default location for the exported plant list file is the c:\bgmapwin\plant lists folder. The plant list can be exported in one of three file formats. Separate sub folders are provided for Quadrants Defined Views and Site Maps. However, you are free to choose any location or file name for the plant list export.

After the map is generated, you can view or print the html plant list by clicking the "View/Print" button.

Export Options

None
If you choose "None", the plant list will not be exported.

Plain Text
You can insert the exported text into other Windows applications such as word processors, e-mail programs, etc.

Note:	**When inserting exported text in the "Plain Text" format into a document, make certain that you set your text editor to use a non-proportional font, such as Courier so that the columns will line up.**

CSV
Comma separated values format, which can be opened in Microsoft

Excel and similar application.

HTML
Export as a web page that can be viewed in any web browser.

PDF
Export in a format that can be viewed by many software applications, including Adobe Reader.

Excluded Fields

It is possible to exclude some of the "Standard Fields" for plant lists. The fields to be excluded are listed in the box. By clicking the "Change" button, you can change the fields to be excluded.

For a Quadrant Map, these fields can be excluded.

- Accession number
- X and Y coordinates

Names and Symbols

Check "Suppress Accession Numbers" to suppress the display of accession numbers – only plant names will be displayed.

Check "Suppress Names" to suppress the display of plant names – only accession numbers will be displayed.

Note:	**You cannot suppress both names and accession numbers at the same time.**

Check "Suppress Names" to suppress the display of plant names – only accession numbers will be displayed.

Note:	**You cannot suppress both names and accession numbers at the same time.**

Check "Force Full Names" to force the full name of each plant to be displayed, regardless of length. This may cause some names to overlap.

- Click "Abbreviate if Possible" to use abbreviated names, if available (See note below).
- Click "Do Not Abbreviate" to use truncated full names instead of abbreviated names.

Note:	**To make an abbreviated name available to BG-Map, it must be entered in the *BG-BASE* NAMES table in the "Abbreviated Name" field.**

Group Outlines

- Check "Don't Fill" to generate the outline of group plantings without filling them with a solid color.
- Click "Fill Color" to set the color for solid filling group outlines.

Canopies

- Click "Show Current" to generate canopies at their current size, based on information in the *BG-BASE* PLANTS table.
- Click "Show Ultimate" to generate canopies at their ultimate size, based on information in the *BG-BASE* NAMES table.
- Click "Do Not Show" to generate no canopies.
- Check "Show Solid Canopies" to display the canopies as solid filled-in shaped instead of outlines.

Note:	**When using CMS IntelliCAD, only canopies in Plant Group 1 can be shown filled-in.**

User Defined Symbols

If you select one of these options, customized symbols will be displayed on the map instead of the standard BG-Map canopy symbols. Symbols may be displayed based on Family/Genus, Habit or Special Characteristics.

If based on Family/Genus, all plants in the genus or family or having the selected habit will be displayed with the symbol that you specify. Symbols assigned to genera will take precedence over symbols assigned to families.

If based on Habit, all plants with the selected habit will be displayed with the symbol that you specify. If a plant name has more than one habit code assigned, only the first code listed will be checked.

If based on Special Characteristics, all plants with the selected characteristic will be displayed with the symbol that you specify. If a plant name has more than one Special Characteristic assigned, the first matching code listed will be used.

To assign user-defined symbols to families, genera, habits or special characteristics, go to "User-Defined Symbols" in the Tools Menu.

Trunks

- Click "Show Current" to generate trunks at their current size, based on information in the *BG-BASE* PLANTS table.
- Click "Show Ultimate" to generate trunks at their ultimate size, based on information in the *BG-BASE* NAMES table.
- Click "Do Not Show" to generate no trunks.
- If you check "Show Multi-Trunks", BG-Map will display multi-trunk symbols for those plants that have both a trunk size and a value for "Number of Trunks" (2-6) recorded in *BG-BASE*. Note that Number of Trunks is recorded in a User Field in the *BG-BASE* Plants table as specified in "Quad Up Options" in the Tools Menu.

Note:	**Multi-trunk symbols cannot be displayed when using CMS IntelliCAD.**

Critical Root Zones (CRZ's)

If you check this box, BG-Map will display the Critical Root Zone for those trees that have a DBH recorded in *BG-BASE*. For more on CRZ's, see "Critical Root Zones" in "Becoming Familiar with the BG-Map Window."

After selecting the desired options, click "OK (Generate)" to generate the map. BG-Map will switch to the CAD Window, and the map will be displayed.

Structural Root Zones (SRZ's)

If you check this box, BG-Map will display the Structural Root Zone for those trees that have a DBH recorded in BG-BASE.

What is the Structural Root Zone?

The Structural Root Zone (SRZ) is the area around a tree containing the roots that anchor the tree. Cutting these roots can destabilize the tree or result in decay or fungal infections that can impact tree health. The Structural Root Zone is smaller in radius than the Critical Root Zone.

How is the Structural Root Zone Calculated?

The Structural Root Zone radius is calculated from the tree's current DBH measurement, using equations provided by Jason Lubar, Associate Director of Urban Forestry at the Morris Arboretum of the University of Pennsylvania.

Note:	**The SRZ calculation uses a model based on many arborists' published works.** It should be considered only as a guideline and should not be interpreted as the "true" structural root zone. There are many variables, such as limited root areas, prior trenching activities, etc., that also influence the size and extent of structural roots.

Proposed Plants

Check this box to display Proposed Plants along with accessioned plants on the map. For more, see "Proposed Plants" in "Becoming Familiar with the BG-Map Window."

Show Quadrant Labels

Check this box to display the names of each quadrant within the generated area. Quadrant labels are displayed in the corners and center of each quadrant that contains generated plants.

Plot Size

Choose either 24" or 36" paper width. The map will be formatted to fit.

Check "Format as PDF" to print the map as a PDF file using BG-Map Plot (PDF printing is not available with CMS IntelliCAD.)

Field to Add After Accession Numbers

You can select an additional data field to be added inside brackets after the accession numbers. Click the "Browse" button to select. Click the "Erase" button to remove.

Make Saved List

You can make a saved list of all the plants that appear in this map. Choose to create either a BG-Map or *BG-BASE* saved list.

Separate saved lists will be created for any dead plants on the map and for each plant group appearing in a custom map.

How to Generate a Custom Quadrant Map 

Choose the "Custom Quadrant" option from the Generate Menu or click the "Custom Quadrant" icon on the toolbar.

The "Generate" dialog window will appear.

Quadrant
Plot Size
Plant List
Names and Symbols
Group Outlines
Canopies
Trunks
CRZ's
SRZ's
Proposed Plants
Show Quadrant Labels

Fill in these prompts the same as for a

Normal Quadrant Map

Number of Groups

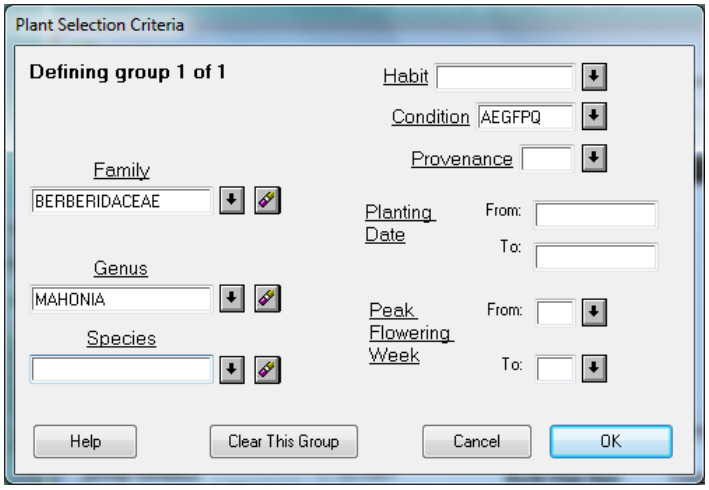
Select the number of different plant groups you wish to display. Each group can be defined by either a BG-Map or *BG-BASE* saved list or by plant selection criteria entered in BG-Map. The default is 1 group.

If desired, change the plant group color assignments by clicking "Change Colors"

Note:	**You can also set the display colors for the plant groups by choosing the "Plant Group Colors" option in the BG-Map Window Generate Menu.**

To Define a Plant Group Using Selection Criteria:

Click "Sel Criteria" and then the "Group" button for the plant group you wish to define. The "Plant Selection Criteria" dialog window will be displayed.

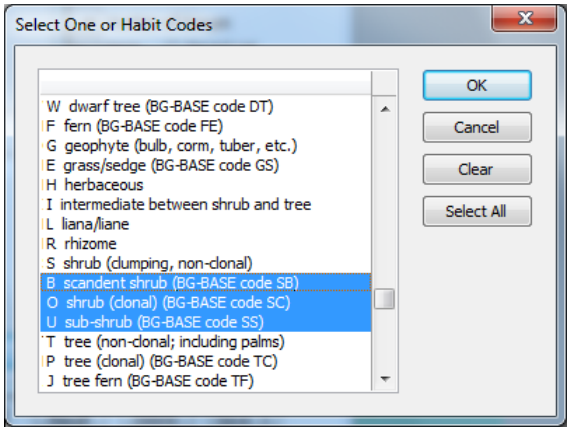


Family

To display all plants belonging to a single family, enter the family name at this prompt. To display a selection list of available family names, click the "Browse" button.

Genus

To display all plants belonging to a single genus, enter the generic name at this prompt. To display a selection list of available genera, click the "Browse" button. If a family name has been entered at the Family prompt, only genera in that family will be included in the selection list. If no family name has been entered, all genera will be listed. To clear the family name, click "Clear".



Species

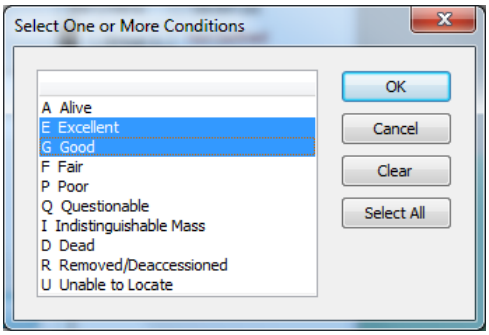
To display all plants belonging to a single species, enter the specific name at this prompt. To display a selection list of all species associated with the selected genus, click the "Browse" button. You cannot make an entry at this prompt unless you first fill in the Genus prompt.

Habit

Click the "Browse" button, and select the plant habit codes corresponding to the plants you wish to display.

Condition

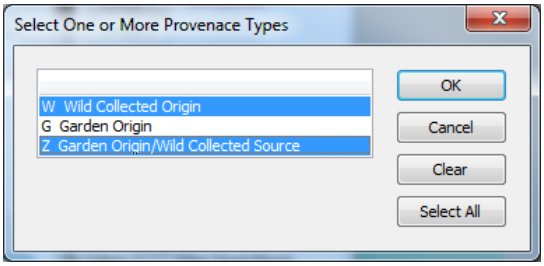
Click the "Browse" button, and select the plant condition codes corresponding to the plants you wish to display.



For example, to display all plants that are in excellent or good condition, select E and G. The default response is AEGFPQ, which will generate all living plants, i.e. all plants that are not dead or removed.

Provenance

Click the "Browse" button, and select the provenance type codes corresponding to the plants to be displayed.



Planting Date

To display only plants that were planted within a specific date range,

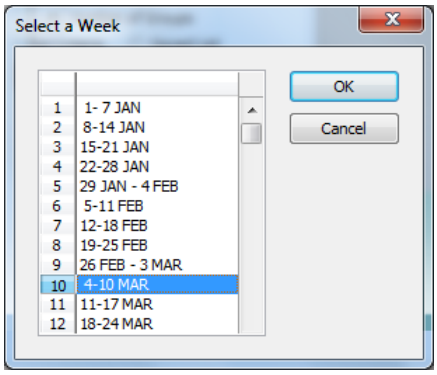
enter the dates at these prompts.

When searching for plants matching specified planting dates, BG-Map will convert dates that were entered into *BG-BASE* in season/year format into day/month/year format so that comparisons may be made. Winter is assumed to be 5 February, spring is assumed to be 5 May, summer is assumed to be 5 August, and fall is assumed to be 5 November. Dates may be specified in several ways, including 10/31/91, 10/31/1991, and 10 OCT 1991.

To specify a range of planting dates, fill both the "Planting date from" and "Planting date to" fields. If the second date entered is earlier than the first date, BG-Map will assume that the dates should be reversed.
To specify all plants planted after a given date, fill the "Planting date from" field, and leave the "Planting date to" field blank.

To specify all plants planted before a specified date, enter 1/1/1900 for "Planting date from" and the desired cutoff date for "Planting date to".

Peak Flowering Week

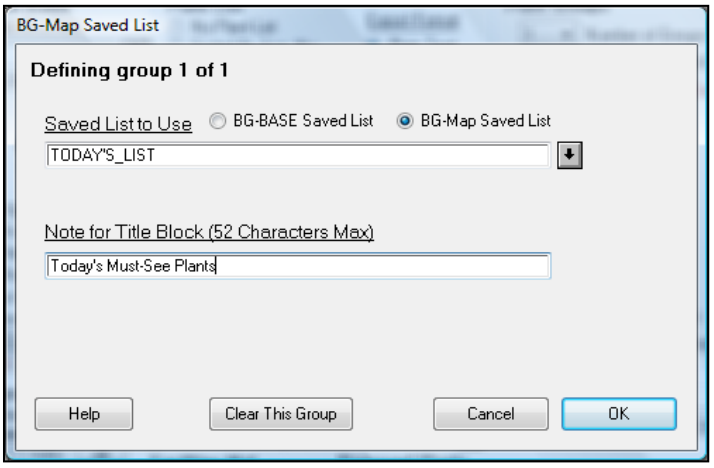


Use these prompts to display only plants that flower during a specified period. Flowering period information must first be entered into *BG-BASE* in the NAMES table under "Peak Flowering Week".

At these prompts, enter the desired flowering week as an integer from 1 to 52 where 1 corresponds to the first week in January and 52 corresponds to the last week in December. Click "Browse" to display a selection list of weeks of the year.

To specify all plants with a single peak flowering week, fill in either the "Peak flowering week from" or "Peak flowering week to" fields with the desired week number and leave the other field blank. Or, you can fill them both in with the same week number.

To specify all plants with a range of peak flowering weeks, fill in the starting week number in the "Peak flowering week from" field and the finishing week number in the "Peak flowering week to" field. For example, entering 12 for "from" and 14 for "to" choose all plants with a peak flowering week between weeks 12 and 14 (weeks 12, 13, and 14 only). Entering 14 for "from" and 12 for "to" choose all plants with a peak flowering week between 14 and 12 (every week in the year except week 13).



To Define a Plant Group Using a Saved List:

Click "Saved List". Then, click the "Group" button for the plant group you wish to define. The Saved List" dialog window will be displayed. Choose either a *BG-BASE* or a BG-Map saved list. Only those plants that can be extracted from this saved list will be included in this plant group.

Saved List to Use

Enter the name of the saved list to be used. The list name must be a *BG-BASE* saved list, i.e. a record in the *BG-BASE* SYSLISTS table or a BG-Map saved list. To display a selection list of available lists, click the "Browse" button.

A *BG-BASE* saved list can contain names, accessions, or plants. BG-Map detects the type of information stored in saved list and converts names or accessions to a corresponding list of plants. In addition, all lists are sorted in alphabetical order by scientific name before being used by BG-Map. This means that plant lists on the maps will appear in alphabetical order instead of in the order of the stored *BG-BASE* list. BG-Map saved lists always contains lists of Plants.

Note:	**For information on how to create a *BG-BASE* saved list, refer to your *BG-BASE* documentation.**

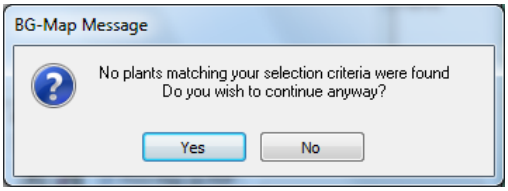
Note for Title Block

You can use this prompt to enter descriptive text, which will be printed in the upper left corner of the map title block if you are using BG-Map Plot.

Note:	**If you are generating more than one plant group, only the note entered for Group 1 will be printed in the map title block.** The notes entered for the other plant groups will be saved and will appear in the printed "Map Summary" report for this map. (See the BG-Map Window Print Menu.)

After selecting the desired options, click "OK (Generate)" to generate the map. BG-Map will switch to the CAD Window, and the map will be displayed.

If you entered plant selection criteria for a group, and no plants meeting those criteria are found, the following message will be displayed:



Click "Yes" to continue generating the map. This plant group will contain no plants. Click no, to cancel the map and go back to the "Generate" window.

Showing Reference Plants

Check "Reference Plants" to generate reference plants. Reference plants are plants that are not included in any of the generated plant groups. Reference plants will be displayed on the map but will not be included in plant lists.

Excluding Dead Plants

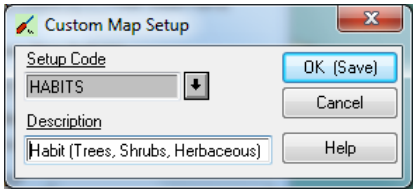
Check "Filter Dead Plants" to filter out dead plants and prevent them from being displayed regardless of how you have defined your plant groups. This is very useful if you are using *BG-BASE* saved lists that may contain some dead plants.

Using Custom Map Setups

About Custom Map Setups:

Custom Map Setups can be used to record the settings that were used to create a custom map. Instead of reentering the same Selection Criteria or *BG-BASE* Saved Lists each time, you can save and recall a Custom Map Setup.

Saving a Custom Map Setup:



First, define all desired plant groups using Selection Criteria and/or *BG-BASE* Saved Lists. Check "Reference Plants" and/or "Filter Dead Plants" as desired. Then, click "Save". A dialog box will appear. Click "Start", and select "Define a new Setup Code" to create a new Custom Map setup, or select an existing setup to redefine it.

Setup Code (required)
Enter a code of 12 characters or less to identify this Custom Map Setup.

Description (required):
Enter a description of this Custom Map Setup - for example "Wild collected Rhododendrons Native to North America".

Recalling a Previously Saved Custom Map Setup:

Click "Recall", and select a setup. All plant groups will be defined just as if you had defined each group manually.

Deleting a Custom Map Setup That Is No Longer Needed:

Click "Delete", and select a setup.

How to Generate a Normal Defined View Map 

Choose the "Normal Defined View" option from the Generate menu or click the "Normal Defined View" icon on the toolbar.

The "Generate" dialog window will appear.

Defined View

Type in the name of a Defined View. Or, click the "Start Here" button and select from the selection list of Defined Views.

Plot Size
Life Status
Plant List
Canopies
Trunks
Names and Symbols
Group Outlines
CRZ's
SRZ's
Proposed Plants
Show Quadrant Labels

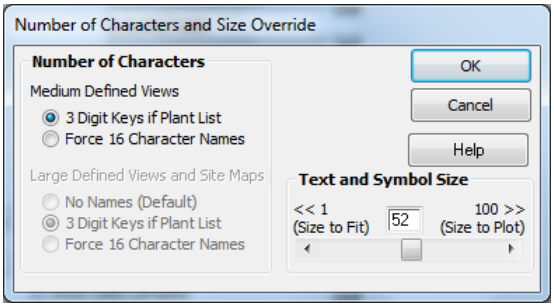
Fill in these prompts the same as for a Normal Quadrant Map

Name Length

It is possible to override the default text length for names. To override text length, click the "Override" button. For example, you could force 16-character names to appear on a large defined view. The following text override options are available:

Defined Views - Plot Multiplier greater than 1.0 and less than or equal to 2.50 with 24" Paper Size	Default is 3-digit keys. You can override this to display 16-character names
Defined Views – Plot Multiplier Greater Than 2.5 with 24" Paper Size	Default is no names. You can override this to display 3-digit keys or 16-character names
Defined Views - Plot Multiplier greater than 1.5 and less than or equal to 3.75 with 36" Paper Size	Default is 3-digit keys. You can override this to display 16-character names
Defined Views – Plot Multiplier Greater Than 3.75 with 36" Paper Size	Default is no names. You can override this to display 3-digit keys or 16 character names

If you choose to override the default text length, a dialog box will be displayed. Select the desired text length, and use the slider control to vary the size of text and symbols between 1 ("Size to Fit") and 100 ("Size to Plot"). Or, you can type the size in the space provided.



- Choose "Size to Plot" (100) to size the text and symbols for optimum legibility when plotting the map. However, the text and symbols might overlap.

- Choose "Size to Fit" (1) to size the text and symbols to prevent overlap. However, the text and symbols might be too small for plotting of the entire map using BG-Map Plot. This option is useful if you will be viewing the map on-screen or plotting sections of the map using the CAD plot command.

- Choose intermediate sizes to between 1 and 100 as a compromise between legibility and overlap.

Note:	**The only way to insure no overlap and legible plotted text is to choose the default text length.**

- Check "Suppress Accession Numbers" to suppress the display of accession numbers – only plant names will be displayed.

- Check "Suppress Names" to suppress the display of plant names – only accession numbers will be displayed.

Note:	**You cannot suppress both names and accession numbers at the same time.**

- Check "Force Full Names" to force the full name of each plant to be displayed, regardless of length. This may cause some names to overlap.

After selecting the desired options, click "OK (Generate)" to generate the map. BG-Map will switch to the CAD Window, and the map will be displayed.

