

INDUSTRIAL HEMP

How To Include Growing Location Info With Your Application

Michigan Department of Agriculture and Rural Development

Phone: 800-292-3939 Online: www.Michigan.gov/IndustrialHemp

Industrial hemp grower registration applications must include maps and related information showing each planned hemp growing location. This guidance will help you successfully complete and submit the required growing location information with your application. This guidance does not cover all requirements found on the application – refer to the [Grower Registration Application](#) online for details.

This tutorial provides step-by-step instructions on how to obtain and provide the following information:

Growing location map(s) – Satellite view or map of growing locations showing each field, greenhouse, building, etc. where hemp will be grown, including:

- Entrances
- Boundaries
- GPS coordinates

Identify entrances to growing location, whether indoor or outdoor – Preferred entrances must be marked on maps to show entrance and exit routes to fields and indoor growing locations. These locations will often be points where hemp signage and worker-related safety information is located or they may be approved entrances based on your firm's security practices.

Location Name – The location name you chose for your growing location or lot, or the lot identification number assigned by USDA Farm Service Agency, must be recorded on your maps, and must correspond to the location name you enter on your application form. See MDARD's bulletin [FSA crop acreage reporting requirement](#) for details.

GPS latitude/longitude coordinates - Taken at the approximate center of the growing location and listed on the application in decimal degrees, out to six decimal points. If coordinates are not written on the map, they must clearly relate to the appropriate map/growing location.

Growing location size - The boundaries of each growing location must be outlined on your map(s) (outlined in marker is acceptable) with a single boundary line. The area outlined should be equal to the area recorded on the application in the square footage (indoor) or square acreage (outdoor) boxes. Do not include extraneous boundary lines (i.e., property lines, individual variety locations, etc.) on your map. Do not outline or encircle any area you do not want included in your registration.

The following pages contain step-by-step directions for mapping your growing location through Michigan's ArcGIS mapping tool. You are not required to use this tool to map your growing locations, but your application

must include all the required information described on the application form. Other possible mapping tools include Google Earth Pro (which also allows you to draw boundaries directly on the map) and Google Maps (satellite view). Screenshots from these websites can be edited through other software like Microsoft PowerPoint or Google Slides. Screenshots can even be printed and written on to add text and boundary lines. Several examples of acceptable maps can be found at the end of this tutorial. Use this tutorial to learn how to:

- Draw outlines around a growing location.
- Add labels to your growing location showing location name, size, entrances, and GPS coordinates.
- Calculate the acres (outdoor) or square footage (indoor) of a growing location.
- Find the latitude and longitude of the center of the growing location.
- Identify growing location entrances.

The above information is required to be submitted with your grower registration application.

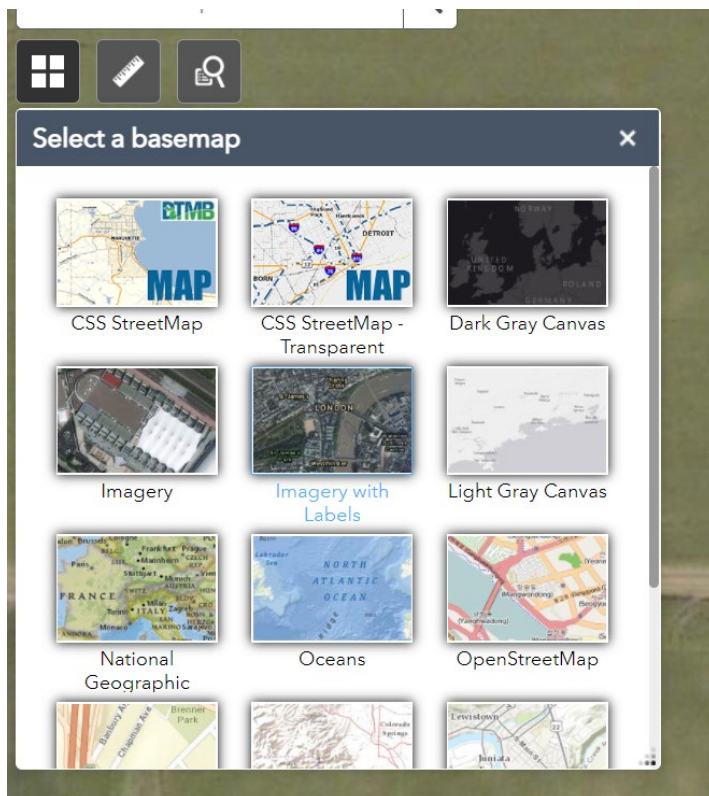
Instructions

Access mapping tool at the Michigan [ArcGIS Web Application](#).

