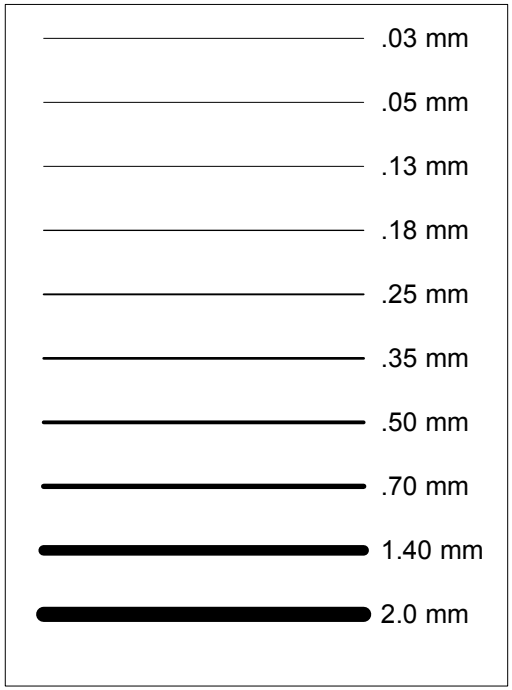
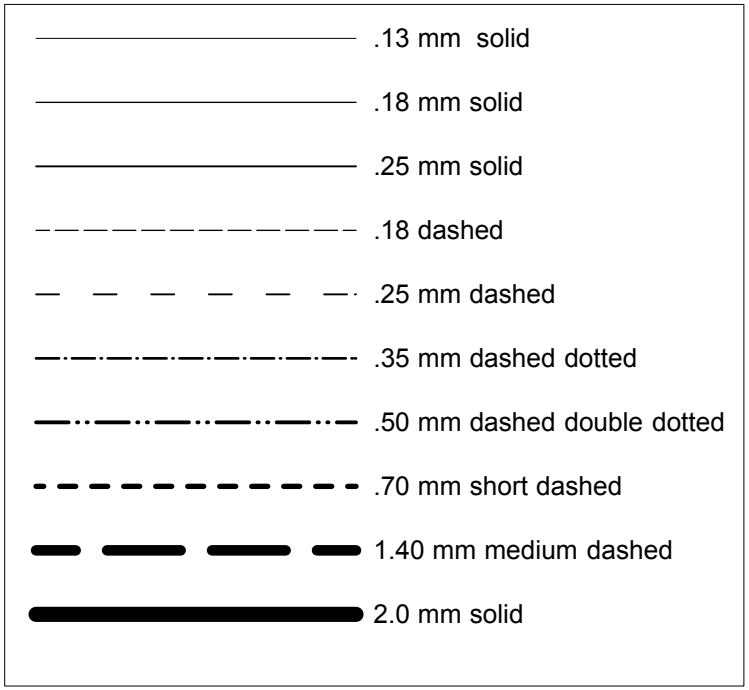
LINETYPE



SCALE: 1"=30'-0"

DASH STYLE



SCALE: 1"=30'-0"

FONT STYLE

ARIAL 8 pt.

ARIAL 8 pt.

ARIAL 10 pt.

ARIAL BOLD 10 pt.

ARIAL 12 pt.

ARIAL BOLD 12 pt.

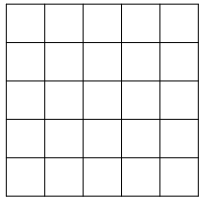
ARIAL BOLD 14 pt.

ARIAL BOLD 14 pt.

SCALE: 1"=30'-0"

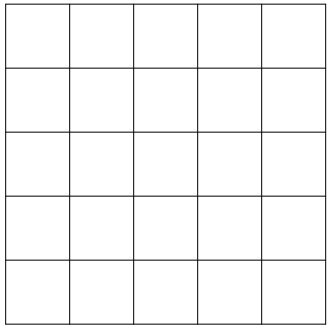
NAME
DATE
EXERCISE_1

GRID



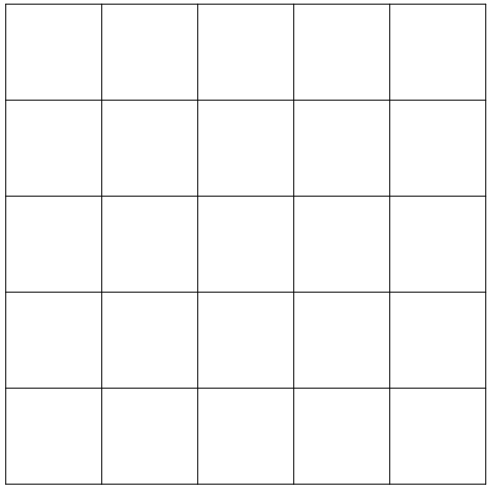
SCALE:
1"=50'-0"