How to Generate a Custom Defined View Map 

Choose the "Custom Defined View" option from the Generate menu or click the "Custom Defined View" icon on the toolbar.

The "Generate" dialog window will appear.

Plot Size
Life Status
Names and Symbols
Plant List
Canopies
Trunks
Group Outlines
CRZ's
SRZ's
Proposed Plants
Plant Groups
Show Quadrant Labels

Fill in these prompts the same as for a Normal Defined View Map

Define the plant groups the same as for a Custom Quadrant Map.

After selecting the desired options, click "OK (Generate)" to generate the map. BG-Map will switch to the CAD Window, and the map will be displayed.

How to Generate a Custom Site Map

Choose the "Custom Site Map" option from the Generate Menu or click the "Custom Site Map" icon on the toolbar.

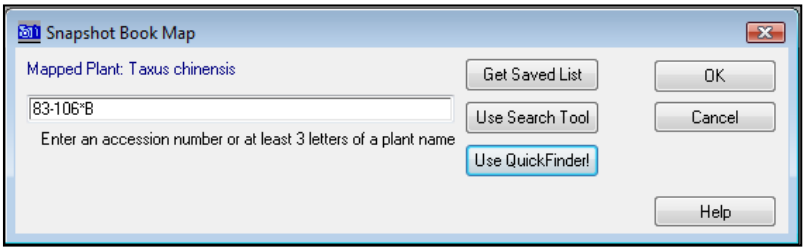
The "Generate" dialog window will appear.

Plot Size
Life Status
Names and Symbols
Plant List
Canopies
Trunks
Group Outlines
CRZ's
SRZ's
Proposed Plants
Plant Groups
Show Quadrant Labels

Fill in these prompts the same as for a Custom Defined View Map

How to Print a Snapshot Book Map Showing the Location of a Single Plant

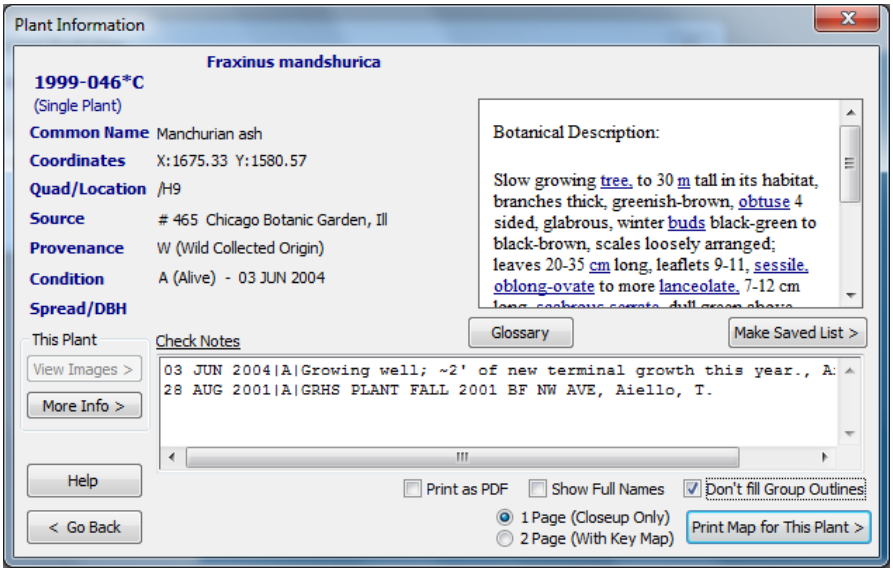
Choose the "Book Maps" option from the Print Menu and then choose "Snapshot ". Or, click the "Snapshot Book Map" icon on the toolbar.



To select a plant for the snapshot map, enter its accession number with qualifier (capitalization doesn't matter). If you previously used "Look Up/Zoom to a Plant" to view information about a plant, that plant will be displayed by default. If you don't know the accession number, you can use Partial Name Search, a BG-Map or *BG-BASE* Saved List, QUICKFinder or the Search Tool. Select one plant.

Then, click "OK".

Information about the selected plant will be displayed. If an image of the plant is available, the "View Images" button will be active. Click it to select and view an image. Click "More Info" to view more information about this plant.



Show Full Names

Check this box to show full plant names.

Don't fill Group Outlines

Check this box if you do not wish group outlines to be filled with a color.

Zoom Options

Select "1 Page (Closeup Only)" to print a Snapshot Book Map showing the selected plant and nearby surrounding plants.

Select "2 Page (With Key Map)" to print a second page, a "key map", which shows the location of the selected plant within the context of the site as a whole.

The default is 2 Page with Key Map.

Check "Print as PDF" to print the map as a PDF file (PDF printing is not available with CMS IntelliCAD.)

Click "Print Map for This Plant" to print the map.

How to Print a Snapshot Book Map Showing the Locations of All Plants of a Genus, Species, Cultivar or Taxon Using QUICKFinder

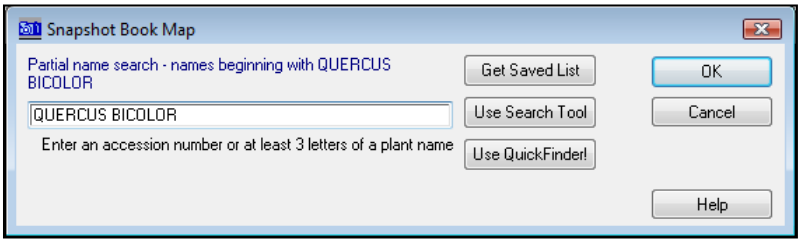
Choose the "Book Maps" option from the Print Menu and then choose "Snapshot ". Or, click the "Snapshot Book Map" icon on the toolbar.
To Display All Plants of a Single Genus

Click "Use QUICKFinder"

Select the desired genus. Leave the species and cultivar fields blank, and click "OK". When the list of plants is displayed, click "Select All", and then "OK".

To Display All Plants of a Single Species or Cultivar.

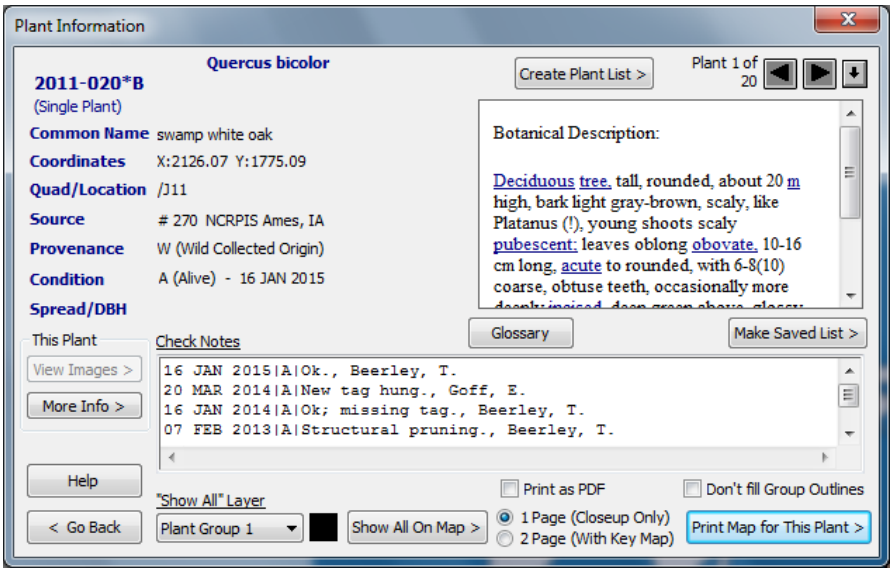
Click "Use QUICKFinder".



Select the desired genus. Then select the desired species or cultivar, and click "OK". When the list of plants is displayed, click "Select All", and then "OK".

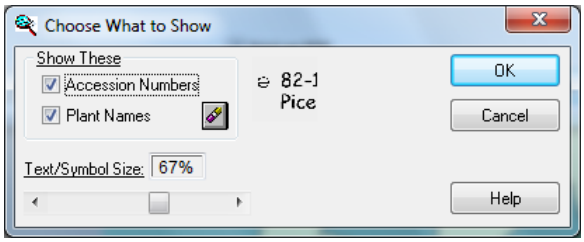
To Display All Plants of a Single Taxon

Enter all or part of the plant name (at least 3 letters). Choose a single taxon from the displayed list. When the list of plants is displayed, click "Select All", and then "OK".

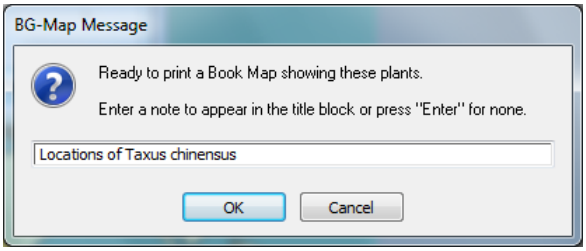


Information about the selected plants will be displayed. You can scroll through the plants by clicking the arrow buttons.

Select the color of the displayed plants on the map by selecting a layer under "Show All Layer". (Layer color assignments can be changed by going to "Generate/Plant Group Colors" in the BG-Map window.)



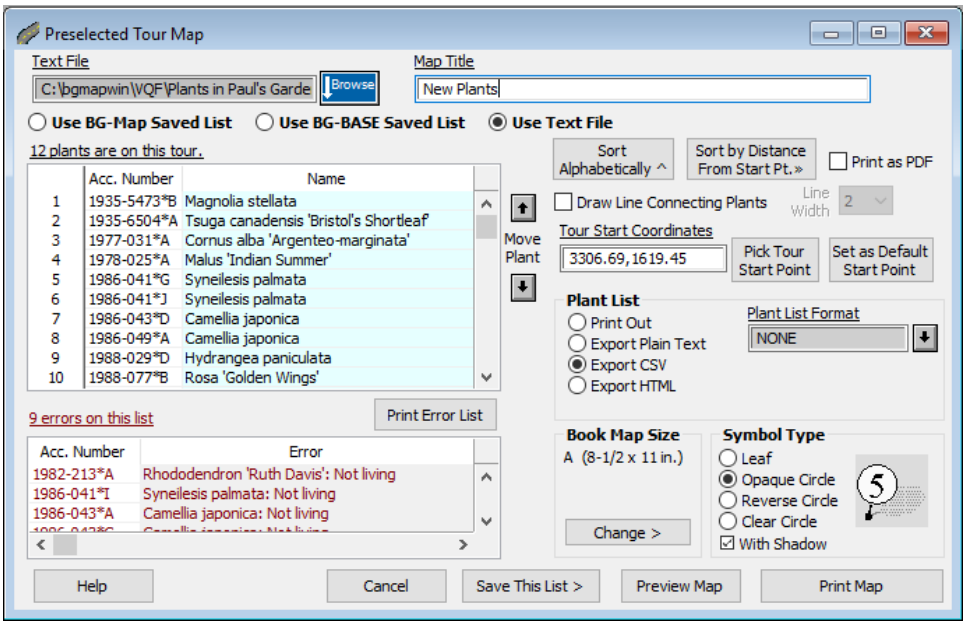
Click "Show All on Map" to print a map showing the locations of all the plants. Enter a note describing the map, and click "OK".



Check "Print as PDF" to print the map as a PDF file (Requires CAD 2007 or later. PDF printing is not available with CMS IntelliCAD.)

You may also use a BG-Map or *BG-BASE* Saved List or the Search Tool to select the plants.

How to Print a Preselected Tour Book Map



Choose "Book Maps" from the Print Menu, and then choose "Preselected Tour".

Previewing the Map

You can preview the map by clicking the "Preview" button. The map with its title block will appear in the CAD Window.

Map Title

Enter a title for the map in the space provided. This title will be printed both on the map and on the plant list.

Selecting a List of Plants to Include in the Map

Select "Use BG-Map Saved List", "Use *BG-BASE* Saved List" or "Use Text File." Then click "Browse" and select a saved list or text file. BG-Map will check the list to make sure that each plant listed is living and is mapped. The valid tour plants will be listed in the table, and any errors will be listed below. The error list can be printed by clicking the "Print Error List" button.

Adding or Deleting Individual Plants

To add a plant, click on an accession number in the list, and press the [Insert] button on your keyboard to create a blank line. Type the accession number with qualifier in the first column. To delete a plant, click on its accession number, and press the [Delete] button on your

keyboard.

Print As PDF

Check this option to create the map and plant list as PDF files. The files are stored in the C:\bgmapwin\PDF Plots folder (Requires CAD 2007 or later. PDF printing is not available with CMS IntelliCAD.)

Tour Start Coordinates

Picking a Tour Start Point

Click "Pick Tour Start Point", and click the desired tour start point on the map. Or, you can type in a different tour start point in the format X,Y (example: 123.45,567.89).

Note:	**This new tour start point will remain in effect only while the "Preselected Tour Map" window is open.** The next time you reopen the window, the tour start point will revert to the default.

Saving a Default Tour Start Point

After picking or entering a tour start point, click "Save as Default" to save this point for future use.

Selecting a Tour Sort Order

To Sort the Tour List Alphabetically By Plant Name

Click the "Sort Alphabetically" button.

To Sort the Tour List by Distance from the Start Point

Click the "Sort by Distance from Start Pt." button. The plant closest to the start point will be number 1, the plant closest to that plant will be number 2, etc. This is a good, though not perfect, method for establishing a tour order. It can be further refined by previewing the tour map and manually moving plants up or down in the list.

Manually Moving Plants Up or Down in the List

Click on an accession number and then click the up or down arrow buttons to move a plant.

Saving the Sorted List of Plants for Future Use

Click the "Save This List" button, and save as a BG-Map or *BG-BASE* saved list, which can be used to create additional tour maps.

Drawing a Line to Connect the Plants

Check "Draw Line Connecting Plants" to draw a dotted line between the plants. Select a line width from 0 to 5.

Formatting the Plant List (If Not Printing as PDF)

Print Out

Select this option to print the plant list. The list will be printed in a linear format.

Export Plain Text

Select this option to export the plant list to a plain text file, which can be opened by any word processor. The list will be printed in a horizontal columnar format. Note: When displaying the list in a word processor, use a non-proportional font such as Courier or Monotxt so that the columns will line up.

Export CSV

Select this option to export the plant list to a CSV file, which can be easily opened by a spreadsheet program such as Microsoft Excel. You can use Excel or a similar program to format the list in many ways, by controlling column width, text wrapping, fonts, colors, borders, etc. This gives you the most control over the final appearance of the printed list.

Export HTML

Select this option to export the plant list as an HTML file, which can be opened by a web browser or by a spreadsheet program such as Microsoft Excel.

Plant List Format

Click the "Browse" button to select a Plant List Format for the list. If you select "NONE", only the plant names and accession numbers will be listed. There is no limit to the number of fields that can be listed.

Selecting a Symbol Type

You can select from 3 symbol types to designate plant locations.

Leaf 

Each plant location is marked by a leaf with a number inside. This is the most decorative of the symbols, but also the one that takes up the most space on the map.

Opaque Circle 

Each plant location is marked by an opaque circle with a number inside.

Reverse Circle 

Each plant location is marked by an black opaque circle with a white number inside.

Clear Circle 

Each plant location is marked by a clear circle with a number inside. This is the best symbol to use if the plants are close together.

With Shadow 

This option adds a shadow to the selected symbol.

Book Map Size

You can select either a Small Book Map (letter size A or A4) or a Large Book Map (ledger size B or A3). Large Book Maps are better able to display closely spaced plants.

More on Assembling a List of Selected Plants

In order to create a list of plants for a tour map, you need to determine their accession numbers. You must list these accession numbers with qualifiers, one per line, in a *BG-BASE* saved list or in a plain text file created with a text editor such as Windows Notepad. Each list, and therefore each tour map, can include up to 99 plants If this number is exceeded, the first 99 plants will be used, and the rest will be discarded. The minimum number of plants required is 2.

When creating the list, you may add a comma after the accession number, followed by the plant name and notes to help identify the plant - as in this example:

```
86-142*C
86-257*H,Mag. virg. near Rose Garden
48-287*F,Franklinia
83-081*A
65-160*A,'Annabelle' Hydrangea
```

How to Print a Normal Quadrant Book Map 

Choose the "Book Maps" option from the Print Menu, and then choose "Normal Quadrant". Or, click the "Normal Quadrant Book Map" icon on the toolbar.

The "Generate" dialog window will appear.

Quadrants

Click the "Start Here" button, and select up to 50 quadrants from the selection list. Or, type in the names of the quadrants, one per line. A map for each selected quadrant will be printed.

Note:	**When using CMS IntelliCAD, only one quadrant can be selected.**

Names and Symbols

- Check "Suppress Accession Numbers" to suppress the display of accession numbers – only plant names will be displayed.
- Check "Suppress Names" to suppress the display of plant names – only accession numbers will be displayed.

Note:	**You cannot suppress both names and accession numbers at the same time.**

- Check "Force Full Names" to force the full name of each plant to be displayed, regardless of length. This may cause some names to overlap.

Plant List

For a Small Book Map, you must print a plant list. For a Large Book Map, select "No Plant List", "Sorted by Acc. No." or "Sorted by Name."

Check "Single Space" to single space the plant list. Otherwise, it will be printed double-spaced.

Plant List Format

Click the "Browse" button to select a format for the plant list. The default format is initially displayed.

Canopies
Trunks
CRZ's
SRZ's
Group Outlines
Proposed Plants
Book Map Size
Show Quadrant Labels

Fill in these prompts the same as for a Normal Quadrant Map.

Click "Change" to change the book map size.

To print a Small Book Map, choose one of these:
- **A** (8-1/2" X 11" U.S. letter size)
- **A4** (210 x 297 mm metric letter size)

To print a Large Book Map, choose one of these:
- **B** (11" X 17" U.S. ledger size)
- **A3** (297 x 420 mm metric ledger size)

Note:	**Before you can print Book Maps, you must first set up printers.** See the TechNote "Configuring Printers and Plotters" on the BG-Map Users Support website.

Click "Print as PDF" to click both the map and plant list as PDF files. (PDF printing of the map is not available with CMS IntelliCAD.)

How to Print a Normal Defined View Book Map

Choose the "Book Maps" option from the Print Menu, and then choose "Normal Defined View". Or, click the "Normal Defined View Book Map" icon on the toolbar.

The "Generate" dialog window will appear.

Defined View

Type the name of a Defined View. Or, click the "Start Here" button and select from the selection list of Defined Views.

Note:	**Not all Defined Views may be listed.** Selections will include only those views small enough to be printed legibly on the selected paper size. For details, refer to the table in the "Technical Reference" section.

Plant List
Names and Symbols
Canopies
Trunks
CRZ's
SRZ's
Proposed Plants
Print as PDF
Book Map Size
Show Quadrant Labels

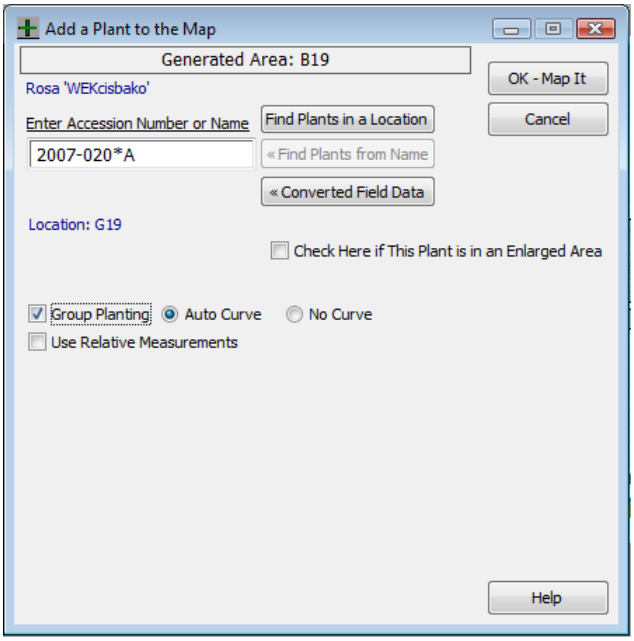
Fill in these prompts the same as for a Normal Quadrant Book Map

How to Add a Plant to the Map 

Choose "Add a Plant" from the Map menu, or click the icon shown above.

Hint:	**It is good practice to first generate plants in the area in which you wish to add plants, to serve as an aid in text placement to prevent overlap.** However, this is not mandatory. See "How to Generate a Normal Quadrant" above.

Note:	**Any plant to be added to the map must have been entered into *BG-BASE*.** However, Plants can be added to the map even if they are marked as dead or removed.



Mapping a Plant by Entering Its Accession Number

Enter the accession number with qualifier of an unmapped plant in the space provided.

Selecting Plants to Add from Converted Field Data

Click "Converted Field Data." A list of unmapped plants that have been surveyed with a total station or GPS will be displayed. Select on or more plants to be mapped.

Mapping a Plant by Entering Its Name

Enter all or part of a plant name in the space provided, and click "Find Plants by Name." Select one or more plants from the displayed list. The selected plants will appear in the table below, from which they can be selected to be mapped one by one.

Finding Unmapped Plants in a *BG-BASE* Location

Click "Find Plants in a Location." Select a BG-BASE Location. All living unmapped plants in the selected location will appear in the table below, from which they can be selected to be mapped one by one.

Total Station or GPS Field Data

If Total Station or GPS converted field data for the plant is available, the message "Field Data Available" will be displayed.

Group Planting

Check this box to map this plant as a group mass instead of as a single plant.