1. CHANGE THE MAP VIEW TO SATELLITE



b) Select “imagery with labels” to switch to satellite view.



2. FIND YOUR GROWING LOCATION

a) Zoom the map in to your planned growing location by left clicking and dragging the map so it is centered on the right area of the state. Use the "+" in the upper left (or mouse wheel) to zoom in on the area until the growing location features are recognizable.

b) You can also use the "Find address or place" box in the upper left to type in the address of your growing location. Click on the correct address from the dropdown list or click the magnifying glass icon.

3. OUTLINE GROWING LOCATION



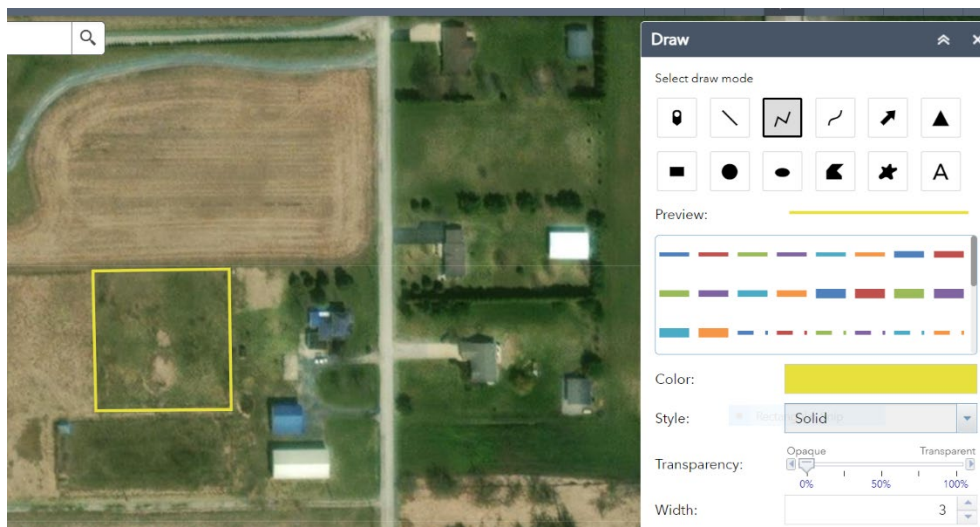
NOTE: Use the buttons at the bottom of the drawing pop-up window to undo the last text or shape added, redo an undone shape, or clear all from the screen. If all elements are cleared by mistake, bring them back by using "undo."



c) Click on the map to start drawing and keep clicking around the edge of the growing location. Double-click to finish the line once the full growing location has been outlined.

c) Repeat step 3(b) to outline each growing location – outdoor or indoor. Use a line of a different width (or color, if using a color printer) to contrast with the growing location outline.

Choose a color that contrasts well with the satellite map background. Use the up and down slider to choose a color, and then click in the large box to the left to choose the shade. If printing in black and white, choose white lines to contrast with the background.