GRID



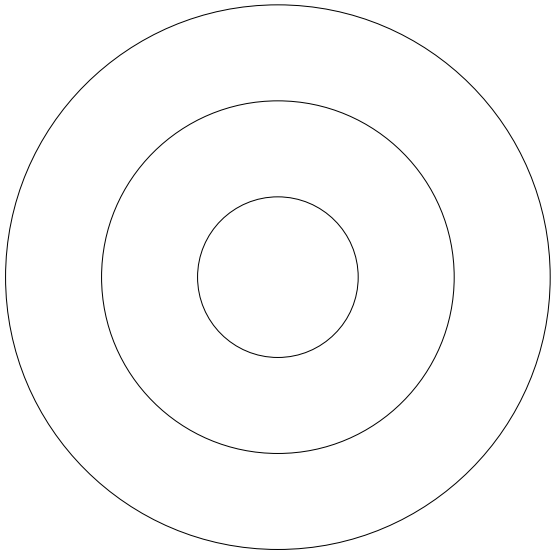
SCALE: 1"=30'-0"

GRID



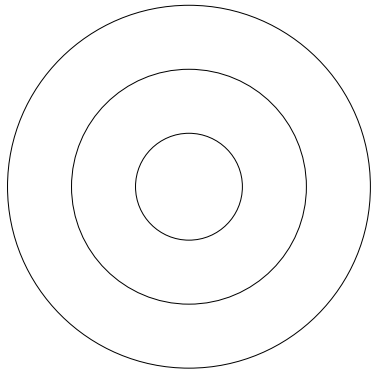
SCALE: 1"=20'-0"

CIRCLE



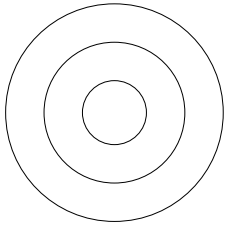
SCALE: 1"=20'-0"

CIRCLE



SCALE: 1"=30'-0"

CIRCLE



SCALE:
1"=50'-0"

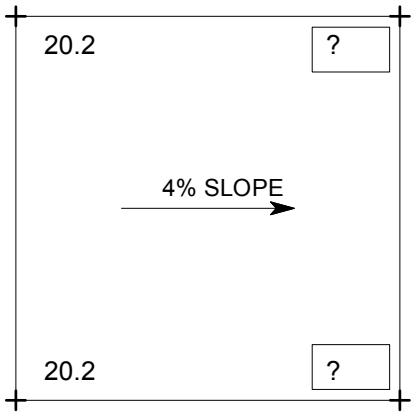
NAME
DATE
EXERCISE_1

Design Implementation I
Exercise_1

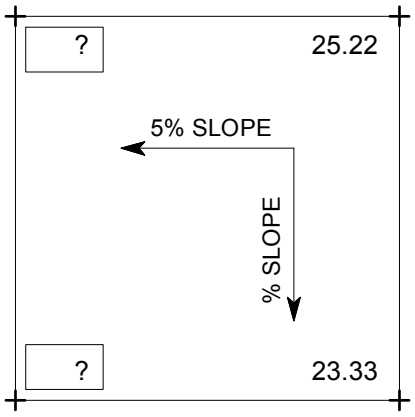
Name _____

Calculate the missing slope or spot grade information on each of the following **plan** diagrams. Each diagram is drawn at 1"=20'-0". Round elevations off to the nearest hundreths and sloped to the nearest tenths.

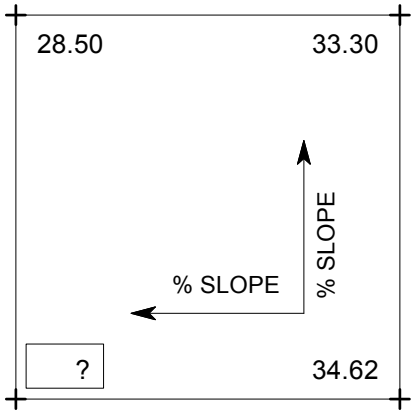
1.



