Name_____

Physical Geography
Lab Activity #10

Due date_____

Sketch Maps, Part II

COR Objective 1, 2, 4, & 6, SLO 1, 2, & 4

10.1. Introduction

In Lab 9 you were introduced to the concept of drawing sketch maps in the field, but you worked on preexisting data. This lab will take you out of the classroom and into the field to practice drawing a sketch map from data you obtain. You will work in groups and draw a map of one of the buildings on campus.

10.2. Field work

Field work is an art. You need to be detailed while still working quickly to get back to the lab as soon as possible. When in doubt take extra notes and draw plenty of sketches or take pictures to help you remember what you saw in the field. Luckily you will be working closely to the classroom so you can always run back outside if you forgot a detail or made a mistake.

Here is what you will be doing:

- Once you have a group and know which building you will be mapping walk the length and width of the building to get a general idea of the size of the area you will be mapping. Record it on your Sketch Map Field Data Form (below).
- Next start mapping a site boundary around the building. Start at a tree, lamppost, etc. that will be your datum, or origin point, and get the azimuth and distance to the next object. Make sure to record the general location of your datum (SW corner, N of building, etc. Take careful notes on the Field Data Form and continue mapping until you reach the datum again.
- Then map the corners of the building using the concept of triangulation as explained in Lab 9. Using the roof line usually makes this easier. Remember, you don't need the distance from the site boundary points to the corner, only two azimuths from different site boundary points.

Sketch Map Field Data Form

Project: **Date:**

Crew Chief: **Team Members:**

General Site Location: **Datum Location:**

General Site Dimensions (length and width):

Azimuth to Point 2: ________ Paces to Point 2 _________ Distance to Point 2 __________
Azimuth to Point 3: ________ Paces to Point 3 _________ Distance to Point 3 __________
Azimuth to Point 4: ________ Paces to Point 4 _________ Distance to Point 4 __________
Azimuth to Point 5: ________ Paces to Point 5 _________ Distance to Point 5 __________
Azimuth to Point 6: ________ Paces to Point 6 _________ Distance to Point 6 __________
Azimuth to Point 7: ________ Paces to Point 7 _________ Distance to Point 7 __________
Azimuth to Point 8: ________ Paces to Point 8 _________ Distance to Point 8 __________
Azimuth to Point 9: ________ Paces to Point 9 _________ Distance to Point 9 __________
Azimuth to Point 10: ________ Paces to Point 10 ________ Distance to Point 10 _________
Azimuth to Point 11: ________ Paces to Point 11 ________ Distance to Point 11 _________
Azimuth to Point 12: ________ Paces to Point 12 ________ Distance to Point 12 _________

Triangulation Items:

Corner Name:

1. Azimuth:________, from Point ______
2. Azimuth:________, from Point ______

Corner Name:

1. Azimuth:________, from Point ______
2. Azimuth:________, from Point ______

Corner Name:

1. Azimuth:________, from Point ______
2. Azimuth:________, from Point ______

Corner Name:

1. Azimuth:________, from Point ______
2. Azimuth:________, from Point ______

Corner Name:

1. Azimuth:________, from Point ______
2. Azimuth:________, from Point ______

Corner Name:

1. Azimuth:________, from Point ______
2. Azimuth:________, from Point ______

Corner Name:

1. Azimuth:________, from Point ______
2. Azimuth:________, from Point ______

Corner Name:

1. Azimuth:________, from Point ______
2. Azimuth:________, from Point ______

Corner Name:

1. Azimuth:________, from Point ______
2. Azimuth:________, from Point ______

Corner Name:

1. Azimuth:________, from Point ______
2. Azimuth:________, from Point ______

10.3. Lab work

Once you have gathered this data and are sure it is as accurate as can be return to the lab to begin drawing your map. The directions to draw a sketch map detailed in Lab 9 are reprinted here for your convenience.

Your first step is to determine the orientation of your map. North is typically set at the top of your map, but should the top be one of the 8.5" sides or one of the 11" sides? This of course depends on the shape of the thing you are trying to map.