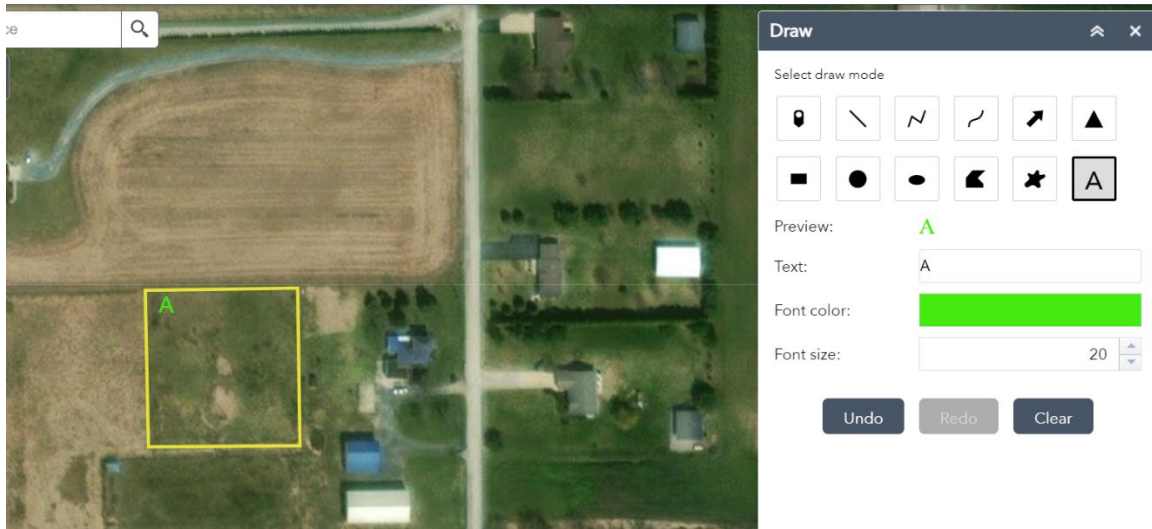


4. LABEL GROWING LOCATIONS – grower's location name/Lot ID, acreage, GPS, etc.

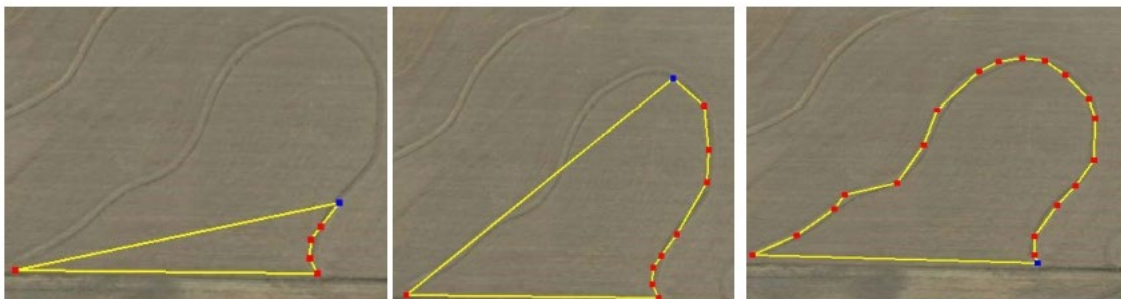


b) Type the name of a growing location in the "Text:" box. Adjust the color and font size using the box below. You will see a preview in the box above. Choose a color that will contrast with the background.

c) Click on the map where you want to place the text. If you need to resize, click "undo" and the text will disappear. Change the text size in the pop-up box, and then click on the location you want to place the text again.



Note: To create a curve, or any shape, click and place markers as you move along an exact path around the boundary line for the area you would like to register (see below). This will create your exact boundary lines and provide exact measurements, even if it is not a perfect square or straight lines.



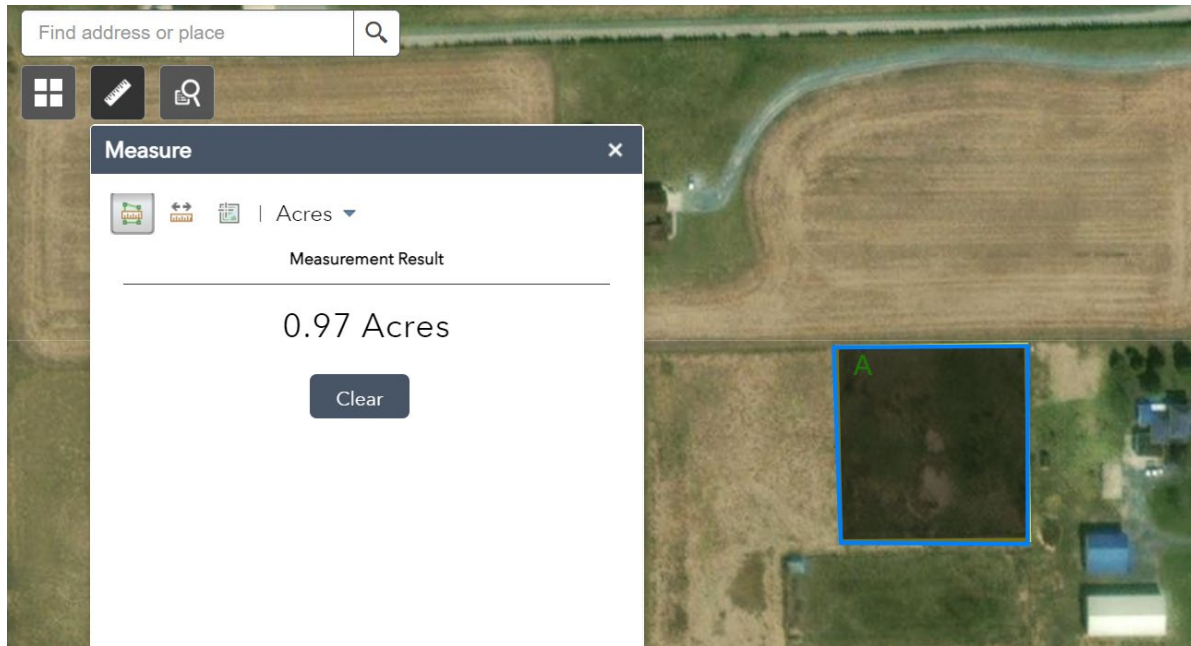
5. CALCULATE THE ACRES (OUTDOOR) OR SQUARE FEET (INDOOR) OF A GROWING LOCATION





c) In the dropdown menu, choose "Acres" for an outdoor growing location or "Sq Feet" for an indoor growing location (building, greenhouse, hoop house, etc.)

d) Click on the map along the edges of the growing location, then double-click when done. The area measurement will show in the pop-up window.