Note:	**If you pick a plant from the list and the number of plants is greater than one, the box will be checked automatically.** You can override this by unchecking the box (unless the plant was mapped with a total station or GPS.)

Auto Curve and No Curve Options
If you select "Auto Curve", the group outline will be automatically curved to a rounded shape. If you select "No Curve", the group outline will remain exactly as you've drawn it. Select "Auto Curve" in most cases. Select "No Curve" for clipped hedges or other plant masses that have sharply defined corners.

Use Relative Measurements

Check this box if you wish to use relative measurements to position the plant on the map. (If Total Station field data is being used, this box cannot be checked.)

Enlarged Areas and Relative Measurements

Enlarged Areas are areas of the basemap that are drawn at a larger scale to be able to better display closely spaced plants. If the plant to be added to the map is in an Enlarged Area, and you wish to use Relative Measurements, check the box labeled "Check Here if This Plant is in an Enlarged Area", and select the enlarged area from the drop-down list. The relative measurements will be automatically corrected for the scale of the enlarged area.

Completing the Process in CAD

Click "OK".

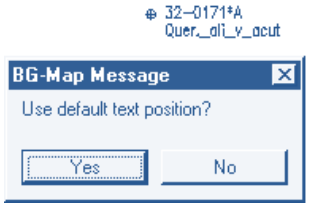
BG-Map will automatically switch to the CAD Window. BG-Map will display this prompt on the Command Line:

```
Location of plant symbol?
```

Click the desired location of the plant, using the left mouse button. The

new plant will appear on the map.

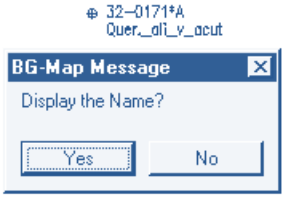
Default Text Position:



BG-Map will prompt," Use default text position?"

The default text position is to the right of the plant symbol. Use the default response "Y", unless the displayed text for the new plant conflicts with existing text or map features. In that case, respond "No".

If you responded "No" to the above prompt, use the mouse to move the accession number to the desired position, and then click the left mouse button.



BG-Map will next prompt, "Display the name?"

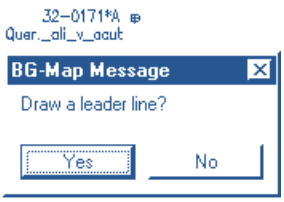
Normally you will select the default response "Yes". However, there are some instances where you may choose not to display the name. For example, the map may be too crowded for the name to fit. Or, there may be a number of plants in the vicinity belonging to the same accession. In that case, there is no need to repeat the same name over and over.

If you are not using the default text position, use the mouse to move the name to the desired position, and then click the left mouse button.

Note:	**The name may contain plus signs and underscores.** When the plant name is inserted onto the map, underscores are substituted for spaces, and, if the name is shorter than 16 characters, plus signs are placed at the end of the name to pad it out to 16 characters. The plus signs serve as placeholders. Allow space for them as you would for the name text itself. Both the plus signs and underscores will be removed the next time the plant is generated on the map

Note:	**Always locate the name and accession number of a plant within the boundaries of the quadrant in which it lies.** Failure to do this may cause the text to be cut off in some Book Maps.

If you are not using the default text position, BG-Map will prompt, "Draw a leader line?"



Select the default response "Yes" if you wish to draw a leader line. (See "How to Draw a Leader Line" below.)

Finally, respond to this prompt, "Save this plant location?"

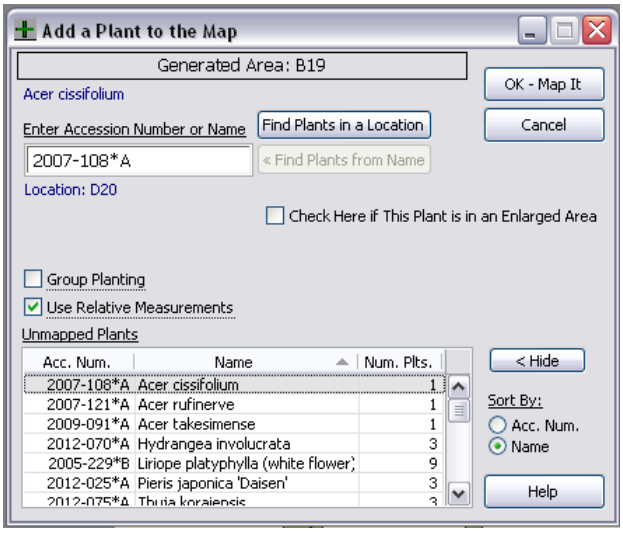
If you are satisfied with the placement of the symbol, the text and any group outline or leader line, click "OK". If you are not satisfied, click "Cancel" and then select "Restart Add/Relocate" from the CAD Window Plants/Objects on Map Menu to restart the process.

After you save the plant location BG-Map will switch back to the BG-Map Window and complete the map entry for this plant. The message "Finalizing map coordinates transfer..." appears until this process is completed. When the message disappears, you may continue with the next plant.

Note:	**BG-Map will detect and undo any attempt to locate a plant outside of the boundaries of the currently generated quadrant.**

Note:	**After you finish adding all the plants for a quadrant, you should update their quadrant entries in *BG-BASE*** - see "QUAD_UP: Automatic Update of *BG-BASE* With BG-Map Quadrant Information" below.

How to Enter Relative Measurements



The Relative Measurements option allows you to locate a plant in relation to two reference points. These points can be other plants, quadrant markers, or any other features that appear on the map. Use the following procedure to locate a plant using relative measurements:

First, field measure the distances from the new plant to two reference points that already appear on the map. The distances should be noted in feet and decimal fractions of feet, or meters and decimal fractions of meters (e.g. 13.75' not 13'9").

When adding a plant to the map or relocating a plant, check the "Relative Measurements" box.

Then, click "OK"

BG-Map will switch to the CAD Window and, the following prompt will appear at the Command Line:

```
Location of 1st reference point?
```

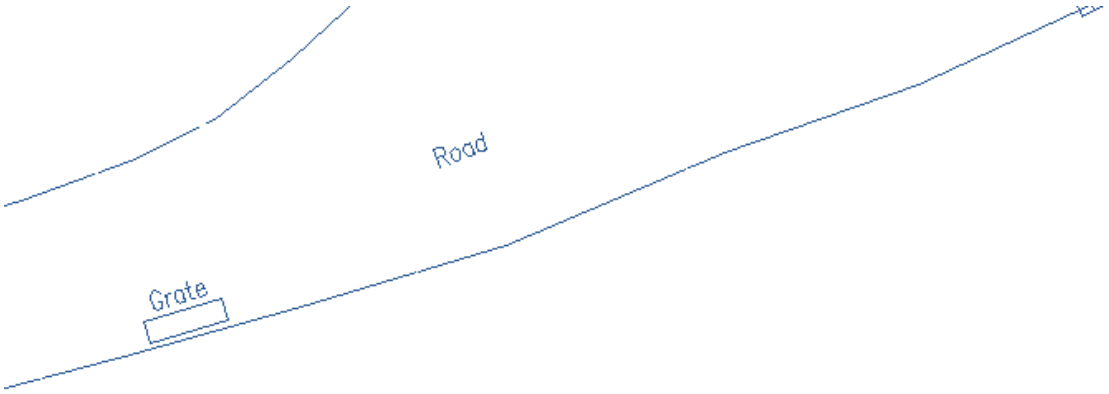
Click the location of the first of your two reference points.

Hint:	**Using Object Snaps can be useful here. You can access the object snaps options by right-clicking while you press the Shift key.**

Next, respond to the prompt:

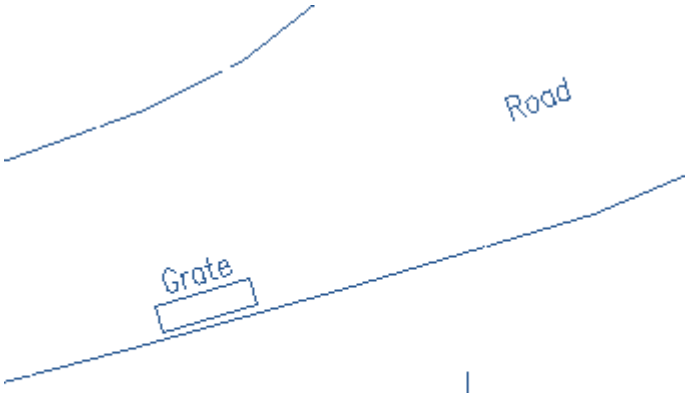
```
Distance from 1st reference point?
```

Enter the distance in feet and decimal fractions of feet or meters and decimal fractions of meters. BG-Map will draw a reference circle whose center is the first reference point and whose radius is the distance you entered.




```
Do you want to use relative measurements?  [N]  Y
Location of 1st reference point? INT of Distance from 1st reference point? 12.5
Location of 2nd reference point?
```

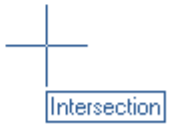
Repeat the same process for the second reference point.



The next prompt to appear will be:

`Location of plant symbol?`

Press the Shift key and right-click. Select "Intersection" from the Object Snaps Menu. Click the intersection of the two circles that corresponds to the plant location, and wait for the plant symbol and text to appear.



Hint: With relative measurements, try to avoid using plants as reference points. Doing so will cause the buildup of cumulative errors over time. Instead, use known fixed points such as quadrant corner markers or other features whose coordinates are fixed.

Recalling Previously Used Reference Points

When you use relative measurements, BG-Map remembers the two reference points so that you can use them again without reentering them.

BG-Map will prompt:

```
Use the same 1st reference point?  [Y]
```
Or
```
Use the same 2nd reference point?  [Y]
```

The reuse the same reference point, press <Enter>. To specify a new reference point, press the "N" key, and then press <Enter>.

How to Draw a Group Outline

If You Are Using Relative Measurements:

If you are using Relative Measurements, the following prompt will appear at the CAD Command Line:

```
How many tick marks?
```

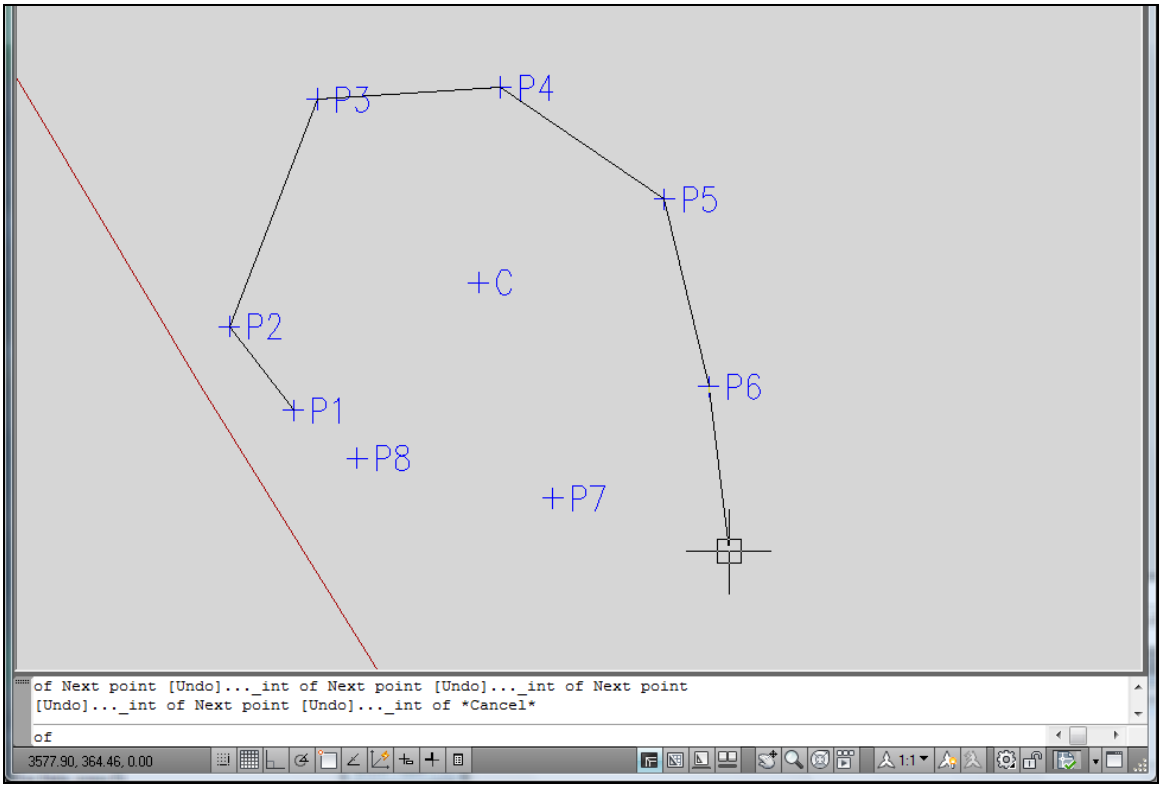
Enter the number of key points along the group outline for which you have made relative measurements. (Using more than 2 or 3 key points is not recommended as it can lead to confusion.) For each key point, you will follow a procedure similar to the "How to Use Relative Measurements" procedure described above. BG-Map will draw a yellow tick mark (dot) at the location of each key point.

If You Are Not Using Relative Measurements

Skip to the section below – "Drawing the Group Outline"

If You Are Using Total Station or GPS Field Data

If you recorded tick marks in the field, they will be displayed in as numbered plus signs. The center point of the mass will be displayed with the letter "C." Skip to the section below – "Drawing the Group Outline"



Drawing the Group Outline:

BG-Map will next prompt:

```
Click the first point on the group outline.
```

Move the crosshairs to the point where the leader line is to start, and click the left mouse button. BG-Map will prompt:

```
Next point...
```

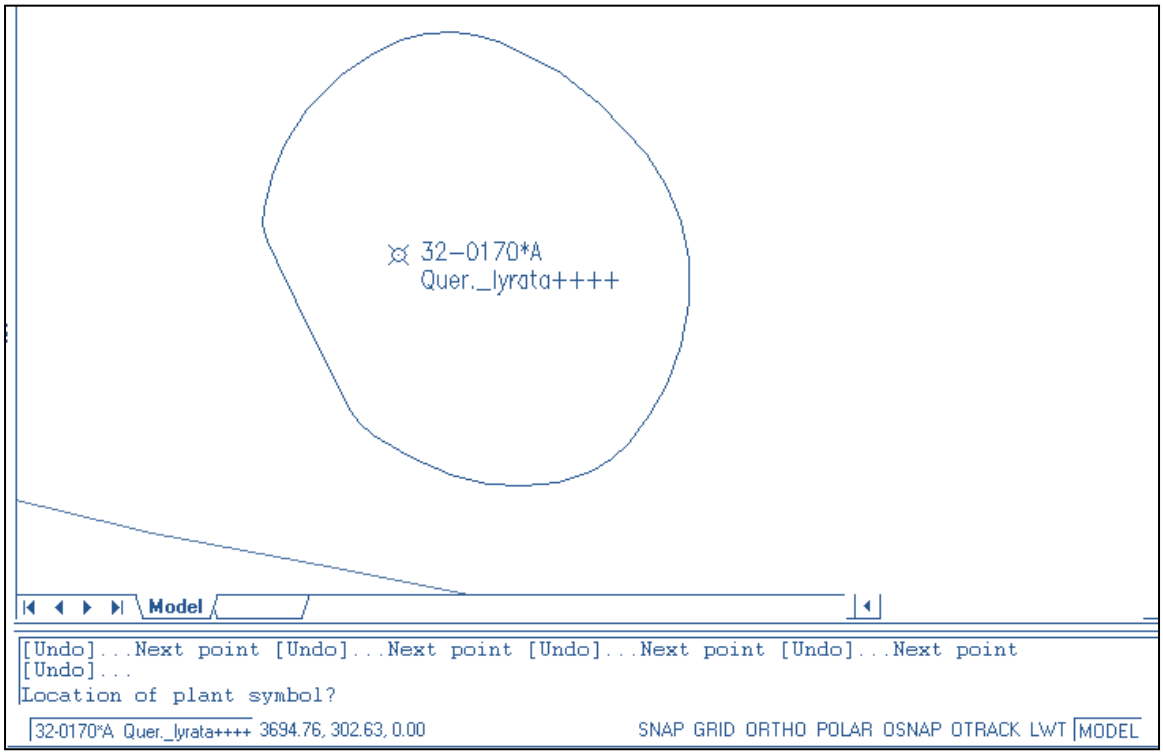
Move the crosshairs to the next point along the group outline, and click the left mouse button. BG-Map will draw a line from the first point to this point and prompt you for:

```
Next point...
```

Click the next point along the group outline, and BG-Map will draw a line from the last point to this point and prompt you for:

```
Next point [Undo]...
```

Continue this process to fill in the rest of the group outline. If you placed any tick marks on the map, be sure to include them in the group outline.



To undo the last line segment, type a "U", and press <Enter>.

Complete the group outline by clicking the right mouse button (or pressing Enter) in response to a "Next point..." prompt. BG-Map will then close in the outline and round the rough series of lines into a smooth curve.

Hint:	**Try to locate the plant symbol at the approximate center of the group outline.**

Hint:	**To define a sharp curve in the group outline, click a series of points that are closely spaced.** To define smooth sections of the outline, you can space to points farther apart.

How to Draw a Leader Line

In crowded areas of the map, to improve clarity, you may wish to a draw leader line.

Note:	**The leader line should always join the plant symbol to the accession number - never to the plant name.**

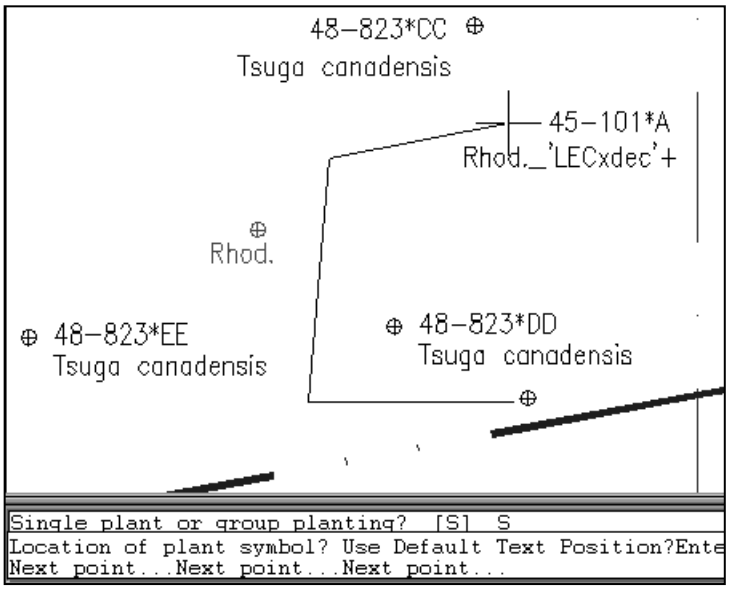
BG-Map will display this prompt on the Command Line:

```
Click the first point on the leader line
```

Move the crosshairs to the point where the leader line is to start, and click the left mouse button. BG-Map will prompt:

```
Next point...
```

Move the crosshairs to the next point along the leader line, and click the left mouse button. BG-Map will draw a line from the first point to this point and prompt you for:

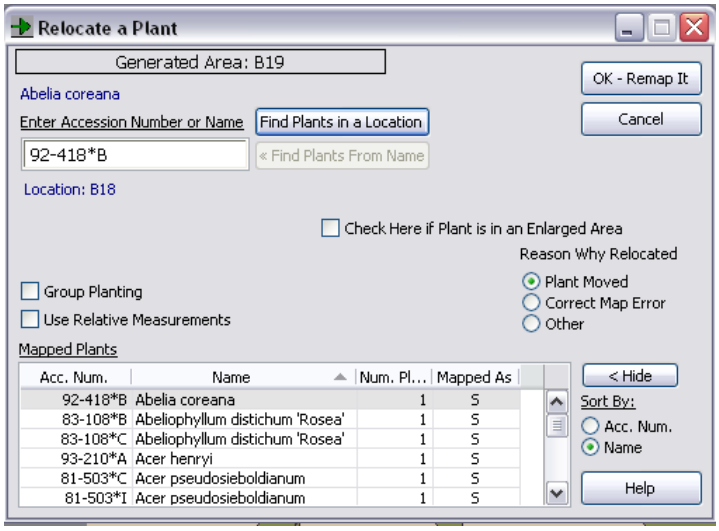



```
Next point...
```

Move the crosshairs to the next point along the leader line, and click the left mouse button. BG-Map will draw a line from the last point to this point and prompt you for:

```
Next point
[Undo]...
```

To undo the last line segment, type a "U", and press <Enter>. Continue this process and then click the right mouse button (or press Enter) to complete the leader line.



How to Relocate a Plant 

Use "Relocate a Plant" to relocate a plant that is already on the map or to change a mapped plant from Single to Group or Group to Single. If you only need to move text or change a leader line or group outline, use the

options contained in the CAD Window Plants/Objects on Map Menu instead.

Choose "Relocate a Plant" from the Map Menu. Or, click the icon shown above.

Remapping a Plant by Entering Its Accession Number

Enter the accession number with qualifier of the plant in the space provided.

Remapping a Plant by Entering Its Name

Enter all or part of a plant name in the space provided, and click "Find Plants by Name." Select one or more plants from the displayed list. The selected plants will appear in the table below, from which they can be selected to be remapped one by one.