Next you will need a scale. Since your map will be on an 8.5"x11" sheet of paper, you must calculate the map's scale so it will completely fit on the paper. Assume you have 7"x10" on which to draw. That means that the longest dimension of your map must fit within 10" of space. For example, if the longest dimension is 275' in reality, 10" must equal 275'. If we simplify it (divide each side of the equation by 10) we get 1" = 27.5'. If we convert the feet to inches we get a fractional scale of 10:3,300 or simplified: 1:330.

Let's say the other dimension of your map is 175'. That means that 7" = 175'. Divide each side by 7 and you get 1" = 25' or 1:300. The scales are close, but you will need to pick one. To be safe you should always pick the smaller scale of the two, which means the larger number on the right of the colon (in this example, 330 is larger than 300 so you would use a scale of 1:330).

Once you have your scale, locate the first point or "datum" and begin drawing the boundary of your site. To do so you will need a 360° protractor (figure 10.1). Align 0° with North on your map and make a temporary mark in the direction of the next boundary point. Using a ruler and your map's scale draw a line in the proper direction at the exact length it should be. Continue this until you have your complete site boundary.

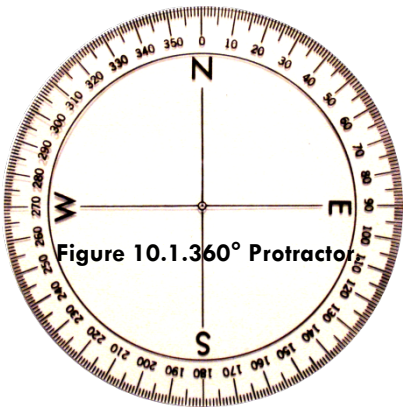

Figure 10.1.360° Protractor

Then using the azimuth information you will triangulate the items inside the site. You are given two azimuths for each item. When properly drawn, the two azimuths should intersect exactly where the item exists in space.

Figure 10.2 shows an example sketch map to help you format your own. Be as accurate as possible and make your map as neat and legible as you can.

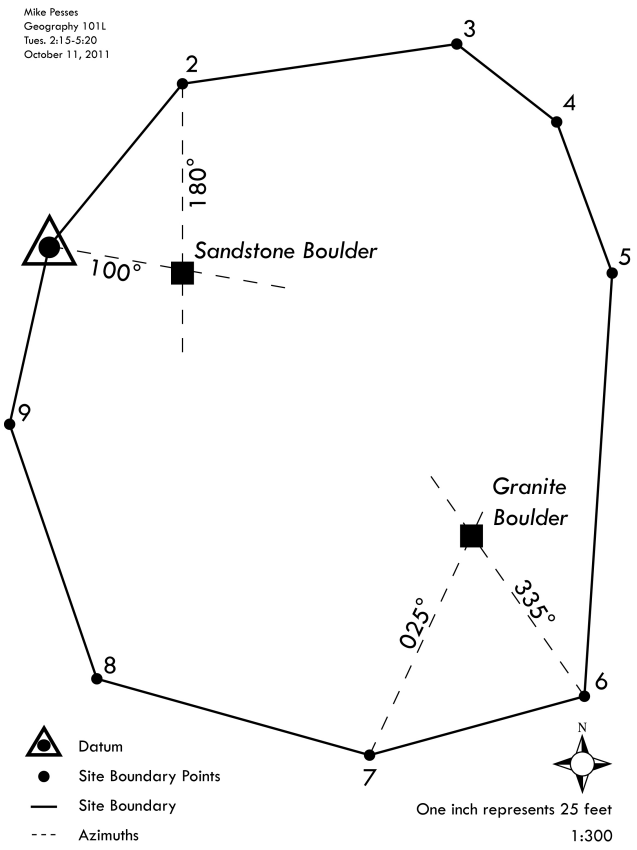

Figure 10.2. Example Sketch Map

Make sure your final sketch map is clearly drawn, has a verbal and fractional scale, a legend, a title, a north arrow, and your name.

End of Lab 10