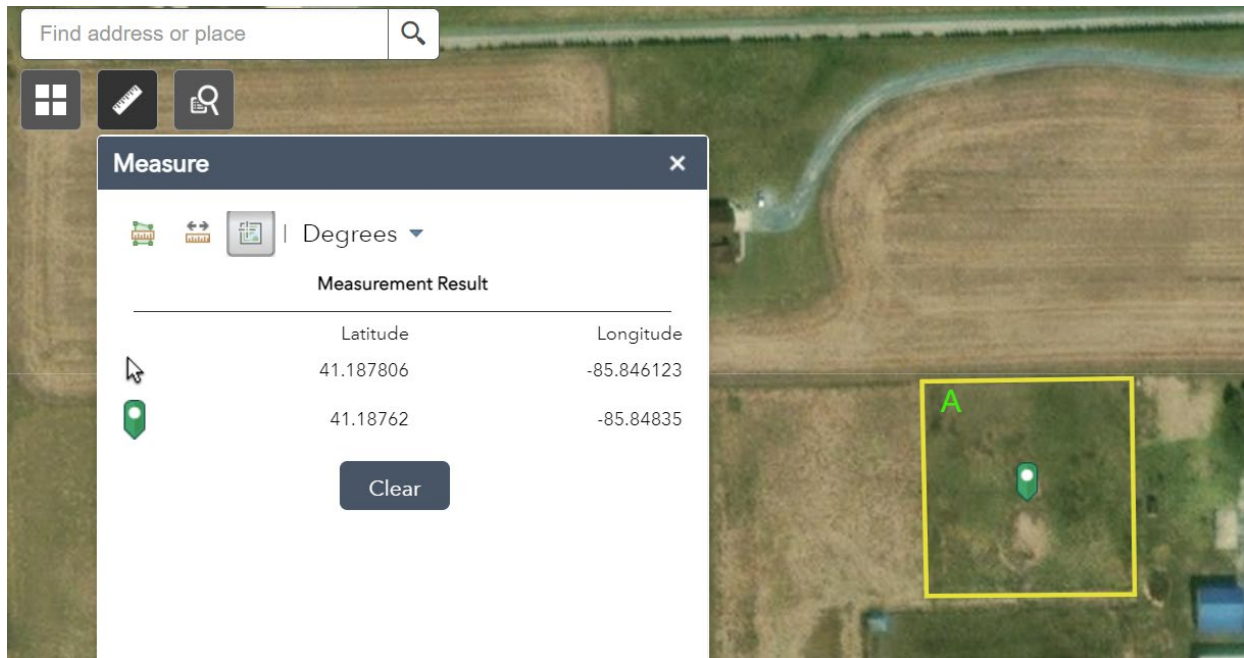
e) Record this value on the registration application in the corresponding growing location information section. This is an exact area, not a general area, so record on your application: 0.45 acres rather than estimates such as "about 0.5 acres" or "approx. 0.5 acres." The dialogue box will show the exact measurements of the boundary line you created, or you can add the information yourself (text can be handwritten or computer-generated).