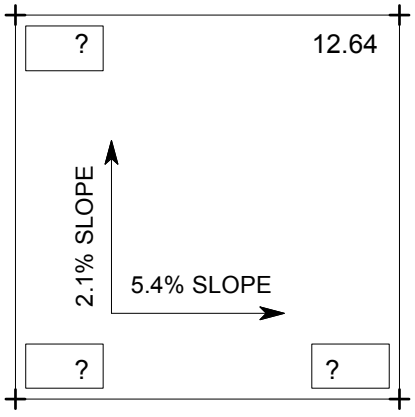
2.



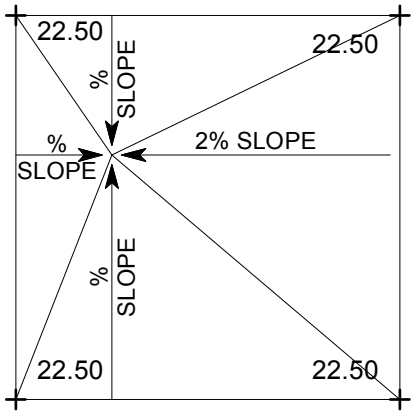
3.



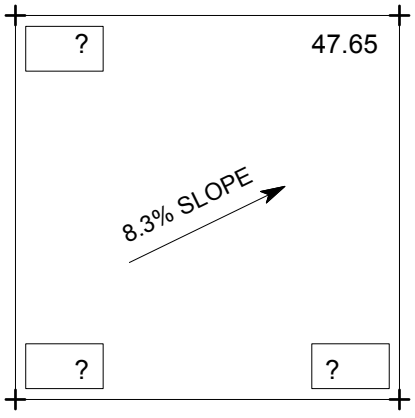
4.



5.



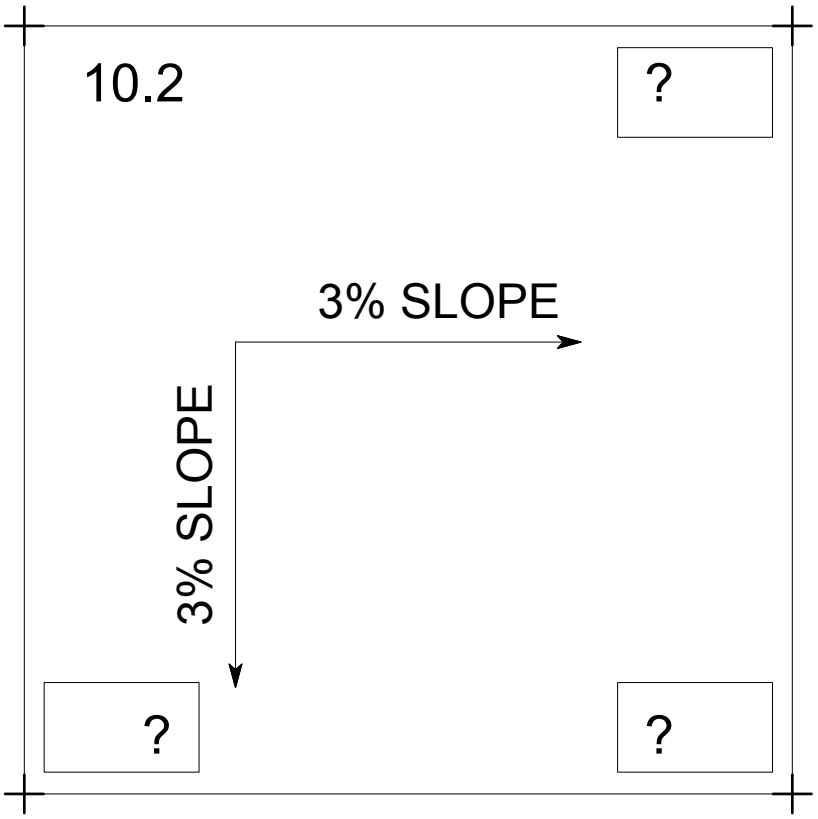
6.