Finding Mapped Plants in a *BG-BASE* Location

Click "Find Plants in a Location." Select a BG-BASE Location. All living mapped plants in the selected location will appear in the table below, from which they can be selected to be mapped one by one.

Selecting Plants to Remap from Converted Field Data

Click "Converted Field Data." A list of already mapped plants that have been surveyed with a total station or GPS will be displayed. Select on or more plants to be remapped.

Total Station or GPS Field Data

If Total Station field data for the plant is available, the message "Field Data Available" will be displayed.

Group Planting

Check this box to map this plant as a group mass instead of as a single plant.

Note:	**If this plant was previously mapped as a group, this box will be automatically checked.** If it was previously mapped as a single plant, this box will be unchecked. However, you can override the previous setting, i.e. change what was a previously single plant to a group and vice versa.

Auto Curve and No Curve Options

If you select "Auto Curve", the group outline will be automatically curved to a rounded shape. If you select "No Curve", the group outline will remain exactly as you've drawn it. Select "Auto Curve" in most cases. Select "No Curve" for clipped hedges or other plant masses that have sharply defined corners.

Use Relative Measurements

Check this box if you wish to use relative measurements to position the plant on the map. (If Total Station field data is being used, this box cannot be checked.)

Enlarged Areas and Relative Measurements

Enlarged Areas are areas of the basemap that are drawn at a larger scale to be able to better display closely spaced plants. If the plant to be added to the map is in an Enlarged Area, and you wish to use Relative Measurements, check the box labled "Check Here if This Plant is in an Enlarged Area", and select the enlarged area from the drop-down list. The relative measurements will be automatically corrected for the scale of the enlarged area.

Reason Why Relocated

Select a reason why this plant is being relocated.

- **Plant Moved** -The plant was physically moved.
- **Map Error** -The plant was previously mapped in error.
- **Other** - Some other reason

You can review the reasons for previous moves by printing a History of Map Record.

Select options for Group Planting and Relative Measurements as described in Adding a Plant to the Map. Then, click "OK."

BG-Map will switch to the CAD Window.

Follow the balance of the procedure as described in the section "Adding a Plant to the Map".

Note:	**If you manually relocate a plant (not using total station or GPS field data), the previous Z coordinate will be deleted if the plant's new location is more than .15 m. or .5 ft. from its original location.** BG-Map will warn you before dropping the Z coordinate.

QUAD_UP: Automatic Update of *BG-BASE* With BG-Map Quadrant Information

QUAD_UP is a utility in BG-Map that automatically updates *BG-BASE* each time you start BG-Map or convert field data. You can also manually update *BG-BASE* by selecting "Run Quad Up" in the BG-Map Utilities menu. The behavior of QUAD_UP is controlled by the settings entered in "QUAD_UP Options" in the Tools Menu.

How the PLANTS Table is Updated:

When you perform the update of the *BG-BASE* PLANTS table, information for a plant is only changed if the current quadrant of the plant has changed. If the plant was remapped within the same quadrant, no information is written. But, if the plant has been moved to a different quadrant, several fields are updated:

- The current quadrant of each plant is written as the current value in the QUADRANT field and as the only value in the QUADRANT_NOW field. In addition, if your version of *BG-BASE* uses the GRID or GRID_HOLDEN field, the current quadrant is entered as the current value there also.
- The LOCATION field is updated as determined by the settings contained in QUAD_UP Options in the Tools Menu.
- The location change type code is modified as determined by the settings contained in QUAD_UP Options in the Tools Menu.
- The planting date and planting date qualifier are updated as determined by the settings contained in QUAD_UP Options in the Tools Menu.
- The value under number of plants is updated as determined by the settings contained in QUAD_UP Options in the Tools Menu.
- Any pending Garden Notepad Classic or GN3 data is recorded.
- The current date is inserted as the current value for record update, which appears in the upper right corner of the *BG-BASE* Plants entry screen.
- The code "MP>" is inserted as the current value for "updated by", which also appears in the upper right corner of the *BG-BASE* Plants entry screen. This indicates the record was last updated by BG-Map.

Automatic Saving of *BG-BASE* Lists

Whenever QUAD_UP runs, a list of plants whose information was

updated is automatically saved to the *BG-BASE* LISTS table (SYSLISTS.) You can use this saved list to perform further processing on those plants. The list is saved under the name:

`QUAD_UP_DATE_TIME`

Where DATE is the date that the list was saved, and TIME is the time that the list was saved.

Printing a Large Format Quadrant, Defined View, or Site Map Using BG-Map Plot:

Note:	**To create this type of plot, you can use a large format printer capable of printing on continuous roll paper D-Size (A1) or larger.** Or you can print the map as a PDF file (PDF printing is not available with CMS IntelliCAD.)

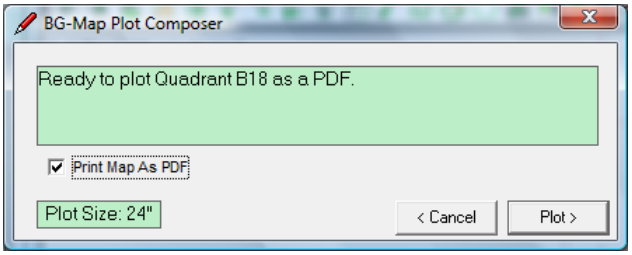
Make certain that the printer is on line and turned on.

Generate a Normal or Custom Quadrant, Defined View, View on the Fly or Custom Site Map. Or generate All Plants to Fit. Select the desired paper size – 24" or 36" roll as applicable. If you do not wish certain layers to appear on the map, turn them off now.

Hint:	**If you are printing a Normal Quadrant Map and have just completed adding or relocating plants, you should generate the quadrant again before plotting so that all underscores and plus signs will be removed from plant names.**

Note:	**Before printing a Site Map, BG-Map will automatically turn off the ART, GRID, SIGNS, and utilities layers and turn on the SITE layer.** This is done in order to reduce clutter. The ART, GRID, SIGNS, and utilities layers are automatically turned back on and the SITE layer is turned off when plotting of the Site Map has been completed.

Select "Large Format Maps" from the Print menu. Or, click the **green**



printer icon in CAD. BG-Map will display the "Plot Composer" window.

Click "OK" to proceed. Next, BG-Map will prepare a plot script for the map. When the script is complete, the map will be sent to the printer.

Note:	**When the CAD "Command:" prompt returns, BG-Map is ready to perform another process.**

\

How to Create a Defined View:

Zoom to the area on the map that will contain the Defined View.

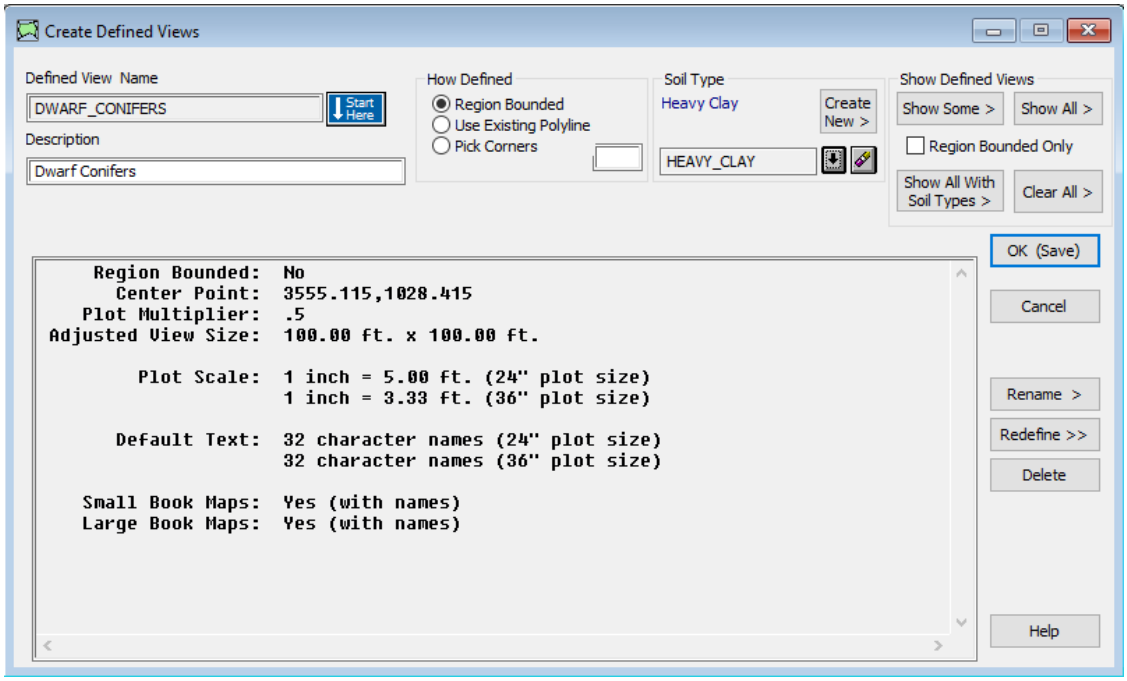
Switch to the BG-Map Window and pick "Defined Views" from the Tools Menu. Or click the "Defined Views" toolbar icon.

Click "Start". A list of all existing Defined Views will be displayed, preceded by the words "Define New". Select "Define New" to create a new Defined View. Enter a name for the view of 20 characters maximum. The name will be converted to all capital letters and any blank spaces will be converted to underscores.

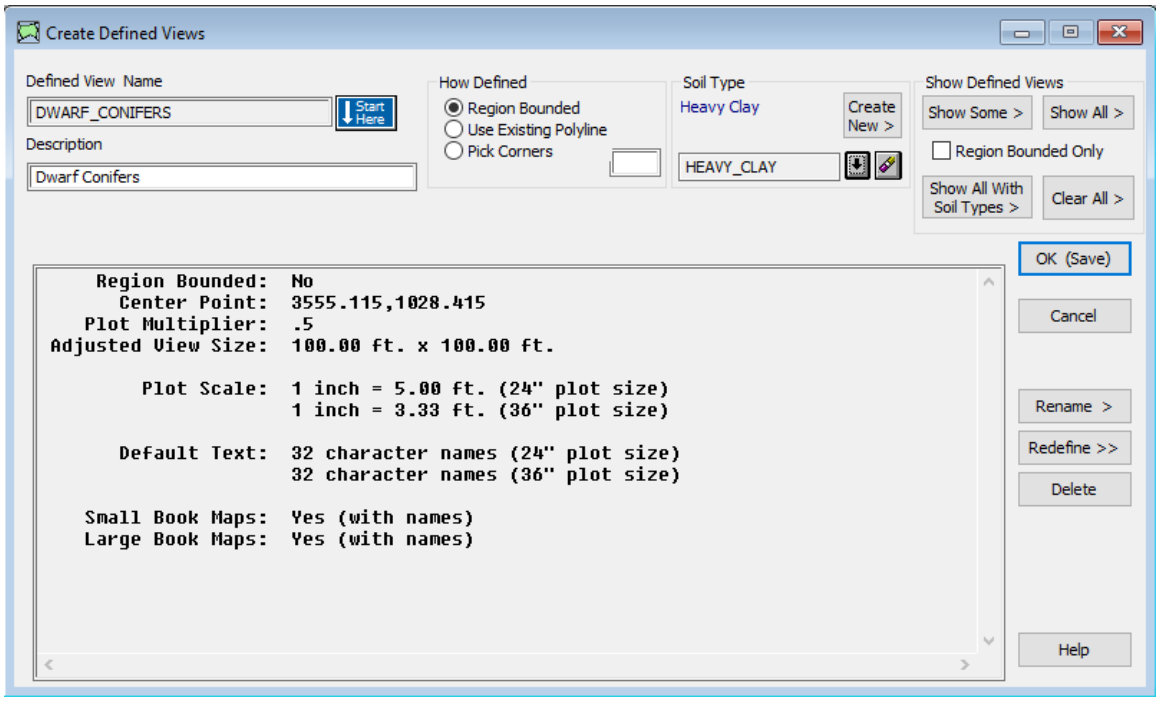
Description

Enter a description for this Defined View - up to 40 characters.

How Defined



Select one of the 3 methods described below to define a view:



Soil Type

You can assign a Soil Type to a Region Bounded Defined View. This Soil Type will then be associated with all plants mapped within this Defined View to indicate the type of soil the plants are growing in. Plant soil types can be searched with the Search Tool and can be included in Plant List Formats for use in reports. You can create Soil Types by clicking **Tools/Create Soil Types** or by clicking the **Create New** button in this window.

Method 1 - Region Bounded

This is the most flexible way to create a Defined View. In this method, you draw the outline of an irregular region. When you generate this view, only plants located within the region will be included. The region is drawn in a manner similar to that used to draw group outlines. BG-Map will determine the Plot Multiplier and center point for the view. As in the case of views defined by the other methods, the Plot Multiplier will be a multiple of .05 so that an even plot scale will result.

Note:	**For a further explanation of "Plot Multiplier" and other Defined View parameters, refer to the "Technical Reference" section.**

Method 2 – Use Existing Polyline (Not Available With CMS IntelliCAD)

This method is similar to "Region Bounded", except, instead of drawing

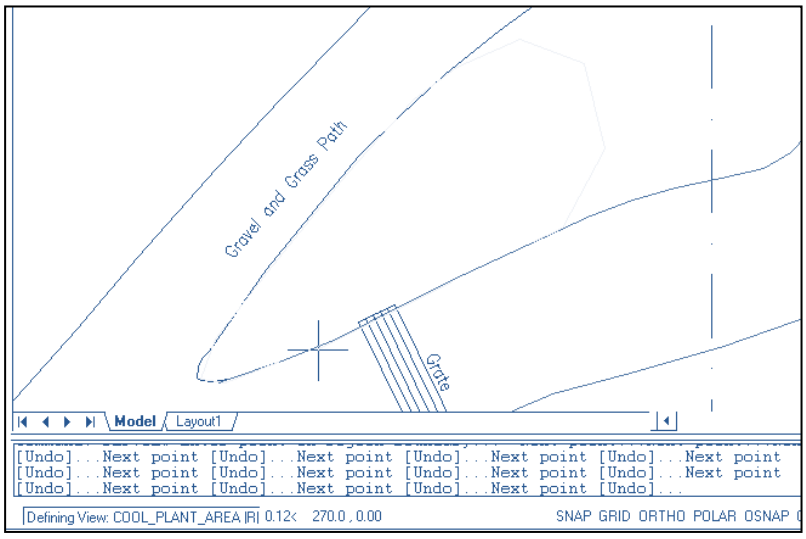
the boundary of the region, you select an existing closed polyline to define the region. When prompted, click on any closed polyline that appears on the map.

Method 3 - Pick Corners

You select the corners of the area to be generated, BG-Map will define a square view (square because the plotted maps are square) whose center is the center of an area that you box in. When you generate this Defined View, only plants that lie within the square will be included. The view size will be increased slightly if necessary so that, when plotted, an even plot scale will result. The view width is always a multiple of .05 times the width of a quadrant. This "Plot Multiplier" is the ratio of the maximum width or height of the Defined View to the width of a quadrant.

After you select a method, click "Define" to proceed. BG-Map will switch to the CAD Window to allow you to complete the process of defining the view. The CAD Window status line will display the name of the view being defined and the code corresponding to the method being used to define the view.

What happens next will depend on the view definition method:



For Method 1(Region Bounded):

BG-Map will prompt:

```
Enter point on
region boundary...
```

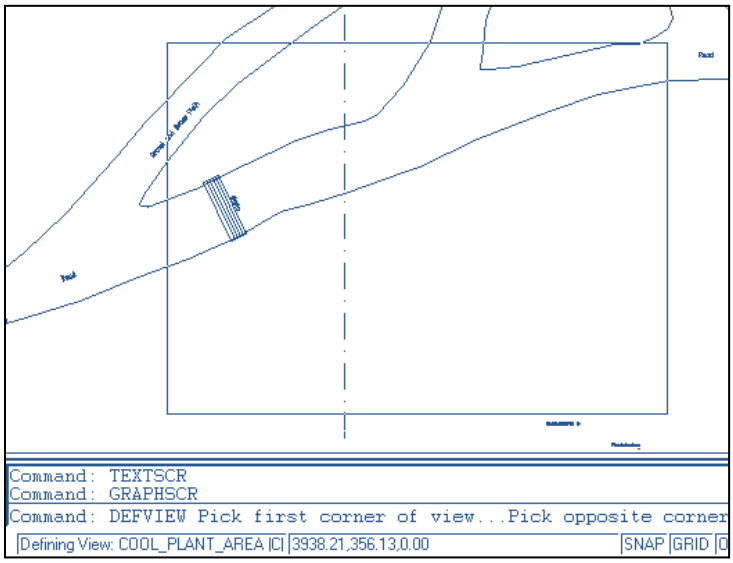
Proceed as you would in drawing a group outline, and pick a point that on the boundary of the desired region. BG-Map will then prompt:

```
Next point...
```

Continue to draw in the boundary of the region as you would a group outline. To undo the last line segment, type "U", and press <Enter>. To complete and close in the region boundary, click the right mouse button (or press <Enter>. The boundary outline will not be smoothed.

Note:	**When drawing the outline of the region, it is important that you create a simple closed region, i.e., a region in which none of the segments overlap.** Other than that, there are no limitations on the shape of the region. The number of region boundary segments may not exceed 100.

For Method 3 (Pick Corners):



BG-Map will display this prompt at the Command Line:

```
Pick first corner of
view...
```

Click a corner of the view. BG-Map will prompt:

```
Pick opposite corner of
view...
```

Click the opposite corner of the view.

Editing the Basemap

Modifying the Basemap:

In general, you should not attempt to modify the basemap unless you have first mastered the basics of CAD. Remember, any CAD command can be issued from the Command Prompt, and you can also use the standard CAD toolbars.

For CAD novices, BG-Map provides a Basemap Menu, which offers a set of basic set of CAD commands that will permit you to make certain limited and very specific changes to the basemap without having to worry about technical details.

Note:	**Remember that none of the basemap modifications described in this section will be permanent unless you save the basemap.**

Erasing Objects:

Use the Zoom/Navigate Menu to zoom in on the objects you wish to erase.

Select the "Erase" command from the Map Utilities Menu. 

CAD will prompt:

```
Select objects:
```

Click each object to be erased. You may select as many objects as you wish.

As you select each object, CAD will confirm the selection by highlighting the object and/or displaying it in dotted form. If you accidentally selected an object you didn't wish to select, type a "U" and press <Enter> to undo the selection of just that object.

When finished selecting objects, right click, or press <Enter>, and the selected objects will be erased.

Alternative Method
Select the objects first and then click the erase icon.

Hint:	**You can select all objects within a window by typing in "W" followed by <Enter> at the "Select objects" prompt.** Then, pick the corners of the window in the same manner, as you would perform the "Zoom Window" command. All objects that are completely within the window will be selected.

Note:	**Never erase or change grid lines in any way.** Doing so will prevent BG-Map from operating properly. The GRID layer should remain locked at all times. If you accidentally select a grid line for erasure or change, cancel or undo the command immediately and start again

Undoing Your Mistakes:

CAD provides a means to undo your mistakes. Simply type in a "U" followed by <Enter>. This will reverse the effect of the last CAD command that was issued. You can use this function more than once to undo a series of commands.

If you accidentally erase an object that you did not intend to erase, using the undo function will restore it to the map.

Using the Edit Base Map Menu:

Layers Sub-Menu

Duplicates the functions of the Utilities/Layers sub-menu. For details, click here.

Draw and Modify Sub-Menus

These sub-menus duplicate the functionality of similar menus found in "regular" CAD and are provided for the convenience of experience CAD users. For details, refer to your CAD documentation.

Other Edit Base Map Commands

Line

Draws a line or a series of connected lines. CAD will prompt:

```
Specify first point:
```

Click the starting point of the line.

CAD will prompt:

```
Specify next point or [Undo]:
```

Click the end point of the line. CAD will draw a line from the starting point to the end point and, again, prompt:

```
Specify next point or [Close/Undo]:
```

By continuing to pick end points, you can add any number of line segments connected to the first line segment. To undo the last line segment, type "U" <Enter> When you have finished adding line segments, click the right mouse button (or press <Enter>).

To create a closed polygon consisting of individual lines, type a "C" <Enter> in response to any prompt ending in "[Close/Undo]".

Polyline 

A polyline is a single object that consists of a number of line segments. It differs from a line (see above) in that an entire series of connected line segments is treated as a single object instead of as a set of individual objects. Polylines also offer great versatility not offered by simple lines. For example, you can alter the width of polylines, curve them, or join them together. For details, refer to the PEDIT command in your CAD documentation.

CAD will prompt:

```
Specify start point:
```

Click the starting point of the polyline.

CAD will prompt:

```
Specify next point or
[Arc/Halfwidth/Length/Undo/Width]:
```

Click the end point of the first line segment. CAD will draw a line from the starting point to the end point and, again, prompt:

```
Specify next point or
[Arc/Close/Halfwidth/Length/Undo/Width]:
```

By continuing to pick end points, you can add any number of line segments connected to the first line segment. To undo the last line segment, type "U" <Enter> When you have finished adding line segments, click the right mouse button (or press <Enter>).

To create a closed polygon, type a "C" <Enter> in response to any prompt containing the word "Close".

Circle 

Draws a circle. CAD will prompt:

```
Specify center point for circle or [3P/2P/Ttr (tan
tan radius)]:
```

Position the crosshairs at the point where the center of the circle is to be located, and click the left mouse button.