6. FIND THE LATITUDE AND LONGITUDE OF GROWING LOCATIONS

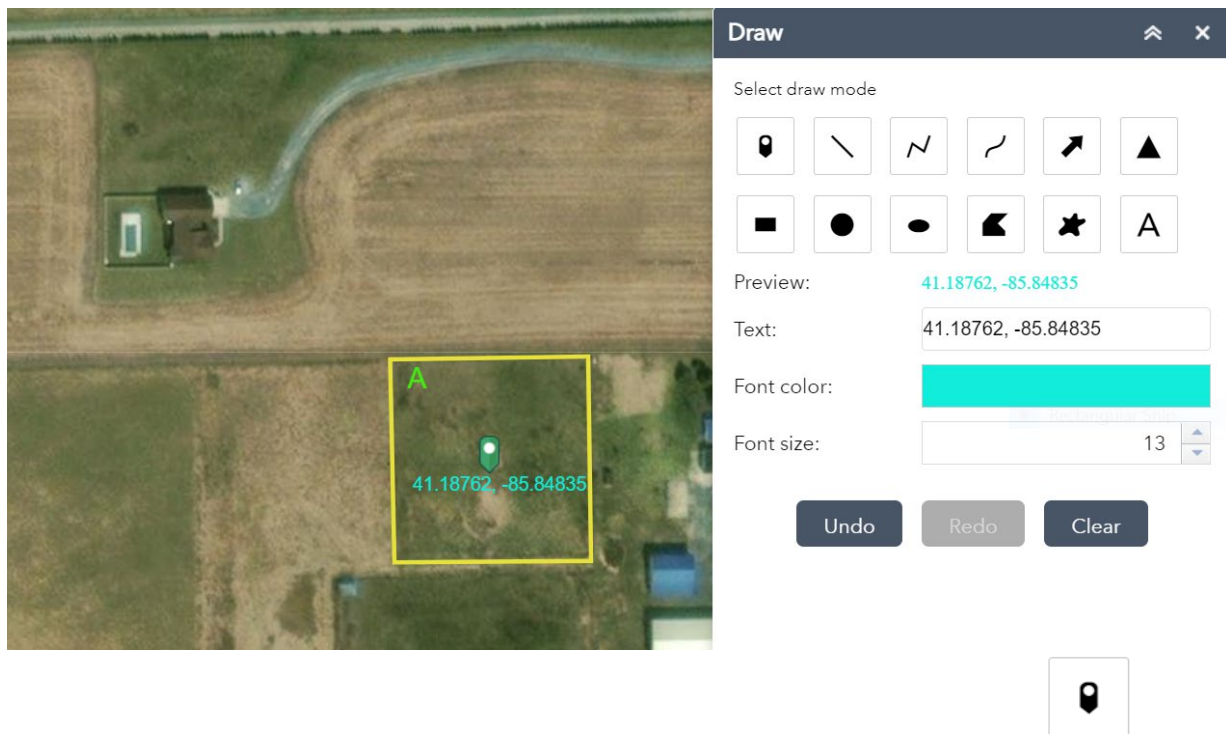


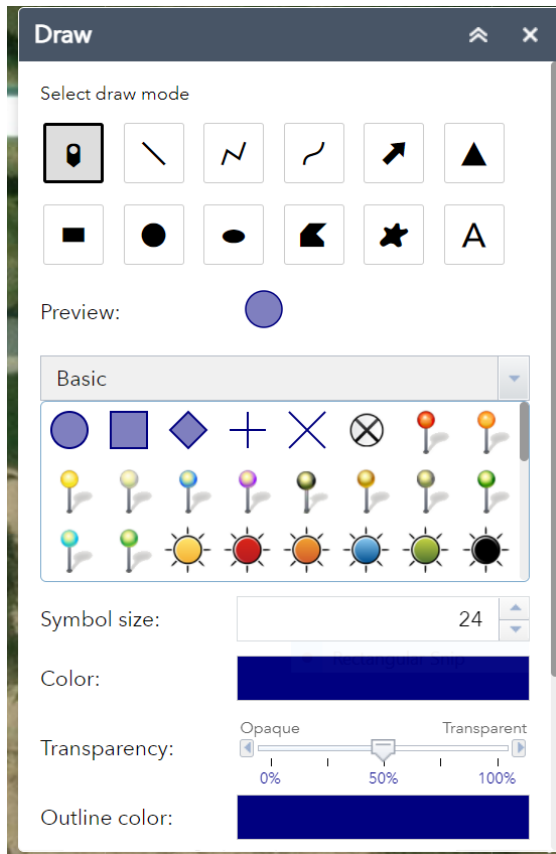
c) In the drop-down menu, choose "Degrees."

d) Click on the map in the center or your growing location. The latitude and longitude will be shown in the pop-up window.



e) Copy the coordinates onto your application for the correct growing location. Click back into the Text icon under the Drawing tool and paste the coordinates into the text box. Adjust font color and size as needed. Click within the growing area to place the coordinates text near the dropped pin.