Sample Problems

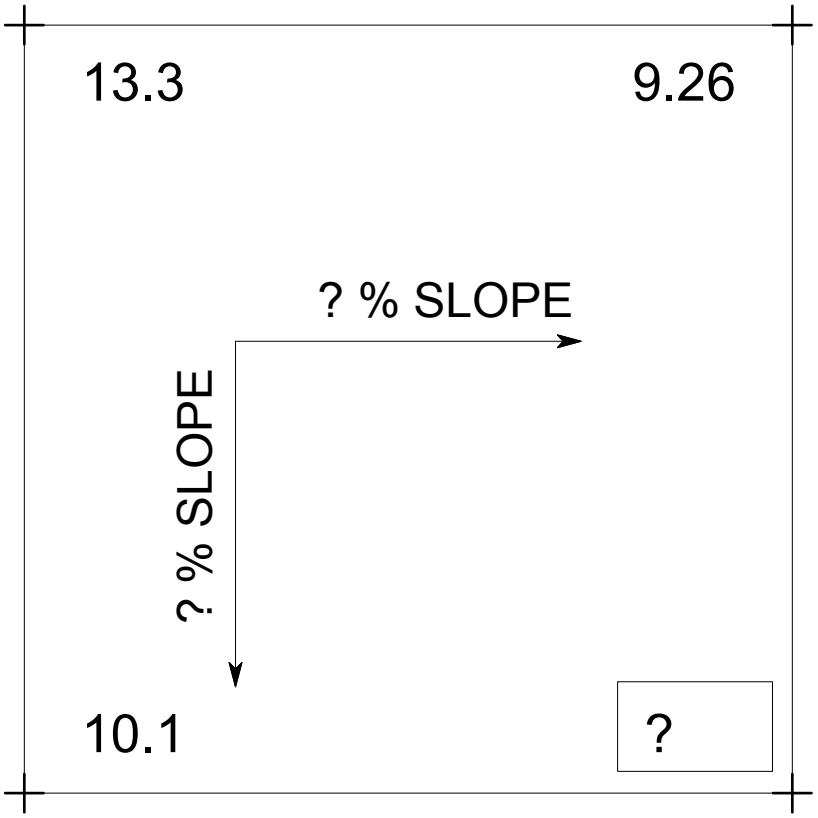
Scale: 1"=10-0"

1.



Plan View

2.