CAD will prompt:

```
Specify radius of circle or [Diameter]:
```

You can now determine the size of the circle in one of two ways. The first way is to move the mouse and observe the changing size of the circle on screen. When the circle is the size that you want, click the left mouse button. The other way is to type in the desired radius of the circle and press <Enter>.

Small Text 

Inserts small text (the size used for plant names) into the map. CAD will prompt:

```
Specify start point of text or [Justify/Style]:
```

Click the point where the text will begin.

A small rectangle will appear at the text start point, and CAD will prompt:

```
Text:
```

Type in the desired text. It will be inserted into the map as you type. You may type in more than one line of text by pressing the <Enter> key at the end of each line. After typing the last line of text, press the <Enter> key twice. The text will be inserted, and the CAD "Command:" prompt will appear.

Large Text 

This is the same as the above command except it inserts larger text (the size used for most notes on the map).

Edit Text 

Permits easy editing of any text that appears on the map except text that is part of a block or external reference.

CAD will prompt:

```
Select an annotation object or [Undo]:
```

Click the text to edit. The CAD text edit dialog box will appear. After editing the text, click "OK" for multi-line text or simply press <enter>

for single-line text. The pick box will reappear. You can then click another text item to edit or click the right mouse button (or press <enter>) to terminate the Edit Text function.

Alternative Method
Click on the text first and then click the icon.

For further details, refer to the DDEDIT command in your CAD documentation.

Hint:	**Edit Text can be used to temporarily change plant name text.** For example, you may wish to type in a full name to replace an abbreviated or truncated name or key number before plotting a map. These text changes cannot be saved. The text will revert to its original content when the map is generated again. The only way to permanently change plant names is to edit the *BG-BASE* NAMES table.

Insert Block 

Inserts a CAD block. For more on blocks and how to insert them, refer to your CAD documentation.

Insert Unaccessioned Plant Symbol 

Inserts a plant location symbol - used to add unaccessioned plants to the basemap. When you select this menu option, the current layer will automatically be set to "UNACPL" (unaccessioned plants). CAD will prompt:

```
Specify insertion point or
[Scale/X/Y/Z/Rotate/PScale/PX/PY/PZ/PRotate]:
```

Click the desired center point of the plant symbol, and the symbol will be inserted. Then, use the "Small Text" command to add a name for the unaccessioned plant.

Change Properties 

Calls up the CAD Change Properties dialog window. It allows you to change virtually any property of any CAD object. For further details, refer to your CAD documentation.

Change Object's Layer

This can be used to change an object or text to another layer. CAD will prompt:

```
Select objects:
```

Click one object to change. (Even though the prompt reads "objects", you can only change one object at a time.)

CAD will prompt,

```
Enter new layer name <ROADS>
```

The selected object's current layer will be offered as a default response. Type in the name of the new layer, and press Enter. The object will be changed to the new layer, and the CAD "Command:" prompt will return.

Note:	**"Change Properties" is a much more flexible way to change an object's layer.** See above.

Copy Objects 

Copies one or more objects. CAD will prompt:

```
Select objects:
```

Click on one or more objects to be copied. As each object is selected, it will be highlighted. When finished selecting objects, press <Enter>. CAD will prompt:

```
Specify base point or displacement, or [Multiple]:
```

Click a point on the map where the selected objects are to be copied from. CAD will prompt:

```
Specify second point of displacement or <use first
point as displacement>:
```

Click a point on the map where the selected objects are to be copied to.

For further details, refer to the COPY command in your CAD documentation.

Rotate Objects 

Rotates one or more objects about a base point. CAD will prompt:

```
Select objects:
```

Click on one or more objects to be rotated. As each object is selected, it will be highlighted. When finished selecting objects, press <Enter>. CAD will prompt:

```
Specify base point:
```

Click a point on the map about which the selected objects are to be rotated. CAD will prompt:

```
Specify rotation angle or [Reference]:
```

Type in an angle in degrees, and press <Enter> (Positive angles are counter-clockwise. Negative angles are clockwise.) Or, move the mouse to rotate the objects, and left click when the desired rotation is achieved.

For further details, refer to the ROTATE command in your CAD documentation.

Scale Objects 

Scales (resizes) one or more objects. CAD will prompt:

```
Select objects:
```

Click on one or more objects to be scaled. As each object is selected, it will be highlighted. When finished selecting objects, press <Enter>. CAD will prompt:

```
Specify base point:
```

Click a point on the map about which the selected objects are to be scaled. CAD will prompt:

```
Specify scale factor or [Reference]:
```

Type in a scale factor, and press <Enter>. Or, move the mouse to scale the objects, and left click when the desired scale is achieved.

For further details, refer to the SCALE command in your CAD documentation.

Move Objects 

Moves one or more objects. CAD will prompt:

```
Select objects:
```

Click on one or more objects to be moved. As each object is selected, it will be highlighted. When finished selecting objects, press <Enter>. CAD will prompt:

```
Specify base point or displacement:
```

Click a point on the map where the selected objects are to be moved from. CAD will prompt:

```
Specify second point of displacement or
<use first point as displacement>:
```

Click a point on the map where the selected objects are to be moved to.

For further details, refer to the MOVE command in your CAD documentation.

Trim 

Trims a line or polyline using another line or polyline as a "cutting edge". CAD will prompt:

```
Select objects:
```

Click on one or more objects to serve as "cutting edges". As each object is selected, it will be highlighted. When finished selecting objects, press <Enter>. CAD will prompt:

```
Select object to trim or shift-select to extend or
[Project/Edge/Undo]:
```

Select an object to be trimmed. CAD will again prompt:

```
Select object to trim or shift-select to extend or
[Project/Edge/Undo]:
```

Select another object to be trimmed, using the same cutting edges, or press <Enter> to finish.

For further details, refer to the TRIM command in your CAD documentation.

Extend 

Extends a line or polyline to another line or polyline, which serves as a "boundary edge". CAD will prompt:

```
Select objects:
```

Click on one or more objects to serve as "boundary edges". As each object is selected, it will be highlighted. When finished selecting objects, press <Enter>. CAD will prompt:

```
Select object to extend or shift-select to trim or
```

```
[Project/Edge/Undo]:
```

Select an object to be extended. CAD will again prompt:

```
Select object to extend or shift-select to trim or
[Project/Edge/Undo]:
```

Select another object to be extended, using the same boundary edges, or press <Enter> to finish.

For further details, refer to the EXTEND command in your CAD documentation.

Technical Reference

BG-Map Layering Standards:

CAD layering standards for BG-Map can be found at the BG-Map web site in the Users Support Area at http://www.bg-map.com/layers.html.

Hardware Requirements:

Hardware requirements for BG-Map can be found on the BG-Map web site at http://www.bg-map.com/hdwe.html.

Parameters for Saving the Basemap:

Units and Menu:

Units:	decimal (units to two places)
Menu Configuration File:	C:\Bgmapwin\bgmap2004.cui

Blocks That Must be Defined:

Note: **Make certain not to purge any of these blocks. Additional blocks may be required for the Cemetery, Cultural Resources, and Facilities Management Modules.** Refer to the corresponding documentation.

ARROW	(arrow used for snapshot Book Maps)
BCANOPY	(tree canopy - color per plant group)
BGRPLOC	(plant symbol - group planting, color per plant group)
BIGFRAME	(title block for Site Maps)
BOOKFRAM	(title block for Book Maps)
BPLANTLOC	(plant symbol - single plant, color per plant group)
BTRUNK	(tree trunk - color per plant group)
CANOPY	(tree canopy - green)
FRAME	(title block for quadrant and Defined View maps)
FRAMEPORT	(view port for inserting title block FRAME)
GRPLOC	(plant symbol - group planting, black)
PLANTLOC	(plant symbol - single plant, black)
RULER	Ruler for "Insert Ruler"
TRUNK	(tree trunk - yellow)
TRUNK_2	Multi-trunk (2 trunks)
TRUNK_3	Multi-trunk (3 trunks)
TRUNK_4	Multi-trunk (4 trunks)
TRUNK_5	Multi-trunk (5 trunks)
TRUNK_6	Multi-trunk (6 trunks)
VIEWFRAM	(square frame for Defined Views - not region bounded)

Text Styles That Must be Defined:

LARGETEXT	(for misc. notes text)
LISTEXT	(for plant list text)
SITETEXT	(large text for Site Maps)
SMTEXT	(for plant name text)
TITLE	(title block text)

Layer Status:

All on, except GRIDNO and SITE to be OFF
GRID layer to be locked

System Variable Settings:

ATTDIA	0
BLIPMODE	Off
COORDS	1
DRAGMODE	Auto
DRAGP1	10
DRAGP2	25
EXPERT	0
GRIPS	0
FILEDIA	1
HIGHLIGHT	1
LTSCALE	12 (times a factor derived by dividing your quadrant width by 200)
MENUECHO	0
ORTHO	Off
OSMODE	0
PDMODE	0
PICKBOX	3
REGENAUTO	Off
SAVETIME	0
REMEMBERFOLDERS	0
SDI	1
SHORTCUTMENU	0
SPLFRAME	0
SPLINESEGS	8
SPLINETYPE	6
TEXTEVAL	0
TILEMODE	1
UCSICON	Off
XLOADCTL	2

Plot Scale Versus Quadrant Size:

Quadrant Size:	Quadrant Plot Scale (24" Paper):	Quadrant Plot Scale (36" Paper):	Small Book Map Scale:	Large Book Map Scale:
200'	1" = 10'	1" = 6.67'	1" = 25'	1" = 18.75'
100'	1" = 5'	1" = 3.33'	1" = 12.5'	1" = 9.375'
50'	1" = 2.5'	1" = 1.67'	1" = 6.25'	1" = 4.6875'
100 m.	1:200	1:133.33	1:500	1:375
50 m.	1:100	1:66.67	1:250	1:187.50
25 m.	1:50	1:33.33	1:125	1:93.75

How BG-Map Determines the Information to be Displayed in a Map:

The "Plot Multiplier" corresponds to the ratio of the maximum height or width of the Defined View to the width of a quadrant. For example, the maximum height or width of a Defined View with a Plot Multiplier of 1.25 is 1.25 times the width of a quadrant.

BG-Map uses the Plot Multiplier to determine which information can be generated and whether or not the defined view can be generated as "Normal". This is summarized in the following tables:

Large Format Maps – 24" Paper

Plot Multiplier	Group Outlines	Leader Lines	Reference Plants	Default Plant List	Default Text Display
<.55	Yes	Yes	Optional	None	name to 32 char. plus acc. number
.55 -.75	Yes	Yes	Optional	None	name to 21 char. plus acc. number
.80 - 1.00	Yes	Yes	Optional	None	name to 16 char. plus acc. number
Quadrant	Yes	Yes	Optional	None	name to 16 char. plus acc. no.
1.05 - 2.50	Yes	Yes	Optional	Optional	3 digit key number only
>2.45	Yes	No	Optional	Optional	symbol

Plot Multiplier	Group Outlines	Leader Lines	Reference Plants	Default Plant List	Default Text Display
					only
Site	Yes	No	No	Optional	symbol only

Large Format Maps – 36" Paper

Plot Multiplier	Group Outlines	Leader Lines	Reference Plants	Default Plant List	Default Text Display
<.80	Yes	Yes	Optional	None	name to 32 char. plus acc. number
.80 - 1.10	Yes	Yes	Optional	None	name to 21 char. plus acc. number
1.15 - 1.50	Yes	Yes	Optional	None	name to 16 char. plus acc. number
Quadrant	Yes	Yes	Optional	None	name to 21 char. plus acc. no.
1.55 – 3.75	Yes	Yes	Optional	Optional	3 digit key number only
>2.75	Yes	No	Optional	Optional	symbol only
Site	Yes	No	No	Optional	symbol only

Small Book Maps (8-1/2"x11"/A4)

Plot Multiplier	Group Outlines	Leader Lines	Reference Plants	Default Plant List	Default Text Display
<.60	Yes	Yes	No	Optional	name to 16 char. plus acc. number

.60-1.00	Yes	Yes	No	Always	3 digit key number only
>1.00	Cannot print	Cannot print	Cannot print	Cannot print	Cannot print

Large Book Maps (11"x17"/A3)

Plot Multiplier	Group Outlines	Leader Lines	Reference Plants	Default Plant List	Default Text Display
<1.05	Yes	Yes	No	Optional	name to 16 char. plus acc. number
1.05-2.50	Yes	Yes	No	Always	3 digit key number only
>2.50	Cannot print	Cannot print	Cannot print	Cannot print	Cannot print

Files Used By BG-Map:

Note: **You may delete and of the following files that are marked "Obsolete".**

Primary *BG-BASE* Folder (\BGBASE6)

Windows File Name	Function
QUAD_CHG.FIL	List of pending quadrant changes
$QUAD_UP	Program that automatically updates quadrants (obsolete)

C:\BGMAPWIN Folder

Folder or File Name	Function
ACAD*.CFG	CAD configuration files
ACAD.ERR	Listing of CAD errors
ACLT.ERR	Listing of AUTOCAD LT errors
ACAD*.CUI BGMAP*.CUI	CAD configuration files
ADD_NAME.LSP	Program that adds a plant name
AREA_OBJ.LSP	Program maps area objects – used by Cultural Resources and Facilities Management modules
ASYM_CAN.LSP	Program defines an asymmetric canopy
BGM_LT.MNC	BG-Map compiled AUTOCAD LT menu
BGM_LT.MNR	BG-Map AUTOCAD LT menu resource

Folder or File Name	Function
BGM_LT.MNS	BG-Map AUTOCAD LT menu source
BGM_LT.MNU	BG-Map AUTOCAD LT menu template
BGM_LT2004.MNC	BG-Map compiled CAD 2004 LT menu
BGM_LT2004.MNR	BG-Map CAD 2004 LT menu resource
BGM_LT2004.MNS	BG-Map CAD 2004 LT menu source
BGM_LT98.SCR	BG-Map startup script for AUTOCAD LT (obsolete)
BGMANUAL	(folder) contains user manuals
BGMAP.DCL	BG-Map CAD dialog box definitions
BGMAPENV.FIL	Lists current Windows environment
BGMAP.MNC	BG-Map compiled CAD menu
BGMAP.MNR	BG-Map CAD menu resource
BGMAP.MNS	BG-Map CAD menu source
BGMAP.MNU	BG-Map CAD menu template
BGMAP.SCR	BG-Map CAD startup script
BGMAP2004.MNC	BG-Map compiled CAD 2004 menu
BGMAP2004.MNR	BG-Map CAD 2004 menu resource
BGMAP2004.MNS	BG-Map CAD 2004 menu source
BGMAP_HELP.CSS	HTML Configuration file for BG-Map help screens
BGMAP_HELP.HTM	Last Help Screen Displayed (temporary web page)
BIRDSEYE.LSP	Program that zooms to a Birdseye View
BITMAPS	(folder) contains icons and images used by BG-Map
BLAT.ERR	E-Mail sending errors
BLAT.EXE	E-Mail sending utility program
BLAT.LOG	E-Mail log
CHECKIFIN.LSP	Function determines if a point is inside a rectangular area
CLOSEUP.LSP	Program that defines the Close-up zoom function
COLORGET.LSP	Program permits the user to select a CAD Color number
COLORSET.FIL	Stores the current plant group color settings
COLORSET.LSP	Program that sets plant group colors
CONVERT.EXE	Utility program to resize images and make thumbnails
CR_CH.FIL	Stores pending changes to object formatting – used by Cultural Resources Module
CR_LOC.LSP	Maps an object – used by Cultural Resources Module
CURRGEN.FIL	Stores the currently generated quadrant and list status
CURRVIEW.FIL	Stores the currently selected quadrant view
DDELISP.ARX	Obsolete CAD file – NO LONGER USED
DEFVIEW.FIL	Stores name of Defined View being created
DEFVIEW.LSP	Program that helps to create Defined Views
DELETE_PLANT.LSP	Program erases a single plant from the map
DELLAYER.LSP	Program deletes all objects on a layer
DESCRIPTION.HTM	HTML file, stores the most recently viewed plant description
DXF_FOOT.DXP	Partial DXF file, used to create a DXF footer
DXF_FOOT_2004.DXP	Partial DXF file, CAD 2004 format, used to create a DXF footer

Folder or File Name	Function
DXF_HEAD.DXP	Partial DXF file, used to create a DXF header
DXF_HEAD_2004.DXP	Partial DXF file, CAD 2004 format, used to create a DXF header
DXF_MID.DXP	Partial DXF file, used to create a DXF file
DXF_MID_2004.DXP	Partial DXF file, CAD 2004 format, used to create a DXF file
E_MAIL.TXT	Temporary file contains text of e-mail to be sent
END_ACAD.SCR	Script used to terminate a CAD session
ECM_ERROR.TXT	Records errors generated by Web-VQF
EXP_DWG.LSP	Program exports a drawing file
EXPORT.TXT	Default file for storing exported plant lists
EXPORTTILESET.LSP	Procedures for exporting a Web-VQF Tile set
EXTENTS.FIL	Contains the maximum extents of the currently generated plants
FAC_CH.FIL	Stores pending changes to object formatting – used by Facilities Management Module
FAC_LOC.LSP	Maps an object – used by Facilities Management Module
FIELDDATA.LSP	Program allows entering field data by clicking a plant on the map
FRAMETXT.DXF	Stores the annotations to be added to the map title block
GET_BGENV.EXE	Program retrieve the current Windows environment
GET_BGM-PLOT.SCR	CAD script used to determine available paper sizes for large book maps
GET_BGM-PR-LG.SCR	CAD script used to determine available paper sizes for large format maps
GET_BGM-PR-SM.SCR	CAD script used to determine available paper sizes for small book maps
GET_MAPSTAT.LSP	Program obtains the name and read-only status of the currently opened map
GET_PT.LSP	Program retrieves the coordinates of a selected point
GETFIELD.LSP	Program for extracting data from comma delimited files
GETPLCOORDS.LSP	Program gets the insertion coordinates of a plant
GETPLROT.LSP	Program gets the text rotation in degrees of a plant
GO_ACAD.BAT	Obsolete batch file – NO LONGER USED
GO_ACAD.LNK	Obsolete shortcut that starts CAD – NO LONGER USED
GO_ACAD.PIF	Obsolete MS-DOS shortcut – NO LONGER USED
GR_CHG.LSP	Program edits a group outline
GREVID EXPORT	(folder) contains files exported for use with GreVid
GRPCURVE.LSP	Program selects all objects on the group outline layers and curves them
GRPFILL.LSP	Program solid fills group outlines
GRPLINE.LSP	Program draws a group outline
HIDESITE.SCR	CAD script hides the site map title block
HORT_MGT	(folder) Files used by the Hort. Management Module
HTMPRINT.EXE	Program prints the contents of an HTML file
ICON*.BMP	Image files used to generate toolbar icons
ICAD81.MNS	CMS IntelliCAD menu source
IMAGE_LIST.HTM	HTML file, stores the most recently viewed list of plant images

Folder or File Name	Function
I-DXF_FOOT.DXP	Partial DXF file, used to create a DXF footer for CMS IntelliCAD
I-DXF_HEAD.DXP	Partial DXF file, used to create a DXF header for CMS IntelliCAD
I-RESTSTAT.SCR	Script to restore the normal BG-Map status line for CMS IntelliCAD
I-RULER.SCR	Script for inserting the ruler for CMS IntelliCAD
I-SAVEBASE.SCR	Script to save the basemap for CMS IntelliCAD
I-SAVEBASEAS.SCR	Script to save the basemap as a file for CMS IntelliCAD
L_TO_STR.LSP	Function converts an AutoLISP list of real values to a string
L_TOBACK.SCR	Script that sends the last entity added to the map to the back
LASTUSER.FIL	Contains name of last user logged into BG-Map
LAYERCHK.LSP	Program checks a layer name to determine if it currently exists
LAYEROFF.LSP	Program that turns layers off
LAYERON.LSP	Program turns layers on
LAYERSTA.LSP	Program that displays layer status
LDRLINE.LSP	Program that draws a leader line
LINE_OBJ.DXF	DXF file contains the last generated Facilities Management and Cultural Resources line objects
LINE_OBJ.LSP	Program maps a line type object – used by Cultural Resources and Facilities Management modules
LISTPL.FIL	Obsolete file – NO LONGER USED
LISTPL.LSP	Program that lists a plant/object
LL_CHG.LSP	Routine that edits a leader line
LOCATE.LSP	Program defines the "Add a Plant" plant command
LOCATE.SCR	CAD script to add a plant
LOCPL.LSP	Program that adds/relocates plants
MASSMOVE.LSP	Program mass moves plants
MSETTINGS.LSP	Program saves and restores default settings for various CAD system variables
MOGRIFY.EXE	Utility program to resize images and make thumbnails
MOVETEXT.LSP	Program that moves acc. no. or name text
OI_MSG.EXE	Program sends a DDE message from CAD to OpenInsight
OI_MSG.LSP	Function initiates a message to OpenInsight
ONE_MOMENT.HTML	"One Moment" message
PARSESTRING.LSP	Program parses a comma-delimited string
PASSWORD.FIL	Stores BG-Map users and passwords (on server)
PICKFILE.EXE	Utility program selects a file or folder
PLANT_CH.FIL	Stores pending changes to plant formatting
PLANT LISTS	(folder) stores exported plant lists
PREVIEW.HTM	Temporary print preview file
PROFILE.FIL	Stores the default CAD profile name
PROFILES.LSP	Program sets CAD profiles when starting and exiting BG-Map
PROPNOTER_EXPORT	(folder) contains files exported for use with PropNoter