7. LABEL ENTRANCES

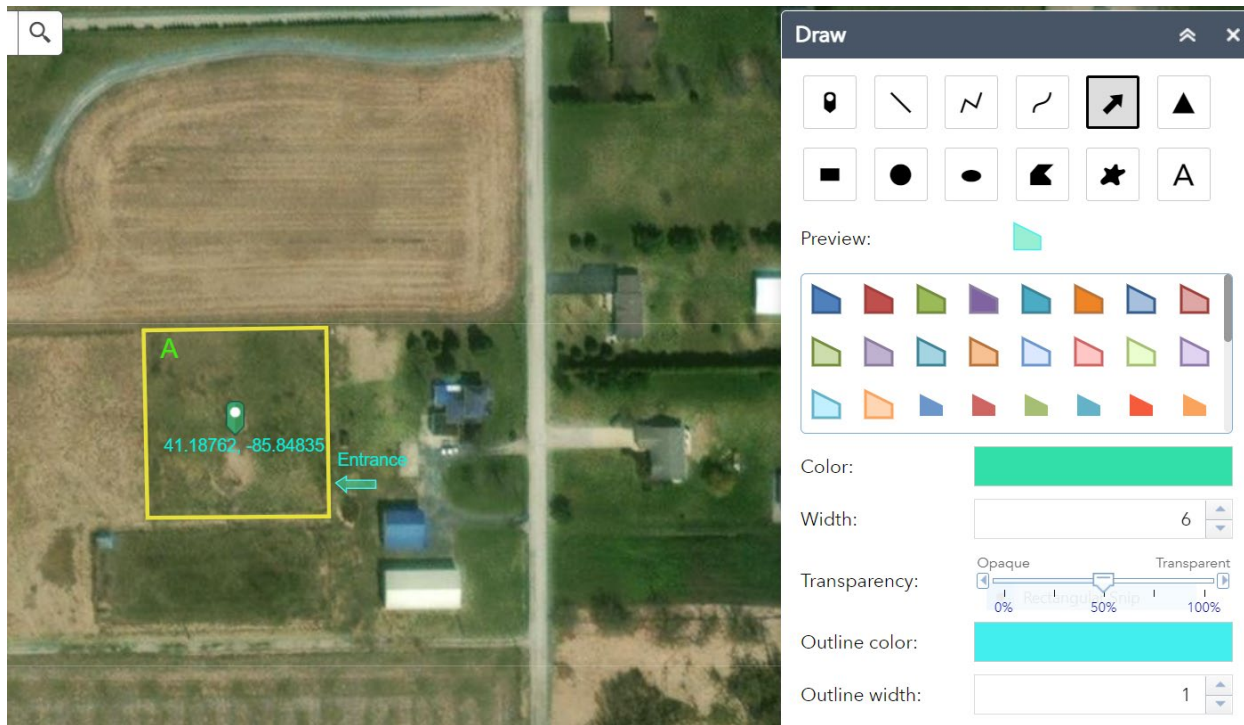


c) Type “Entrance” in the text box. You can adjust the color and font size using the box below. You will see a preview in the box above. Choose a color that will contrast well with the background.

d) Click on the map where you want to place the text (next to the growing location entrance). To resize, click "undo" and the text will disappear. Change the text size in the pop-up box then click on the location you want to place it again.



f) Adjust the color and arrow width as needed, then click and hold on the map where you want the arrow to begin. Drag the mouse to where you want the arrow to point until it is the size you want. If you need to adjust it, click “undo” and the arrow will disappear. Make the needed adjustments and again click and drag to draw the arrow pointing to the entrance.



8. CREATE A PRINTABLE VERSION OF YOUR MAP

- a) Once your map is ready to save, hold down the ctrl + P keys (for PC users) or command + P keys (for Mac users) to pull up the print window (this can also be done by right clicking and hitting "Print")
- b) If a printed map is preferred, simply select your printer preferences and click "Print." *Note:* printing in color is preferred; however, black and white versions are acceptable if the boundaries and text are done in colors clearly visible in the black and white version (white if background is very dark, dark if background is very light).
- c) To save as a pdf for attaching to an application electronically: If using a PC, select the drop-down arrow in the printer selection options and click "Save as PDF." Save to preferred location on your computer. If using a Mac, scroll to the bottom of the print pop-up and click "save as PDF" and save to preferred location on computer.

Attach your printed map to your application.