Plan View

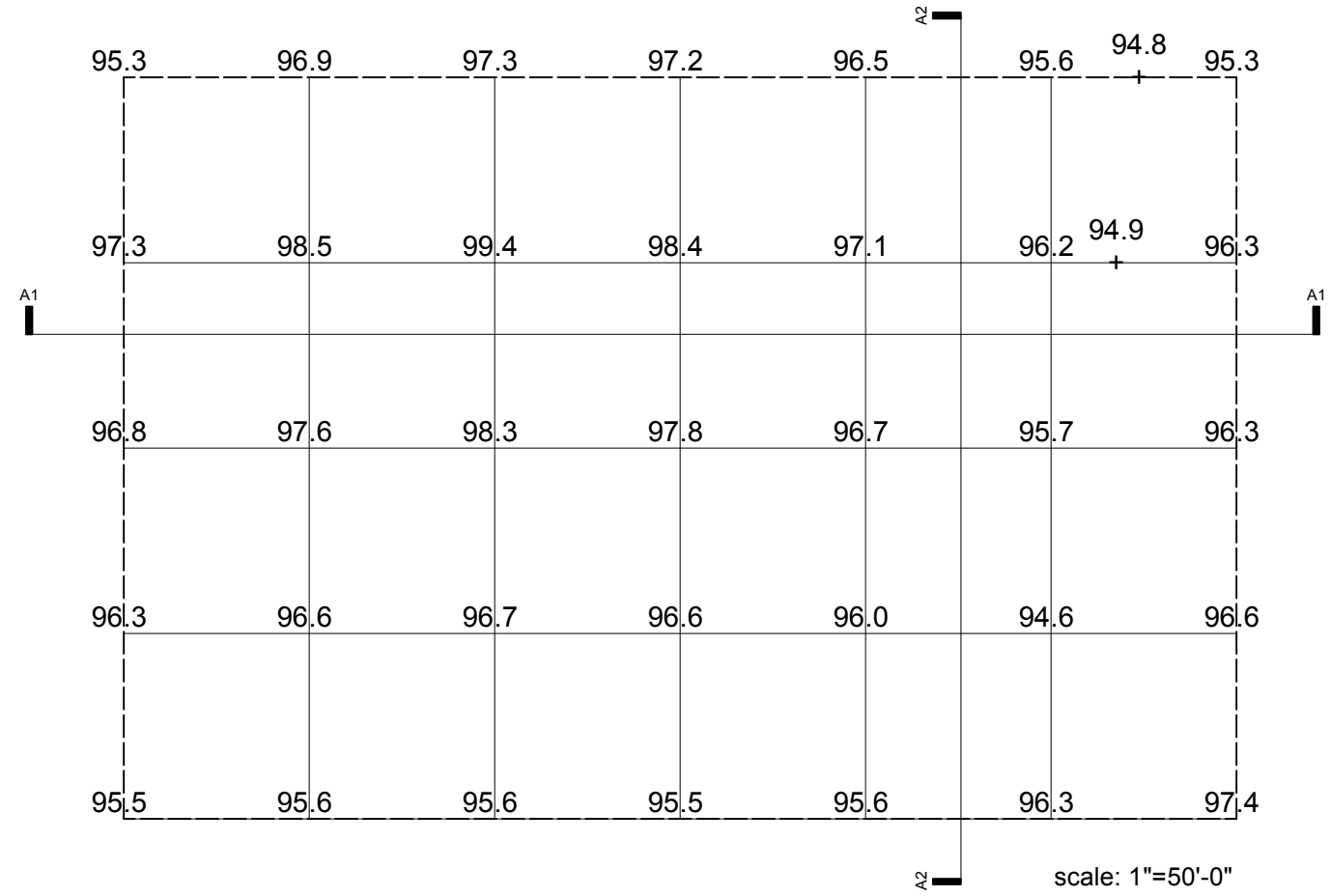
Name _____

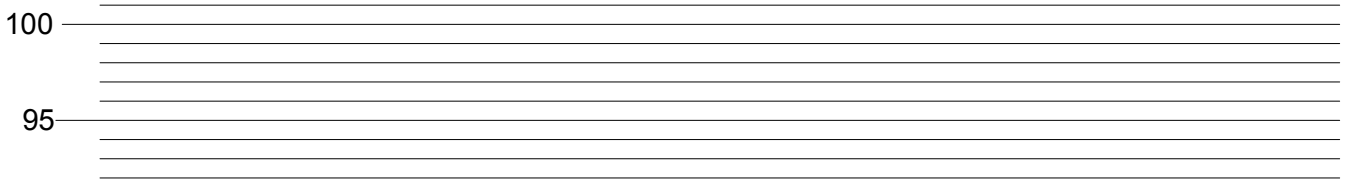
Design Implementation I

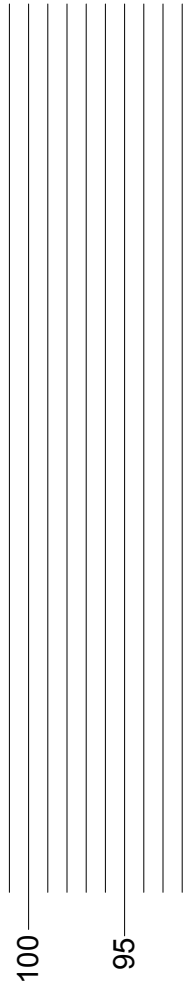
Exercise_2

Part_1 Using the slope formula, interpolate the location of each whole number spot elevation on the plan below. Then, draw each contour line based on the interpolated data.