Folder or File Name	Function
QUAD_UP_ERRORS.TXT	Lists most recent errors during QUAD_UP
QUADGEN.DXF	Contains currently generated plant information
QUADGEN.LSP	Program defines the "Generate" command
QUADGEN.SCR	Script for the "Generate" command
QUADPLOT.EXE	BG-Map Plot Composer program
QUADPLOT.SCR	Temporary CAD plot script for maps
QUADPLT.LSP	Program defines the BG-Map Plot command
QUADVIEW.LSP	Program defines the quadrant zoom command
REFBLOC.LSP	Program to attach a reference block
REM_NAME.LSP	Program removes a plant name
RESTSTAT.LSP	Program restores normal BG-Map status line
RESTSTAT.SCR	Script to restore the normal BG-Map status line
ROTATEPL.LSP	Program rotates plant text
RULER.SCR	Script for inserting the ruler
SAVEBASE.LSP	Program defines a function to save the basemap
SAVEBASE.SCR	Script to save the basemap
SCALEPLTEXT.LSP	Program resizes plant text
SAVEBASEAS.SCR	Script to save the basemap as a file
SEL_PLANT_ALL.LSP	Program selects all plant information
SEL_PLANT_TEXT.LSP	Program selects plant text
SELLAYER.LSP	Program selects all objects on a CAD layer
SEND_OI.LSP	Obsolete file – NO LONGER USED
SENDBACK.LSP	Program to undo the adding of a plant
SHOWSITE.SCR	CAD script shows the site map title block
STATE ABBREVS.TXT	List of state and province abbreviations, used by Visitors QUICKFinder
STEPBACK.LSP	Program defines the step back zoom function
STEPIN.LSP	Program defines the step in zoom function
SUMMARY.FIL	Stores the data needed to create a Map Summary
SYMBOLS	Folder stores map symbols used by CAD
TEMPCRDS.FIL	Coordinates of last plant located – formatted ASCII
TILESET.DXF	DXF file for generating tiles for Web-VQF
TILESET_STAFF.DXF	DXF file for generating tiles for Web-VQF Staff Map
TILESET.SCR	Script for creating map tiles for Web-VQF
TOPIC.HTM	HTML file, contains last plant description viewed in the "List Plant" window
TOTALSTA	Folder stores total station, GPS, Garden Notepad and PropNoter programs and data
VIEWPIX.EXE	BG-Map Image Viewer program
URLCOPY.EXE	Programs downloads the contents of a web page
USERID	Folder stores the user setup information (userid.fil)
VIEWPIX.EXE	BG-Map image view program
VIEWPIX.FIL	Contains information to be displayed with an image, used by the BG-Map Image View program
VIEWPIX.HTML	Contains information to be displayed with an image, used by the BG-Map Image View program

Folder or File Name	Function
VIEWPIXPR.HTML	Contains information to be printed, used by the BG-Map Image View program
VIEWZOOM.LSP	Program zooms to current Defined View
VQF	Folder contains files used by Visitors QUICKFinder
VQF.ERR	Contains any errors generated by VQF
VQF_COLL.ERR	Contains any errors in the last-accessed VQD Special Collection
WHEREAMI.LSP	Program that operates the "Where Am I" function
XDATA_ADD.LSP	Program add extended entity data to an object
XXXMAP.BAK	Basemap drawing backup file (where XXX is the 3 letter user ID code)
XXXMAP.DWG	Basemap drawing file (where XXX is the 3 letter user ID code)

C:\BGMAPWIN\TOTALSTA Folder (used only with the Total Station Interface, GPS Interface, GN3 or Garden Notepad Classic)

Windows File Name	Function
CEFILECOPY.EXE	Program copies files to a handheld device
CONTAINERS.FIL	Exported list of *BG-BASE* Container Codes
CONTROL.CSV	Optional control points file for Total Station
DIEWHY.FIL	Exported list of *BG-BASE* Die-Why Codes
LABELS.FIL	Exported list of *BG-BASE* Label Types
LOCAL	Folder, for temporarily storing field data files
PHRASES.TXT	Check Note phrases for Garden Notepad
STATIONS.FIL	List of total station control points
TOTALSTA.FMD	Raw field data
TSSETTINGS.FIL	Total Station Interface stored settings
TSUPLOAD.EXE	Program uploads field data

C:\BGMAPWIN\USERID Folder:

Windows File Name	Function
USER SETUP.EXE	User setup program
USERID.FIL	User setup data

C:\BGMAPWIN\VQF Folder

Windows File Name	Function
BLAT.LOG	Log of last test e-mail sent
DESCRIPTION.HTM	Temporary HTML file generated by the system
E_MAIL.HTM	Temporary HTML file with E-Mail contents
E_MAIL.TXT	Temporary text file with E-Mail contents
EMBEDIMAGES.TXT	Temporary text file with list of images embedded in E-Mail
IMAGE_LIST.HTM	Temporary HTML file with list of plant images

Windows File Name	Function
LEAFNUM.DWG	Leaf Number symbol used in Create a Tour maps
LEAFNUM_2.DWG	Alternate Leaf Number Symbol
LOG DEFINITIONS.TXT	Text file, explains the format of the system usage log files
MAP_BMPS	Folder contains map images in PNG format, automatically generated by the system. Obsolete files are automatically deleted.
PLANTNAME.HTM	Temporary HTML file with plant name
POPUP.HTM	Temporary HTML file with popup selection list
POPUP_FRAMESET.HTM	Temporary HTML file with popup selection list and "Jump to" letters
REPORT.HTM	Temporary HTML file with plant information
SKIPLETTERS.HTM	HTML file with "Jump to" letters
TOPIC.HTM	Temporary HTML file displaying a Topic or Retail Nursery
TOURLIST.HTM	Temporary HTML file with list of "Create a Tour" plants
TOURMAP.PNG	Image of "Create a Tour" map
VQF_FRAM.DWG	Title block for printed VQF maps
VQF_HERE.DWG	The "You are here" symbol
VQF_HERES.DWG	The "You are here" symbol with shadow
YOURTOUR.DWG	Temporary HTML file with "Create a Tour" tour

\BGMAPWIN\BGLINK Folder – On Server – Sorted by Windows File Name (Each database table consists of 2 Windows Files – ending in .lk and .ov)

Database Table Name	Windows File Name	Function
DICT.MAP_LOCATIONS	REV41000	Alternate dictionary for *BG-BASE* LOCATIONS table
DICT.MAP_ACCESSIONS	REV41002	Alternate dictionary for *BG-BASE* ACCESSIONS table
DICT.MAP_PLANTS	REV41007	Alternate dictionary for *BG-BASE* PLANTS table
DICT.MAP_NAMES	REV41010	Alternate dictionary for *BG-BASE* NAMES table
DICT.MAP_GENERA	REV41023	Alternate dictionary for *BG-BASE* GENERA table
DICT.MAP_LISTS	REV41029	Dictionary for MAP_LISTS
MAP_LISTS	REV41030	BG-Map's lists table
DICT.MAP_PSOURCES	REV41036	Alternate dictionary for *BG-BASE* PSOURCES table
DICT.FLD_LIST	REV41038	Dictionary for FLD_LIST
FLD_LIST	REV41040	Master list of fields for plant selection and plant lists
DICT.MAP_COUNTRIES	REV41041	Alternate dictionary for *BG-BASE* COUNTRIES table
DICT.MAP_LIST_FORMATS	REV41044	Dictionary for MAP_LIST_FORMATS
MAP_LIST_FORMATS	REV41045	Stores Plant List Formats
DICT.MAP_QUADS	REV41048	Dictionary for MAP_QUADS
MAP_QUADS	REV41049	List of all mappable quadrant names, with corresponding corner coordinates

Database Table Name	Windows File Name	Function
DICT.MAP_QUADS_NOBED	REV41050	Dictionary for MAP_QUADS_NOBED
MAP_QUADS_NOBED	REV41051	List of all mappable quadrants, except those with bed designations, with corner coordinates
DICT.MAP_FAMILIES	REV41052	Alternate dictionary for *BG-BASE* FAMILIES table
DICT.DEFINED_VIEWS	REV41053	Dictionary for DEFINED_VIEWS
DEFINED_VIEWS	REV41054	Stores Defined Views
!DEFINED_VIEWS	REV41057	Index for DEFINED_VIEWS
DICT.BGMAP_LISTS	REV41058	Dictionary for BGMAP_LISTS
BGMAP_LISTS	REV41059	BG-Map Saved Lists
DICT.FLD_LIST_CHANGES	REV41061	Dictionary for FLD_LIST_CHANGES
FLD_LIST_CHANGES	REV41062	List of Plant List Format fields to be changed
DICT.SPECIES	REV41109	Dictionary for SPECIES
SPECIES	REV41110	Stores lists of species
DICT.CULTIVARS	REV41113	Dictionary for CULTIVARS
CULTIVARS	REV41114	Stores lists of cultivars
DICT. PLANT_PIX	REV41147	Dictionary for PLANT_PIX
DICT.PLANT_PIX	REV41147	Dictionary for PLANT_PIX
PLANT_PIX	REV41148	Stores pointers to plant images
DICT.CUSTOM_SYMBOLS	REV41177	Dictionary for CUSTOM_SYMBOLS
CUSTOM_SYMBOLS	REV41178	Stores pointers to Custom Symbols
!CUSTOM_SYMBOLS	REV41179	Index for CUSTOM_SYMBOLS
DICT. PLANT_LIST_EXPORT	REV41206	Dictionary for PLANT_LIST_EXPORT
DICT.PLANT_LIST_EXPORT	REV41206	Dictionary for PLANT_LIST_EXPORT
PLANT_LIST_EXPORT	REV41207	Temporarily stores text for exported plant lists
DICT.SAVED_TCL_QUERIES	REV41242	Dictionary for SAVED_TCL_QUERIES
SAVED_TCL_QUERIES	REV41243	Stores Saved Pseudo-TCL Queries
!SAVED_TCL_QUERIES	REV41246	Index for SAVED_TCL_QUERIES
DICT.MAP_QUADRANTS	REV41271	MAP_QUADRANTS
MAP_QUADRANTS	REV41272	Temporary new quadrants
DICT.TEMP_SORTFILE	REV41274	Dictionary for TEMP_SORTFILE
TEMP_SORTFILE	REV41275	Temporary sort file
!TEMP_SORTFILE	REV41276	Index for TEMP_SORTFILE
!MAP_QUADS	REV41277	Index for MAP_QUADS
DICT.CUSTOM_MAP_SETUPS	REV41284	Dictionary for CUSTOM_MAP_SETUPS
CUSTOM_MAP_SETUPS	REV41285	Stores Custom Map Setups
!CUSTOM_MAP_SETUPS	REV41286	Index for CUSTOM_MAP_SETUPS
!PLANT_PIX	REV41307	Index for PLANT_PIX
DICT.VQF_COLLECTIONS	REV41326	Dictionary for VQF_COLLECTIONS
VQF_COLLECTIONS	REV41327	VQF Special Collections
DICT.VQF_TOPICS	REV41329	Dictionary for VQF_TOPICS

Database Table Name	Windows File Name	Function
VQF_TOPICS	REV41330	VQF Topics
!VQF_COLLECTIONS	REV41331	Index for VQF_COLLECTIONS
!VQF_TOPICS	REV41332	Index for VQF_TOPICS
DICT.ENLARGED_AREAS	REV41502	Dictionary for ENLARGED_AREAS
ENLARGED_AREAS	REV41503	Stores definitions for Enlarged Areas
!ENLARGED_AREAS	REV41504	Index for ENLARGED_AREAS
DICT.PLANT_SIZE_CLASSES	REV41909	Dictionary for PLANT_SIZE_CLASSES
PLANT_SIZE_CLASSES	REV41910	Sizes classes for Proposed Plants
RETAIL_NURSERIES	REV41910	Retail Nurseries used for VQF
!PLANT_SIZE_CLASSES	REV41911	Index for PLANT_SIZE_CLASSES
DICT.RETAIL_NURSERIES	REV41974	Dictionary for RETAIL_NURSERIES
!RETAIL_NURSERIES	REV41977	Index for RETAIL_NURSERIES
DICT.MAP_SEARCHABLE_ FIELDS	REV42122	Dictionary for MAP_SEARCHABLE_FIELDS
MAP_SEARCHABLE_FIELDS	REV42123	List of fields that can be searched with the Search Tool
!MAP_SEARCHABLE_FIELDS	REV42126	Index for MAP_SEARCHABLE_FIELDS
DICT.NAMES_ADDL_INFO	REV42522	Dictionary for NAMES_ADDL_INFO
NAMES_ADDL_INFO	REV42523	Additional data on taxa
!NAMES_ADDL_INFO	REV42524	Index for NAMES_ADDL_INFO
DICT.SOIL.TYPES	REV42551	Dictionary of SOIL_TYPES
SOIL_TYPES	REV42552	Soil Types data
!SOIL_TYPES	REV42554	Index for SOIL_TYPES
DICT.SAVED_SEARCHTOOL_QUERIES	REV42756	Dictionary of SAVED_SEARCHTOOL_QUERIES
SAVED_SEARCHTOOL_QUERIES	REV42757	Queries saved using Search Tool
DICT.PESTS_AND_DISEASES	REV42763	Dictionary of PESTS_AND_DISEASES
PESTS_AND_DISEASES	REV42764	Pest and Disease Data
!PESTS_AND_DISEASES	REV42765	Index for PESTS_AND_DISEASES
DICT.GN3_INVENTORIES	REV42880	Index for GN3_INVENTORIES
!GN3_INVENTORIES	REV42881	Index for GN3_INVENTORIES
GN3_INVENTORIES	REV42882	GN3_INVENTORIES Data

\BGMAPWIN\BGLINK Folder – On Server – Sorted by Database Table Name (Each database table consists of 2 Windows Files – ending in .lk and .ov)

Database Table Name	Windows File Name	Function
!CUSTOM_MAP_SETUPS	REV41286	Index for CUSTOM_MAP_SETUPS
!CUSTOM_SYMBOLS	REV41179	Index for CUSTOM_SYMBOLS
!DEFINED_VIEWS	REV41057	Index for DEFINED_VIEWS
!ENLARGED_AREAS	REV41504	Index for ENLARGED_AREAS

Database Table Name	Windows File Name	Function
!GN3_INVENTORIES	REV42881	Index for GN2_INVENTORIES
!MAP_QUADS	REV41277	Index for MAP_QUADS
!MAP_SEARCHABLE_FIELDS	REV42126	Index for MAP_SEARCHABLE_FIELDS
!NAMES_ADDL_INFO	REV42524	Index for NAMES_ADDL_INFO
!PESTS_AND_DISEASES	REV42865	Index for PESTS_AND_DISEASES
!PLANT_PIX	REV41307	Index for PLANT_PIX
!PLANT_SIZE_CLASSES	REV41911	Index for PLANT_SIZE_CLASSES
!RETAIL_NURSERIES	REV41977	Index for RETAIL_NURSERIES
!SAVED_TCL_QUERIES	REV41246	Index for SAVED_TCL_QUERIES
!TEMP_SORTFILE	REV41276	Index for TEMP_SORTFILE
!SOIL_TYPES	REV42554	Index for SOIL_TYPES
!VQF_COLLECTIONS	REV41331	Index for VQF_COLLECTIONS
!VQF_TOPICS	REV41332	Index for VQF_TOPICS
BGMAP_LISTS	REV41059	BG-Map Saved Lists
CULTIVARS	REV41114	Stores lists of cultivars
CUSTOM_MAP_SETUPS	REV41285	Stores Custom Map Setups
CUSTOM_SYMBOLS	REV41178	Stores pointers to Custom Symbols
DEFINED_VIEWS	REV41054	Stores Defined Views
DICT. PLANT_LIST_EXPORT	REV41206	Dictionary for PLANT_LIST_EXPORT
DICT. PLANT_PIX	REV41147	Dictionary for PLANT_PIX
DICT.BGMAP_LISTS	REV41058	Dictionary for BGMAP_LISTS
DICT.CULTIVARS	REV41113	Dictionary for CULTIVARS
DICT.CUSTOM_MAP_SETUPS	REV41284	Dictionary for CUSTOM_MAP_SETUPS
DICT.CUSTOM_SYMBOLS	REV41177	Dictionary for CUSTOM_SYMBOLS
DICT.DEFINED_VIEWS	REV41053	Dictionary for DEFINED_VIEWS
DICT.ENLARGED_AREAS	REV41502	Dictionary for ENLARGED_AREAS
DICT.FLD_LIST	REV41038	Dictionary for FLD_LIST
DICT.FLD_LIST_CHANGES	REV41061	Dictionary for FLD_LIST_CHANGES
DICT.GN3_INVENTORIES	REV42880	Dictionary for GN3_INVENTORIES
DICT.MAP_ACCESSIONS	REV41002	Alternate dictionary for *BG-BASE* ACCESSIONS table
DICT.MAP_COUNTRIES	REV41041	Alternate dictionary for *BG-BASE* COUNTRIES table
DICT.MAP_FAMILIES	REV41052	Alternate dictionary for *BG-BASE* FAMILIES table
DICT.MAP_GENERA	REV41023	Alternate dictionary for *BG-BASE* GENERA table
DICT.MAP_LIST_FORMATS	REV41044	Dictionary for MAP_LIST_FORMATS
DICT.MAP_LISTS	REV41029	Dictionary for MAP_LISTS
DICT.MAP_LOCATIONS	REV41000	Alternate dictionary for *BG-BASE* LOCATIONS table
DICT.MAP_NAMES	REV41010	Alternate dictionary for *BG-BASE* NAMES table
DICT.MAP_PLANTS	REV41007	Alternate dictionary for *BG-BASE* PLANTS table
DICT.MAP_PSOURCES	REV41036	Alternate dictionary for *BG-BASE*

Database Table Name	Windows File Name	Function
		PSOURCES table
DICT.MAP_QUADRANTS	REV41271	MAP_QUADRANTS
DICT.MAP_QUADS	REV41048	Dictionary for MAP_QUADS
DICT.MAP_QUADS_NOBED	REV41050	Dictionary for MAP_QUADS_NOBED
DICT.MAP_SEARCHABLE_ FIELDS	REV42122	Dictionary for MAP_SEARCHABLE_FIELDS
DICT.NAMES_ADDL_INFO	REV42522	Dictionary for NAMES_ADDL_INFO
DICT.PESTS_AND_DISEASES	REV42763	Dictionary of PESTS_AND_DISEASES
DICT.PLANT_LIST_EXPORT	REV41206	Dictionary for PLANT_LIST_EXPORT
DICT.PLANT_PIX	REV41147	Dictionary for PLANT_PIX
DICT.PLANT_SIZE_CLASSES	REV41909	Dictionary for PLANT_SIZE_CLASSES
DICT.RETAIL_NURSERIES	REV41974	Dictionary for RETAIL_NURSERIES
DICT.SAVED_SEARCHTOOL_QUERIES	REV42756	Dictionary of SAVED_SEARCHTOOL_QUERIES
DICT.SAVED_TCL_QUERIES	REV41242	Dictionary for SAVED_TCL_QUERIES
DICT.SOIL_TYPES	REV42551	Dictionary for SOIL_TYPES
DICT.SPECIES	REV41109	Dictionary for SPECIES
DICT.TEMP_SORTFILE	REV41274	Dictionary for TEMP_SORTFILE
DICT.VQF_COLLECTIONS	REV41326	Dictionary for VQF_COLLECTIONS
DICT.VQF_TOPICS	REV41329	Dictionary for VQF_TOPICS
ENLARGED_AREAS	REV41503	Stores definitions for Enlarged Areas
FLD_LIST	REV41040	Master list of fields for plant selection and plant lists
FLD_LIST_CHANGES	REV41062	List of Plant List Format fields to be changed
GN3_INVENTORIES	REV42882	GN3_INVENTORIES list
MAP_LIST_FORMATS	REV41045	Stores Plant List Formats
MAP_LISTS	REV41030	BG-Map's lists table
MAP_QUADRANTS	REV41272	Temporary new quadrants
MAP_QUADS	REV41049	List of all mappable quadrant names, with corresponding corner coordinates
MAP_QUADS_NOBED	REV41051	List of all mappable quadrants, except those with bed designations, with corner coordinates
MAP_SEARCHABLE_FIELDS	REV42123	List of fields that can be searched with the Search Tool
NAMES_ADDL_INFO	REV42523	Additional data on taxa
PESTS_AND_DISEASES	REV42764	Pest and Disease Data
PLANT_LIST_EXPORT	REV41207	Temporarily stores text for exported plant lists
PLANT_PIX	REV41148	Stores pointers to plant images
PLANT_SIZE_CLASSES	REV41910	Sizes classes for Proposed Plants
RETAIL_NURSERIES	REV41910	Retail Nurseries used for VQF
SAVED_SEARCHTOOL_QUERIES	REV42757	Queries saved using Search Tool
SAVED_TCL_QUERIES	REV41243	Stores Saved Pseudo-TCL Queries

Database Table Name	Windows File Name	Function
SOIL_TYPES	REV42552	Soil Types data
SPECIES	REV41110	Stores lists of species
TEMP_SORTFILE	REV41275	Temporary sort file
VQF_COLLECTIONS	REV41327	VQF Special Collections
VQF_TOPICS	REV41330	VQF Topics

\BGMAPWIN\COORDS Folder – On Server (Each database table consists of 2 Windows Files – ending in .lk and .ov)

Windows File Name	Database Table Name	Function
REV79000	DICT.MAP_COORDINATES	Dictionary for MAP_COORDINATES
REV79001	MAP_COORDINATES	Stores coordinates of all mapped plants
REV79027	MAP_ARCHIVE	Stores coordinates of all archived plants
REV79028	DICT.MAP_ARCHIVE	Dictionary for MAP_ARCHIVE
REV79030	!MAP_ARCHIVE	Index for MAP_ARCHIVE
REV79033	DICT.MAP_SUMMARIES	Dictionary for MAP_SUMMARIES
REV79034	MAP_SUMMARIES	Stores Map Summaries
REV79035	!MAP_SUMMARIES	Index for MAP_SUMMARIES
REV79262	!MAP_COORDINATES	Index for MAP_COORDINATES
REV79685	DICT.PROPOSED_PLANTS	Dictionary for PROPOSED_PLANTS
REV79686	PROPOSED_PLANTS	Proposed Plants
REV79689	!PROPOSED_PLANTS	Index for PROPOSED_PLANTS
REV80433	DICT.PLANTS_ADDL_INFO	Dictionary for PLANTS_ADDL_INFO
REV80434	PLANTS_ADDL_INFO	Additional data on individual plants
REV80435	!PLANTS_ADDL_INFO	Index for PLANTS_ADDL_INFO

\BGMAPWIN\GLOSSARY Folder – On Server (Each database table consists of 2 Windows Files – ending in .lk and .ov)

Windows File Name	Database Table Name	Function
REV71001	DICT.GLOSSARY	Dictionary for GLOSSARY
REV71002	GLOSSARY	Stores glossary definitions

\BGMAPWIN\Hort_Mgt Folder – On Server (Each database table consists of 2 Windows Files – ending in .lk and .ov)

Windows File Name	Database Table Name	Function
REV68000	DICT.HORT_CONTACTS	Dictionary for HORT_CONTACTS
REV68001	HORT_CONTACTS	Horticultural Contacts
REV68006	!HORT_CONTACTS	Index for HORT_CONTACTS
REV68002	DICT.HORT_MAINT_TASKS	Dictionary for HORT_MAINT_TASKS
REV68003	HORT_MAINT_TASKS	Horticultural Tasks
REV68007	! HORT_MAINT_TASKS	Index for HORT_MAINT_TASKS
REV68004	DICT.HORT_WORKORDERS	Dictionary for HORT_WORKORDERS
REV68005	HORT_WORKORDERS	Horticultural Work Orders
REV68006	! HORT_WORKORDERS	Index for HORT_WORKORDERS

\BGMAPWIN\OINSIGHT Folder – On Server

This folder and its sub-folders contain all of the OpenInsight executable and support files.