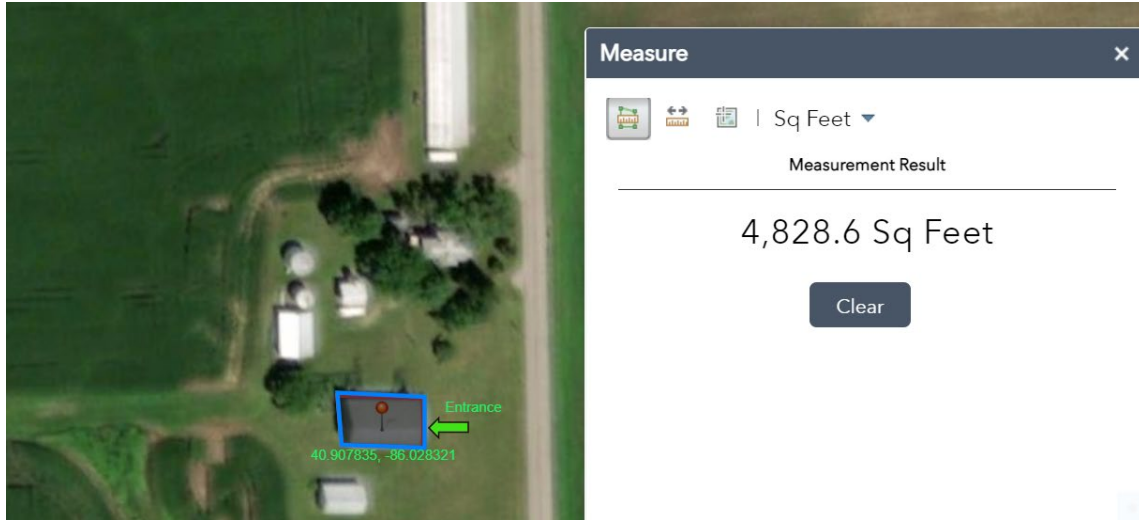
IMPORTANT: Once a registration is issued, a grower cannot add any growing location or increase the size of existing growing locations - even on the same property - unless [a site modification form](#) is submitted first for approval.

Example Maps

The following pages have some examples of acceptable and unacceptable map submittals. If the maps do not contain all necessary information, you will be notified of any deficiency, and your application will not be approved until a corrected map is received.

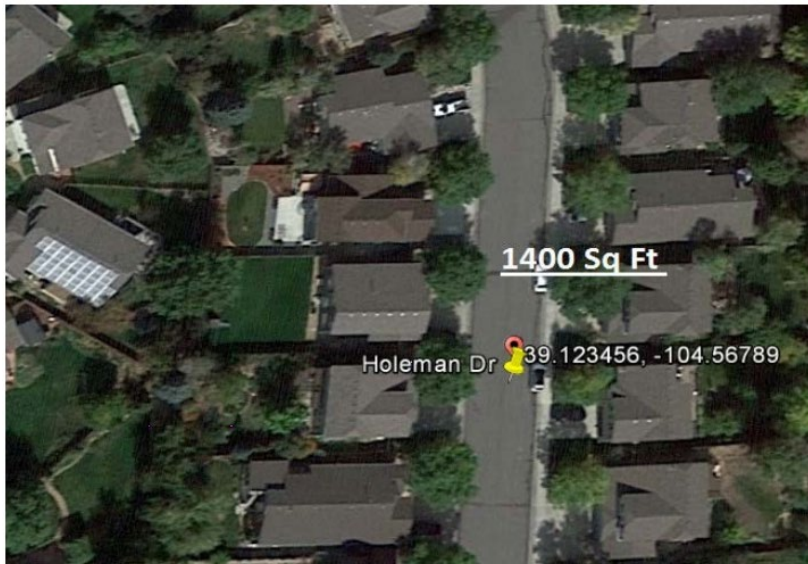
A. INDOOR EXAMPLE - ACCEPTABLE MAP

- 1) GPS coordinates listed
- 2) Clear boundary line with identified entrance to field
- 3) Square footage listed (not required to be written on map, but if application includes more than one growing location, area size for each growing location should be clearly communicated on the application)