\BGMAPWIN\PLANTPIX Folder – On Server

This folder can be used to store plant images.

\BGMAPWIN\TOTALSTA Folder – On Server (used only with the Total Station Interface, GPS Interface, GN3 or Garden NotepadClassic)

Windows File Name	Database Table Name	Function
REV66004	DICT.TS_FIELD_DATA	Dictionary for TS_FIELD_DATS
REV66005	TS_FIELD_DATA	Converted Field Data
REV66007	TS_CONVERT_ERRORS	Temporary storage of errors in field data
REV66009	DICT.TS_CONVERT_ERRORS	Dictionary for TS_CONVERT_ERRORS
REV66052	!TS_FIELD_DATA	Index for TS_FIELD_DATA

\BGMAPWIN\VQF Folder – On Server

File Name	Function
COMPOSED.BMP	Display image - "Your map is being composed"
LOGO.BMP	Institution's Logo for Home Page (must be 90 pixels x 90 pixels)

Master List of Fields for Plant List Formats

Field Description	Field Name
Accession date	ACC_DT
ACCESSIONS User Field 1	ACCESSIONS_USER1
ACCESSIONS User Field 2	ACCESSIONS_USER2

Field Description	Field Name
ACCESSIONS User Field 4	ACCESSIONS_USER4
ACCESSIONS User Field 5	ACCESSIONS_USER5
Altitude where collected in ft.	ELEVATION_IN_FT
Altitude where collected in meters	ELEVATION_IN_METERS
Appraised Value, calculated from DBH	APPRAISED_VALUE
BG-BASE Coordinates	BGBASE_COORDS
Check Date and By, most recent	CHECK_DT_AND_BY
Check date, most recent	CURRENT_CHECK_DT
Check Note	CHECK_NOTE
Checked By (Name of Person)	CHECK_BY
Chromosome number, from PLANTS file	CHROM_NUM
Collection Date	COLL_DT
Collector's name	COLL_NAME
Collector's number	COLL_NUM
Common name	COMMON_NAME
Common name, primary	COMMON_NAME_PRIMARY
Condition, current	CURRENT_CONDITION
Coordinates, rounded to nearest unit	COORDS_ROUNDED
Country of origin	COUNTRY_FULL
Country of origin	ISO_FULL
Critical Root Zone, radius in map units	CRZ
Cultivar name (using all lower case letters)	CULTIVAR_LC
Curator's comments	CURATOR_COMMENTS
Death, cause of (code)	DIE_WHY_CODE
Death, cause of (text)	DIE_WHY
Death, date of	DIE_DT
Description	ACCESSIONS_USER3
Description, Botanical (scientific)	DESCRIPTION
Description, catalog (non-scientific)	CATALOG_DESC
Diagnostic Characteristics	DIAGNOSTIC_CHAR
Diameter at breast height in cm., current	CURRENT_DBH_IN_CM
Diameter at breast height in cm., ultimate	ULTIMATE_DBH_IN_CM
Diameter at breast height in inches, current	CURRENT_DBH_IN_INCHES
Diameter at breast height in inches, ultimate	ULTIMATE_DBH_IN_INCHES
Diseases of plant, most recent	CURRENT_DISEASES
Elevation, current (Z coordinate)	PLOCZ
Enlarged Area, name of area plant is in	ENLARGED_AREA_NAME
Family common name	FAMILY_COMMON
Family common name, followed by word "Family"	FAMILY_COMMON_FORM
Family, scientific name	FAMILY
Flower color	FL_COLOR_FULL
Flower color descriptive text	FL_COLOR_NOTE

Field Description	Field Name
Flowering beginning week	FL_BEG_WK_FULL
Flowering ending week	FL_END_WK_FULL
Flowering peak week	FL_PEAK_WK_FULL
Flowers, all info combined	FLOWER_ALLINFO_FULL
Foliage color	LEAF_COLOR_FULL
Fruit color	FR_COLOR_FULL
Fruit color descriptive text	FR_COLOR_NOTE
Fruit, all info combined	FR_ALLINFO_FULL
Fruiting beginning week	FR_BEG_WK_FULL
Fruiting ending week	FR_END_WK_FULL
Fruiting peak week	FR_PEAK_WK_FULL
Garden Area (from PLANTS file)	GARDEN_AREA
Group Name	GROUP_NAME
Growth Form	GROWTH_FORM_FULL
Habit of plant (code)	HABIT
Habitat where collected (free text)	HABITAT
Hardiness rating, RHS	RHS_HARDINESS
Hardiness zone, Arnold Arboretum	HARDI_ZONE_ARNOLD
Hardiness zone, EGF	HARDI_ZONE_EGF
Hardiness zone, USDA	HARDI_ZONE_USDA
Hardiness zone range, USDA	HARDI_ZONE_RANGE_USDA
Height in feet, current	CURRENT_HEIGHT_IN_FT
Height in feet, ultimate	ULTIMATE_HEIGHT_IN_FT
Height in meters, current	CURRENT_HEIGHT_IN_METERS
Height in meters, ultimate	ULTIMATE_HEIGHT_IN_METERS
Hort Tasks With Descriptions	HORT_TASKS_FULL
Hybridizer	HYBRIDIZER
Hybridizer, year	HYBRIDIZER_YR
Image Thumbnail (for plant)	THUMBNAIL
Image Thumbnail (for taxon)	THUMBNAIL_TAXON
Interesting facts about this plant	INTERESTING_FACTS
Introducer	INTRODUCER
Introducer, year	INTRODUCER_YR
Inventory Sequence Number	INV_SEQ_NUM
Justification for Accessioning	JUSTIF_FULL
Justification, staff person	JUSTIF_STAFF
Keywords (from PLANTS file)	KEYWORD
Label condition (code)	LABEL_COND
Labels, notes on each type needed	LABEL_NEED_NOTE
Labels, number of each type needed	LABEL_NEED_NUM
Labels, type(s) needed (code)	LABEL_NEED_TYPE
Latitude where collected	LATITUDE
Lineage number	LIN_NUM

Field Description	Field Name
Leaf Type, deciduous or evergreen	DECID_FULL
Lineage Number	LIN_NUM
Locality where collected	LOCALITY
Location Group, current	LOC_GROUP_NOW_FULL
Location Group, current (code)	LOC_GROUP_NOW
Location of plant, current	LOCATION_NOW
Location rating, for tree appraisal	LOCATION_RATING
Location sensitivity (Y or blank)	LOCATION_SENSITIVE
Longitude where collected	LONGITUDE
Major Taxon	MAJOR_TAXON_FULL
Mapped (yes/no)	MAPPED
Mapped , date last	UPDATES_LAST_MAP_DT
Mapped, reason for last	MAPPED_LAST_REASON
Measured By (Name of Person)	MEASURE_BY
Measurement date, most recent	CURRENT_MEASURE_DT
Memorial Dedication Label Text	MEMORIAL_DEDIC_TEXT
Memorial Donor	MEMORIAL_DONOR
Memorial in BG-BASE (yes/no)	MEMORIAL_BG_BASE
Memorial in BG-Map (yes/no)	MEMORIAL_BOOLEAN
Memorial, donor is an alumnus	MEMORIAL_DONOR_ALUMNUS
Memorial, donor year graduated	MEMORIAL_DONOR_ALUMNUS_YEAR
Memorial, honoree is an alumnus	MEMORIAL_ALUMNUS
Memorial, honoree year graduated	MEMORIAL_ALUMNUS_YEAR
Memorial, name of person	MEMORIAL_FULL
Misc. Accession Info.	MISC_ACCESSION_INFO
Misc. Plant Info.	MISC_PLANT_INFO
Name number	NAME_NUM
Number of plants, current	CURRENT_NUM_PLTS
Number of Trunks	NUM_TRUNKS
Parentage	PARENTAGE
Performance Note	PERF_NOTE
Performance Note	PERFORMANCE_NOTE
Pests currently affecting plant	CURRENT_PESTS
Pests currently affecting plant	CURRENT_PESTS
Plant source, most recent source	CURRENT_PSOURCE_SHORT
Plant source, most recent source	CURRENT_PSOURCE_SHORT
Plant source, original source	ORIG_PSOURCE_SHORT
Plant source, original source	ORIG_PSOURCE_SHORT
Planting date, most recent	CURRENT_PLANT_DT
Planting date, most recent	CURRENT_PLANT_DT
PLANTS User Field 1	PLANTS_USER1
PLANTS User Field 10	PLANTS_USER10
PLANTS User Field 2	PLANTS_USER2

Field Description	Field Name
PLANTS User Field 3	PLANTS_USER3
PLANTS User Field 4	PLANTS_USER4
PLANTS User Field 5	PLANTS_USER5
PLANTS User Field 6	PLANTS_USER6
PLANTS User Field 7	PLANTS_USER7
PLANTS User Field 8	PLANTS_USER8
PLANTS User Field 9	PLANTS_USER9
Ploidy level	PLOIDY
Priority Specimen (code)	PS
Products made from this plant	PRODUCTS_MADE
Project Code (integer)	PROJECT_CODE
Project Code Description	PROJECT_CODE_FULL
Project number or account code	PROJ_NUM
Propagation beginning week	PROP_BEG_WK_FULL
Propagation ending week	PROP_END_WK_FULL
Propagation method, most recent (code)	CURRENT_INT_HOW
Propagation method, original (code)	ORIG_INT_HOW
Propagation peak week	PROP_PEAK_WK_FULL
Provenance (description)	PROV_TYPE_FULL
Provenance type	PROV_TYPE
PSOURCES User Field 1	PSOURCES_USER1
PSOURCES User Field 2	PSOURCES_USER2
PSOURCES User Field 3	PSOURCES_USER3
Quadrant containing plant, current	QUADRANT_NOW
Range where found (descriptive text)	RANGE
Received Amount	RECD_AMT
Received As (name)	RECD_AS
Received Container	RECD_CONTAINER
Received Size	RECD_SIZE
Received, date	RECD_DT
Received, how originally (code)	RECD_HOW
Reproductive status, current	CURRENT_REPRO_STAT
Restriction	RESTRICTION_FULL
Secondary ID	SECONDARY_ID
Sex, current	CURRENT_SEX
Soil Type, currently planted in	SOIL_TYPE_FULL
Source Number, Current (assigned by PSOURCE)	CURRENT_SOURCE_NUM
Source Number, Original (assigned by PSOURCE)	ORIG_SOURCE_NUM
Source type (code)	SOURCE_TYPE
Special Characteristics (from ACCESSIONS file)	SPEC_ACHARS_ALL
Special Characteristics (from ACCESSIONS file), notes on	SPEC_ACHARS_NOTE
Special Characteristics (from NAMES file)	SPEC_CHARS_ALL

Field Description	Field Name
Special Characteristics (from PLANTS file)	SPEC_PCHARS_ALL
Special Characteristics (from PLANTS file), notes on	SPEC_PCHARS_NOTE
Spread in feet, current (syn. "Canopy")	CURRENT_CIRCUM_IN_FT
Special Treatments	SPEC_TREATMENT_FULL
Spread in feet, ultimate (syn. "Canopy")	ULTIMATE_SPREAD_IN_FT
Spread in meters, current (syn. "Canopy")	CURRENT_CIRCUM_IN_METERS
Spread in meters, ultimate (Syn. "Canopy")	ULTIMATE_SPREAD_IN_METERS
Stem Color	STEM_COLOR_FULL
Sub-Country (usually state or province)	SUB_CNT1
Sub-Sub-Country (usually county or district)	SUB_CNT2
Sunlight Requirements	SUN_FULL
Survey Date, Last, by Total Station or GPS	SURVEY_DATE_LAST
Survey Dates, by Total Station or GPS	SURVEY_DATES_ALL
Tree Hazard, Consequences of Hitting Target, All	HAZARD_CONSEQ_FULL_HTML
Tree Hazard, Current Note	HAZARD_NOTE_CURRENT
Tree Hazard, Current Rating	HAZARD_RATING_CURRENT_FULL
Tree Hazard, Current Recommended Action	HAZARD_ACTION_CURRENT
Tree Hazard, Date Last Noted	HAZARD_CURRENT_DT
Tree Hazard, Date Noted, All	HAZARD_DATE_HTML
Tree Hazard, Name of Staff Last Noting	HAZARD_BY_FULL_CURRENT
Tree Hazard, Name of Staff Noting, All	HAZARD_BY_FULL_HTML
Tree Hazard, Note, All	HAZARD_NOTE_HTML
Tree Hazard, Probability of Failure, All	HAZARD_FAILPROB_FULL_HTML
Tree Hazard, Probability of Hitting Target, All	HAZARD_TGTPROB_FULL_HTML
Tree Hazard, Rating, All	HAZARD_RATING_FULL_HTML
Tree Hazard, Recommended Action, All	HAZARD_ACTION_HTML
Tree Hazard, Current Score	HAZARD_SCORE_CURRENT
Tree Hazard, Date Last Noted	HAZARD_ CURRENT_DT
Tree Hazard, Date Noted, All	HAZARD_DATE_HTML
Tree Hazard, Name of Staff Last Noting	HAZARD_ BY_FULL_CURRENT
Tree Hazard, Name of Staff Noting, All	HAZARD_ BY_FULL_HTML
Verification By (Name of Person)	VERI_BY
Verification Level (integer)	VERI_LEVEL
Western climate zone	WESTERN_CZ

MAP_COORDINATES Table Dictionary Listing:

The MAP_COORDINATES table is the primary database table containing all mapped plants.

Description	Field Name	Data Pos.	Data (F) or Symbolic	Data Type
Abbreviated name	ABBREV_NAME		S	VARCHAR
Accession date	ACC_DT		S	DATE
Accession date, numeric – for search purposes	ACC_COMP1_DATE		S	INTEGER
Accession number text coordinates	ACCLOC	4	F	VARCHAR
Accession number with qualifier	@ID	0	F	VARCHAR
Accession number without qualifier	ACC_NUM	0	F	VARCHAR
Accession number, text X coordinate	ACCLOC_X		S	FLOAT
Accession number, text X coordinate (corrected for enlarged area)	ACCLOC_X_ACTUAL		S	FLOAT
Accession number, text Y coordinate	ACCLOC_Y		S	FLOAT
Accession number, text Y coordinate (corrected for enlarged area)	ACCLOC_Y_ACTUAL		S	FLOAT
Accession number, with qualifier	ACCNUM_WITH_QUAL		S	VARCHAR
Accessions - User Field 1	ACCESSIONS_USER1		S	VARCHAR
Accessions - User Field 2	ACCESSIONS_USER2		S	VARCHAR
Accessions - User Field 3	ACCESSIONS_USER3		S	VARCHAR
Accessions - User Field 4	ACCESSIONS_USER4		S	VARCHAR
Accessions - User Field 5	ACCESSIONS_USER5		S	VARCHAR
Alive (1 or 0)	ALIVE		S	INTEGER
Appraised Value	APPRAISED_VALUE		S	VARCHAR
Asymmetric canopy definition coordinates	ASYM_CANOPY_DEF	12	F	VARCHAR
Asymmetric canopy maximum length through trunk	ASYM_CANOPY_MAX_LENGTH	13	F	FLOAT
Check date last, date or month converted to year	CURRENT_CHECK_YEAR		S	INTEGER
Check date, month or year converted to date	CONV_CHECK_DT		S	DATE
Check date, most recent	CURRENT_CHECK_DT		S	DATE
Check date, most recent, numeric for search purposes	CURRENT_CHECK_COMP1_DATE		S	INTEGER
Check date, most recent, qualifier (day, month, year)	CURRENT_CHECK_DT_QUAL		S	CHAR
Check note	CHECK_NOTE		S	VARCHAR
Check note, most recent	CURRENT_CHECK_NOTE		S	VARCHAR
Checked by	CHECK_BY		S	VARCHAR
Chromosome number	CHROM_NUM		S	VARCHAR
Circumference in feet, current	CURRENT_CIRCUM_IN_FT		S	FLOAT
Circumference in meters, current	CURRENT_CIRCUM_IN_METERS		S	FLOAT
Collection date	COLL_DT		S	DATE
Collection number	COLL_NUM		S	INTEGER
Collector's name	COLL_NAME		S	VARCHAR

Description	Field Name	Data Pos.	Data (F) or Symbolic	Data Type
Common Name	COMMON_NAME		S	VARCHAR
Common Name (scientific name if no common name)	COMMON_OR_SCI_NAME		S	VARCHAR
Common name, primary	COMMON_1		S	VARCHAR
Common name, primary	COMMON_NAME_PRIMARY		S	VARCHAR
Condition code, current	CURRENT_CONDITION		S	CHAR
Coordinates in Holden Arboretum format	COORDS_HOLDEN		S	VARCHAR
Coordinates of plant, as stored in *BG-BASE* PLANTS table	BGBASE_COORDS		S	VARCHAR
Coordinates, rounded to integers	COORDS_ROUNDED		S	VARCHAR
Country of origin, code	COUNTRY		S	CHAR(2)
Country of origin, full name	COUNTRY_FULL		S	VARCHAR
Country where collected	ISO_FULL		S	VARCHAR
Country where collected, ISO code	ISO_CODE		S	CHAR(2)
Critical root zone, radius in map units	CRZ		S	FLOAT
Cultivar	CULTIVAR_LC		S	VARCHAR
Curator's Comments	CURATOR_COMMENTS		S	VARCHAR
Date last measured	CURRENT_MEASURE_DT		S	DATE
DBH in centimeters, current	CURRENT_DBH_IN_CM		S	FLOAT
DBH in centimeters, ultimate	ULTIMATE_DBH_IN_CM		S	FLOAT
DBH in inches, current	CURRENT_DBH_IN_INCHES		S	FLOAT
DBH in inches, ultimate	ULTIMATE_DBH_IN_INCHES		S	FLOAT
DBH, current, with units	CURRENT_DBH		S	VARCHAR
DBH, ultimate range	ULTIMATE_DBH_RANGE		S	VARCHAR
Deciduous or evergreen	DECID		S	VARCHAR
Description, botanical	DESCRIPTION		S	VARCHAR
Description, catalog	CATALOG_DESC		S	VARCHAR
Diagnostic Characteristics	DIAG_CHAR		S	VARCHAR
Died why, code	DIE_WHY_CODE		S	CHAR
Died, date	DIE_DT		S	DATE
Died, date, season or month converted to date	CONV_DIE_DT		S	DATE
Died, why, description of	DIE_WHY		S	VARCHAR
Diseases, current	CURRENT_DISEASES		S	VARCHAR
Elevation collected in feet	ELEVATION_IN_FT		S	INTEGER
Elevation collected in meters	ELEVATION_IN_METERS		S	INTEGER
Enlarged area, in which plant lies	ENLARGED_AREA_NAME		S	VARCHAR
Enlarged area, is plant in (yes/no)	IN_ENLARGED_AREA		S	BOOLEAN
Excluded area, is plant in (yes/no)	IN_EXR		S	BOOLEAN
Family	FAMILY		S	VARCHAR
Family, common name of	FAMILY_COMMON		S	VARCHAR