B. INDOOR EXAMPLE – NOT ACCEPTABLE

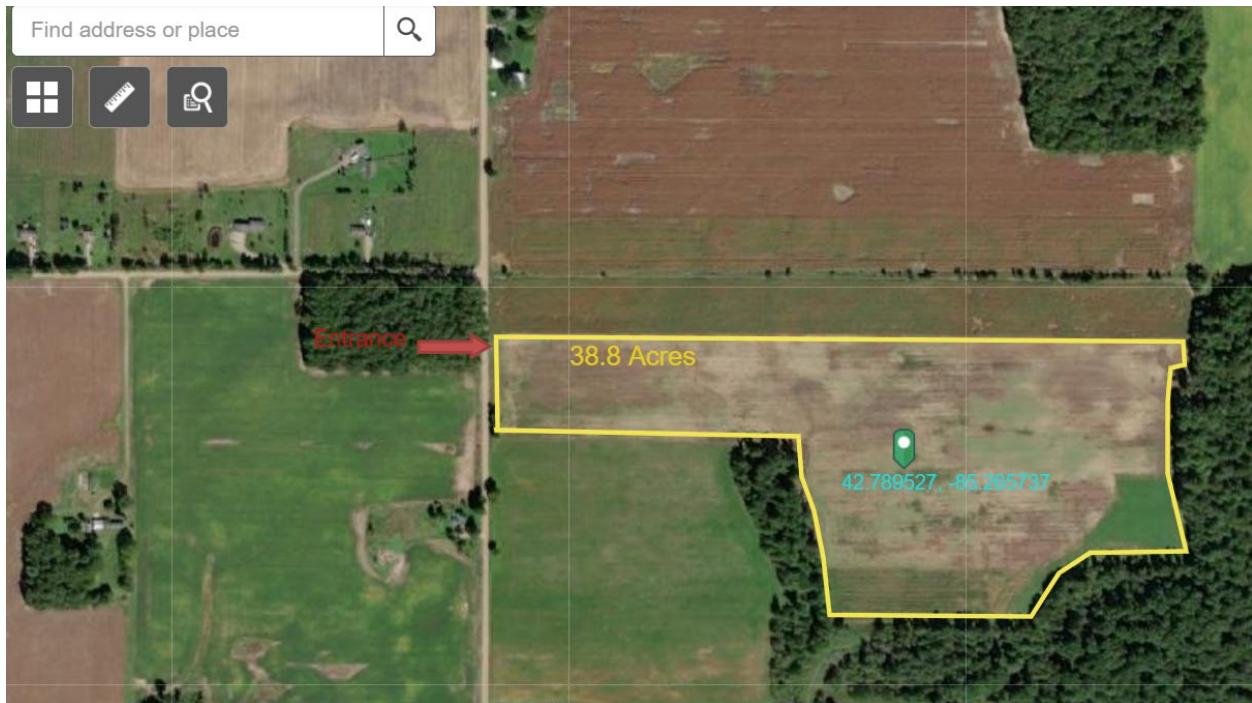
- 1) GPS coordinates are in the street.
- 2) Unclear which building is the growing location - building is not outlined. If you are only registering a portion of the building, outline that portion.



NO!!!!

C. OUTDOOR EXAMPLE: ACCEPTABLE MAP

- 1) GPS coordinates valid
- 2) Clear boundary line with entrance marked
- 3) Acreage included (not required to be written on map, but if application includes more than one growing location, area size for each growing location should be clearly communicated on the application)



D. OUTDOOR EXAMPLE: NOT ACCEPTABLE

- 1) This map has multiple boundary lines that are not contiguous (connected and one continuous land area). It does not clearly show which acres are being registered.
- 2) An outside entity could interpret this map in many ways:



- a. *Is the outside property line the boundary of what is being registered? If so, is the total acreage within the outer boundary 22 acres? Does this include areas where hemp is not being cultivated?*
- b. *Is it just the box where the GPS coordinates are located? If so, does that equal 22 acres?*
- c. *Is it all the boxes with red boundary line combined? If so, they are not outlined in one single boundary line that encompasses 22 acres, and they are not contiguous.*

E. OUTDOOR & INDOOR EXAMPLE: ACCEPTABLE MAP

- 1) GPS coordinates valid.
- 2) One boundary line, with indoor identified. (You may have to get creative with the shape of your boundary line, but all indoor and outdoor area(s) need to be within one single boundary line, each with their own GPS coordinates).
- 3) Entrances identified.

Note: acreage (outdoor) and square footage (indoor) are **not** required to be written on the map, but if not included and your application is for more than one growing area, acreage for each growing area should be clearly communicated by naming growing locations separately (e.g., “A,” “B”)



F. INDOOR & OUTDOOR EXAMPLE: NOT ACCEPTABLE

- 1) GPS coordinates are not present for 2 growing locations.
- 2) Indoor growing location does not have a boundary.
- 3) The map must be very clear, verifiable, specific, and accurate. Registration must be for an exact area, not an approximate site or approximate size. Anything within the single boundary line will be included in the registration, anything outside the boundary line will not. Just like a landowner’s property lines, they cannot be vague or left open to interpretation by outside entities.



G. ACCEPTABLE MAP

- 1) GPS coordinates given for each growing location
- 2) Clear boundary lines for each growing location (indoor and outdoor)
- 3) Entrances stated on map



H. ACCEPTABLE MAP

- 1) GPS coordinates given for each growing location
- 2) Clear boundary lines for each growing location
- 3) Entrances stated on map



Note: any of these maps are acceptable if the boundaries and markings are done by hand on a printed map, provided all the required information is included: clear boundaries matching the acreage/square footage written in the application, GPS coordinates for each growing location, growing location names (if more than one growing location is being registered), and entrances.