Description	Field Name	Data Pos.	Data (F) or Symbolic	Data Type
Family, followed by common name of	FAMILY_COMMON_FORM		S	VARCHAR
Flower color, code	FL_COLOR		S	CHAR(2)
Flower color, description	FL_COLOR_FULL		S	VARCHAR
Flower color, note on	FL_COLOR_NOTE		S	VARCHAR
Flowering, all information about	FLOWER_ALLINFO_FULL		S	VARCHAR
Flowering, beginning week, dates	FL_BEG_WK_FULL		S	VARCHAR
Flowering, beginning week, number	FL_BEG_WK		S	INTEGER
Flowering, ending week, dates	FL_END_WK_FULL		S	VARCHAR
Flowering, ending week, number	FL_END_WK		S	INTEGER
Flowering, peak week, dates	FL_PEAK_WK_FULL		S	VARCHAR
Flowering, peak week, number	FL_PEAK_WK		S	INTEGER
Fruit color, code	FR_COLOR		S	CHAR(2)
Fruit color, description	FR_COLOR_FULL		S	VARCHAR
Fruit color, note on	FR_COLOR_NOTE		S	VARCHAR
Fruiting, all information about	FRUIT_ALLINFO_FULL		S	VARCHAR
Fruiting, beginning week, dates	FR_BEG_WK_FULL		S	VARCHAR
Fruiting, beginning week, number	FR_BEG_WK		S	INTEGER
Fruiting, ending week, dates	FR_END_WK_FULL		S	VARCHAR
Fruiting, ending week, number	FR_END_WK		S	INTEGER
Fruiting, peak week, dates	FR_PEAK_WK_FULL		S	VARCHAR
Fruiting, peak week, number	FR_PEAK_WK		S	INTEGER
Garden area, code	GARDEN_AREA		S	VARCHAR
Genus	GENUS		S	VARCHAR
Group Outline "No Curve" option (yes/no)	NO_CURVE	16	F	BOOLEAN
Group outline, coordinates of	GRPTS	6	F	VARCHAR
Growth Form	GROWTH_FORM_FULL		S	VARCHAR
Habit, code	HABIT		S	CHAR(2)
Habitat where collected	HABITAT		S	VARCHAR
Hardiness zone, Arnold Arboretum	HARDI_ZONE_ARNOLD		S	INTEGER
Hardiness zone, EGF	HARDI_ZONE_EGF		S	CHAR(2)
Hardiness zone, EGF, decimal	HARDI_ZONE_EGF_DECIMAL		S	INTEGER
Hardiness zone, RHS	RHS_HARDINESS		S	CHAR(2)
Hardiness zone, Sunset Western Climate Zone	WESTERN_CZ		S	INTEGER
Hardiness zone, USDA	HARDI_ZONE_USDA		S	INTEGER
Hardiness zone range, USDA	HARDI_ZONE_RANGE_USDA		S	VARCHAR
Hardiness, formatted for VQF	HARDINESS_VQF		S	VARCHAR
Height in feet, current	CURRENT_HEIGHT_IN_FT		S	FLOAT
Height in feet, ultimate	ULTIMATE_HEIGHT_IN_FT		S	FLOAT

Description	Field Name	Data Pos.	Data (F) or Symbolic	Data Type
Height in meters, current	CURRENT_HEIGHT_IN_METERS		S	FLOAT
Height in meters, ultimate	ULTIMATE_HEIGHT_IN_METERS		S	FLOAT
Height, current, with units	CURRENT_HEIGHT		S	VARCHAR
Hort. tasks completed	HORT_TASKS_COMPLETE		S	VARCHAR
Hort. tasks completed, code	HORT_TASK_CODES_COMPLETE		S	VARCHAR
Hort. tasks completed, description	HORT_TASKS_FULL_COMPLETE		S	VARCHAR
Hort. tasks incomplete	HORT_TASKS_INCOMPLETE		S	VARCHAR
Hort. tasks incomplete, code	HORT_TASK_CODES_INCOMPLETE		S	VARCHAR
Hort. tasks incomplete, description	HORT_TASKS_FULL_INCOMPLETE		S	VARCHAR
Images for this accession (yes/no)	IMAGES_ACCESSION		S	BOOLEAN
Images for this name (yes/no)	IMAGES_NAME		S	BOOLEAN
Images for this plant (yes/no)	IMAGES_PLANT		S	BOOLEAN
Images, are any entered (yes/no)	IMAGES_ANY		S	BOOLEAN
Inactive plant ("yes" or "no" spelled out)	INACTIVE_FULL		S	VARCHAR
Inactive plant (yes/no)	INACTIVE	23	F	BOOLEAN
Interesting fact about this plant	INTERESTING_FACTS		S	VARCHAR
Inventory sequence number	INV_SEQ_NUM		S	INTEGER
Justification for collection	JUSTIF_FULL		S	VARCHAR
Justification for collection, person evaluating	JUSTIF_STAFF		S	VARCHAR
Keyword	KEYWORD		S	VARCHAR
Keywords, all	KEYWORD_ALL		S	VARCHAR
Label condition	LABEL_COND		S	CHAR
Labels needed, all	LABEL_NEED_TYPE_ALL		S	VARCHAR
Labels needed, note on	LABEL_NEED_NOTE		S	CHAR
Labels needed, quantity	LABEL_NEED_NUM		S	CHAR
Labels needed, type, code	LABEL_NEED_TYPE		S	CHAR
Latitude where collected	LATITUDE		S	INTEGER
Latitude where collected, decimal degrees	LATITUDE_DECIMAL		S	FLOAT
Leader line coordinates	LDRPTS	7	F	VARCHAR
Leader line coordinates (corrected for enlarged area)	LDRPTS_ACTUAL		S	VARCHAR
Leaf color, code	LEAF_COLOR		S	VARCHAR
Leaf color, description	LEAF_COLOR_FULL		S	VARCHAR
Leaf color, note on	LEAF_COLOR_NOTE		S	VARCHAR
Lineage number	LIN_NUM		S	VARCHAR
Locality where collected	LOCALITY		S	VARCHAR
Location group, current, code	LOCATION_GROUP_NOW		S	VARCHAR
Location group, current, description	LOCATION_GROUP_NOW_FULL		S	VARCHAR
Location in *BG-BASE*, changed since last mapping (yes/no)	LAST_MAP_LOCATION_CHANGED		S	BOOLEAN

Description	Field Name	Data Pos.	Data (F) or Symbolic	Data Type
Location Sensitive (Y = yes)	LOCATION_SENSITIVE		S	CHAR
Location, all (*BG-BASE* location)	LOCATION		S	VARCHAR
Location, current (*BG-BASE* location)	LOCATION_NOW		S	VARCHAR
Location, current, description of	LOCATION_NOW_FULL		S	VARCHAR
Longitude where collected	LONGITUDE		S	INTEGER
Longitude where collected, decimal degrees	LONGITUDE_DECIMAL		S	FLOAT
Major taxon, code	MAJOR_TAXON		S	VARCHAR
Major taxon, description	MAJOR_TAXON_FULL		S	VARCHAR
Mapped (yes/no – always Y)	MAPPED		S	CHAR
Measured by, last	MEASURE_BY		S	VARCHAR
Measured, date last	CURRENT_NUM_PLTS		S	INTEGER
Measured, date last, season or month converted to date	CONV_MEASURE_DT		S	DATE
Memorial (1 or 0)	MEMORIAL		S	INTEGER
Memorial (yes/no)	MEMORIAL_BOOLEAN		S	BOOLEAN
Memorial, alternate name	MEMORIAL_ALTERNATE_NAME	26	F	VARCHAR
Memorial, alumnus (yes/no)	MEMORIAL_ALUMNUS	28	F	BOOLEAN
Memorial, comments on	MEMORIAL_COMMENTS	27	F	VARCHAR
Memorial, dedication text in *BG-BASE*	MEMORIAL_DEDIC_TEXT		S	VARCHAR
Memorial, donor formatted name	MEMORIAL_DONOR_FORM		S	VARCHAR
Memorial, donor is alumnus (yes/no)	MEMORIAL_DONOR_ALUMNUS	30	F	BOOLEAN
Memorial, donor name formatted for search	MEMORIAL_DONOR_SEARCH		S	VARCHAR
Memorial, donor, name	MEMORIAL_DONOR	24	F	VARCHAR
Memorial, in *BG-BASE* (yes/no)	MEMORIAL_BGBASE		S	BOOLEAN
Memorial, year donor graduated	MEMORIAL_DONOR_ALUMNUS_YEAR	31	F	INTEGER
Memorial, year graduated	MEMORIAL_ALUMNUS_YEAR	29	F	INTEGER
Memory of, description	MEMORIAL_DESC	22	F	VARCHAR
Memory of, first name	MEMORIAL_FIRST	18	F	VARCHAR
Memory of, full name	MEMORIAL_FORM		S	VARCHAR
Memory of, full name	MEMORIAL_FULL		S	VARCHAR
Memory of, full name plus donor	MEMORIAL_NAME_AND_DONOR		S	VARCHAR
Memory of, last name	MEMORIAL_LAST	17	F	VARCHAR
Memory of, middle name	MEMORIAL_MIDDLE	20	F	VARCHAR
Memory of, name formatted for search	MEMORIAL_SEARCH		S	VARCHAR
Memory of, suffix	MEMORIAL_SUFFIX	21	F	VARCHAR
Memory of, title	MEMORIAL_TITLE	19	F	VARCHAR
Miscellaneous Accession information	MISC_ACCESSION_INFO		S	VARCHAR
Miscellaneous Plant information	MISC_PLANT_INFO		S	VARCHAR
Name number	NAME_NUM		S	INTEGER

Description	Field Name	Data Pos.	Data (F) or Symbolic	Data Type
Name, formatted for sorting	SORT_NAME		S	VARCHAR
Name, full	NAME		S	VARCHAR
Name, show on map (yes/no)	SHOW_NAME		S	BOOLEAN
Name, text coordinates	NAMLOC	5	F	VARCHAR
Name, text X coordinate	NAMLOC_X		S	FLOAT
Name, text X coordinate (corrected for enlarged area)	NAMLOC_X_ACTUAL		S	FLOAT
Name, text Y coordinate	NAMLOC_Y		S	FLOAT
Name, text Y coordinate (corrected for enlarged area)	NAMLOC_Y_ACTUAL		S	FLOAT
Number of trunks	NUM_TRUNKS		S	VARCHAR
Number of trunks, numeric value	NUM_TRUNKS_NUMERIC		S	INTEGER
Original map record, (single/group)	ORIGINAL_QTY		S	VARCHAR
Original map record, all data	ORIGINAL	10	F	VARCHAR
Original map record, coordinate	ORIGINAL_COORDS		S	VARCHAR
Original map record, date of	ORIGINAL_DT		S	DATE
Original map record, mapped by	ORIGINAL_BY		S	VARCHAR
Original map record, quadrant	ORIGINAL_QUAD		S	VARCHAR
Performance note	PERF_NOTE		S	VARCHAR
Pests, current	CURRENT_PESTS		S	VARCHAR
Plant Source, current, ID number	CURRENT_PSOURCE_NO		S	INTEGER
Plant Source, current, short name	CURRENT_PSOURCE_SHORT		S	VARCHAR
Plant source, original, ID number	ORIG_PSOURCE_NO		S	INTEGER
Plant source, original, short name	ORIG_PSOURCE_SHORT		S	VARCHAR
Planted or moved , date last	CURRENT_PLANT_DT		S	DATE
Planted or moved, date last, numeric form for search purposes	CURRENT_PLANT_COMP1_DATE		S	INTEGER
Planted, date last, season or month converted to date	CONV_PLANT_DT		S	DATE
PLANTS User Field 1	PLANTS_USER1		S	VARCHAR
PLANTS User Field 10	PLANTS_USER10		S	VARCHAR
PLANTS User Field 2	PLANTS_USER2		S	VARCHAR
PLANTS User Field 3	PLANTS_USER3		S	VARCHAR
PLANTS User Field 4	PLANTS_USER4		S	VARCHAR
PLANTS User Field 5	PLANTS_USER5		S	VARCHAR
PLANTS User Field 6	PLANTS_USER6		S	VARCHAR
PLANTS User Field 7	PLANTS_USER7		S	VARCHAR
PLANTS User Field 8	PLANTS_USER8		S	VARCHAR
PLANTS User Field 9	PLANTS_USER9		S	VARCHAR
Ploidy	PLOIDY		S	INTEGER
Priority level	PS		S	VARCHAR

Description	Field Name	Data Pos.	Data (F) or Symbolic	Data Type
Products made from this plant	PRODUCTS_MADE		S	VARCHAR
Project code	PROJECT_CODE		S	VARCHAR
Project code, description	PROJECT_CODE_FULL		S	VARCHAR
Project number	PROJ_NUM		S	VARCHAR
Propagated how, last, code	CURRENT_INT_HOW		S	CHAR(2)
Propagated how, originally, code	ORIG_INT_HOW		S	CHAR(2)
Propagation, beginning week, dates	PROP_BEG_WK_FULL		S	VARCHAR
Propagation, beginning week, number	PROP_BEG_WK		S	INTEGER
Propagation, ending week, dates	PROP_END_WK_FULL		S	VARCHAR
Propagation, ending week, number	PROP_END_WK		S	INTEGER
Propagation, peak week, dates	PROP_PEAK_WK_FULL		S	VARCHAR
Propagation, peak week, number	PROP_PEAK_WK		S	INTEGER
Provenance type, code	PROV_TYPE		S	CHAR
Provenance type, description	PROV_TYPE_FULL		S	VARCHAR
PSOURCES User Field 1	PSOURCES_USER1		S	VARCHAR
PSOURCES User Field 2	PSOURCES_USER2		S	VARCHAR
PSOURCES User Field 3	PSOURCES_USER3		S	VARCHAR
Quadrant in which plant is mapped	CALC_QUAD		S	VARCHAR
Quadrant, current (for Holden Arboretum)	QUADRANT_NOW_HDN		S	VARCHAR
Quadrant, current, from *BG-BASE* PLANTS file	QUADRANT_NOW		S	VARCHAR
Qualifier, for accession number	QUAL	0	F	VARCHAR
Range where found	RANGE		S	VARCHAR
Received, container	RECD_CONTAINER		S	VARCHAR
Received, amount	RECD_AMT		S	VARCHAR
Received, as	RECD_AS		S	VARCHAR
Received, date	RECD_DT		S	DATE
Received, how, code	RECD_HOW		S	CHAR(2)
Received, size	RECD_SIZE		S	VARCHAR
Reproductive status, code	CURRENT_REPRO_STAT		S	CHAR
Restriction, description	RESTRICTION_FULL		S	VARCHAR
Rotation angle of text	ROTATION	25	F	FLOAT
Secondary ID	SECONDARY_ID		S	VARCHAR
Sex, current, code	CURRENT_SEX		S	CHAR
Single or Group (S or G)	SINGLE_OR_GROUP	1	F	CHAR
Soil Type, code	SOIL_TYPE		S	VARCHAR
Soil Type, description	SOIL_TYPE_FULL		S	VARCHAR
Source type, code	SOURCE_TYPE		S	CHAR
Source, current, ID number	CURRENT_SOURCE_NUM		S	VARCHAR

Description	Field Name	Data Pos.	Data (F) or Symbolic	Data Type
Source, original, ID number	ORIG_SOURCE_NUM		S	VARCHAR
Special characteristics, description of, formatted for VQF	SPEC_CHAR_FULL_VQF		S	VARCHAR
Special characteristics, from ACCESSIONS file, note on	SPEC_ACHARS_NOTE		S	VARCHAR
Special characteristics, from ACCESSIONS file, note on	SPEC_CHARS_ACC_NOTE		S	VARCHAR
Special characteristics, from PLANTS file, note on	SPEC_PCHARS_NOTE		S	VARCHAR
Special characteristics, from PLANTS file, note on	SPEC_CHARS_PL_NOTE		S	VARCHAR
Special characteristics, from ACCESSIONS file, description	SPEC_ACHARS_ALL		S	VARCHAR
Special characteristics, from ACCESSIONS file, description	SPEC_CHARS_ACC_FULL		S	VARCHAR
Special characteristics, from NAMES file, codes	SPEC_CHARS		S	VARCHAR
Special characteristics, from NAMES file, description	SPEC_CHARS_ALL		S	VARCHAR
Special characteristics, from NAMES file, description	SPEC_CHARS _FULL		S	VARCHAR
Special characteristics, from NAMES file, description	SPEC_CHARS_FULL		S	VARCHAR
Special characteristics, from NAMES file, for VQF	SPEC_CHARS_FULL_VQF		S	VARCHAR
Special characteristics, from PLANTS file, description	SPEC_PCHARS_ALL		S	VARCHAR
Special characteristics, from PLANTS file, description	SPEC_CHARS_PL_FULL		S	VARCHAR
Species	SPECIES		S	VARCHAR
Spread in feet, current	CURRENT_SPREAD_IN_FT		S	FLOAT
Spread in feet, ultimate	ULTIMATE_SPREAD_IN_FT		S	FLOAT
Spread in meters, current	CURRENT_SPREAD_IN_METERS		S	FLOAT
Spread in meters, ultimate	ULTIMATE_SPREAD_IN_METERS		S	FLOAT
Spread, current, with units	CURRENT_SPREAD		S	VARCHAR
Spread, ultimate range	ULTIMATE_SPREAD_RANGE		S	VARCHAR
Structural root zone radius in map units	SRZ		S	VARCHAR
Sub-Country where collected	SUB_CNT1		S	VARCHAR
Sub-Sub-Country where collected	SUB_CNT2		S	VARCHAR
Sunlight requirements, codes	SUN		S	VARCHAR
Sunlight requirements, description	SUN_FULL		S	VARCHAR
Survey date, last, total station or GPS	SURVEY_DATE_LAST		S	VARCHAR
Survey date, last, total station or GPS	SURVEY_LAST_DT		S	DATE
Survey date, last, total station or GPS (formatted for searching)	SURVEY_LAST_COMP1_DATE		S	INTEGER
Survey dates, all, total station or GPS	SURVEY_DATES_ALL		S	VARCHAR
Survey dates, total station or GPS, multi-value	SURVEY_DATES	11	F	DATE

Description	Field Name	Data Pos.	Data (F) or Symbolic	Data Type
Tree hazard, all dates evaluated, formatted as HTML	HAZARD_DATE_HTML		S	VARCHAR
Tree hazard, all failure potential, formatted as HTML	HAZARD_FAILURE_HTML		S	VARCHAR
Tree hazard, all notes entered, formatted as HTML	HAZARD_NOTE_HTML		S	VARCHAR
Tree hazard, all persons evaluating, formatted as HTML	HAZARD_BY_FULL_HTML		S	VARCHAR
Tree hazard, all recommended action, formatted as HTML	HAZARD_ACTION_HTML		S	VARCHAR
Tree hazard, all sizes of parts, formatted as HTML	HAZARD_SIZE_HTML		S	VARCHAR
Tree hazard, all targets, formatted as HTML	HAZARD_TARGET_HTML		S	VARCHAR
Tree hazard, all total scores entered, formatted as HTML	HAZARD_SCORE_HTML		S	VARCHAR
Tree hazard, current recommended action	HAZARD_ACTION_CURRENT		S	VARCHAR
Tree hazard, current total score	HAZARD_SCORE_CURRENT		S	INTEGER
Tree hazard, date last evaluated	HAZARD_CURRENT_DT		S	DATE
Tree hazard, last note entered	HAZARD_NOTE_CURRENT		S	VARCHAR
Tree hazard, person last evaluating	HAZARD_BY_FULL_CURRENT		S	VARCHAR
Updates to orig. map record	UPDATES	9	F	VARCHAR
Updates to orig. map record, all	UPDATES_ALL		S	VARCHAR
Updates to orig. map record, last by	UPDATES_LAST_BY		S	VARCHAR
Updates to orig. map record, last date	UPDATES_LAST_DT		S	DATE
Updates to orig. map record, last remapping *BG-BASE* location	UPDATES_LAST_MAP_LOCATION		S	VARCHAR
Updates to orig. map record, last remapping date	UPDATES_LAST_MAP_DT		S	DATE
Verification level	VERI_LEVEL		S	INTEGER
Verified by	VERI_BY		S	VARCHAR
Visitors QUICKFinder, bitmap map file name	VQF_BITMAP_FILE	14	F	VARCHAR
Visitors QUICKFinder, date bitmap map expires	VQF_BITMAP_EXPIRATION	15	F	DATE
X Coordinate of plant	PLOCX	2	F	FLOAT
X Coordinate of plant (corrected for enlarged area)	PLOCX_ACTUAL		S	FLOAT
Y Coordinate of plant	PLOCY	3	F	FLOAT
Y Coordinate of plant (corrected for enlarged area)	PLOCY_ACTUAL		S	FLOAT
Z Coordinate of plant	PLOCZ	8	F	FLOAT

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