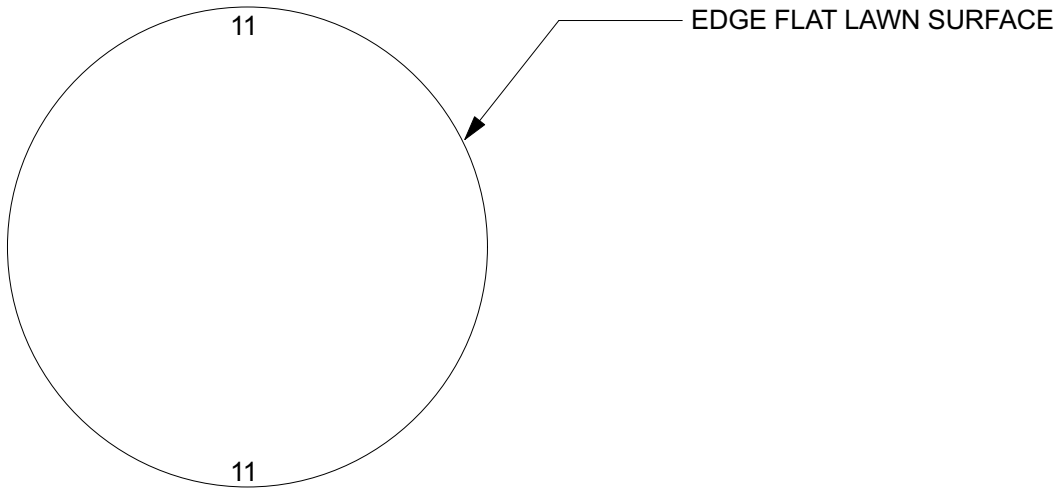
Part_2 Use the profile chart provided to draft both the horizontal and vertical section indicated on the survey.







1. Consider the circular lawn surface to represent the edge of a flat plane. Using a 3:1 slope, draw and label all the contours and slope indicators required to make the edge of the flat surface six feet above the surrounding grade. Draw the corresponding section in the east / west direction using a 2:1 vertical exaggeration.



Exercise_3

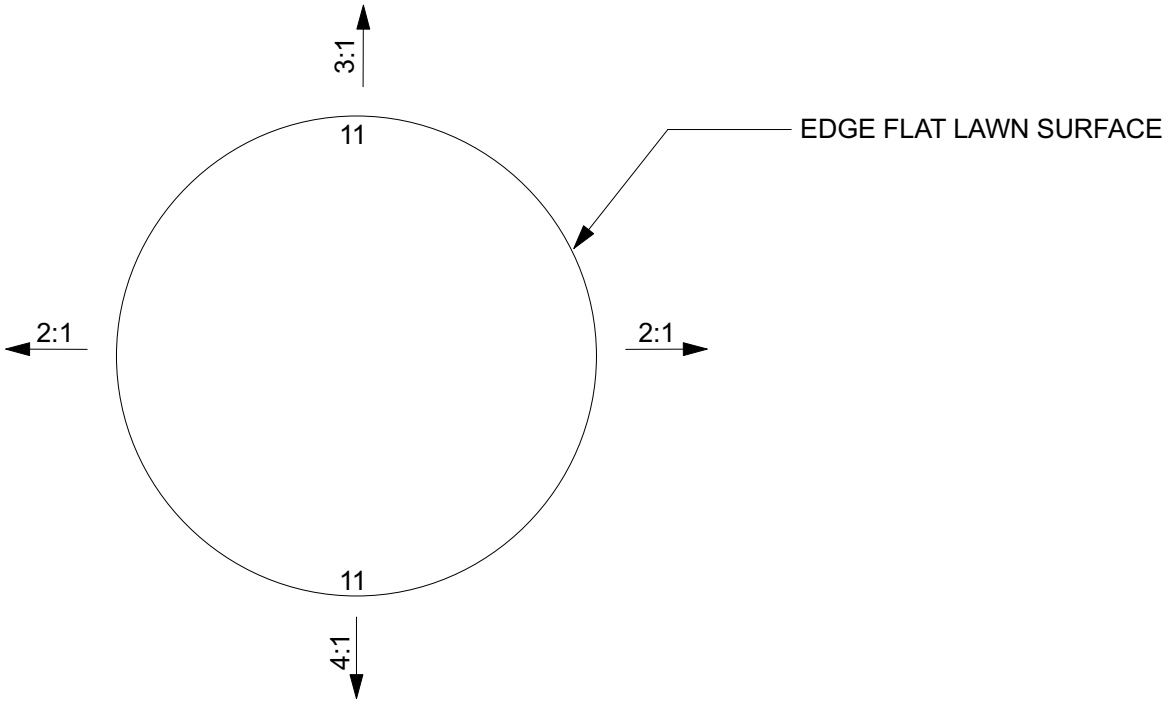
Name _____

TA _____

SCALE: 1"=20'-0"

N

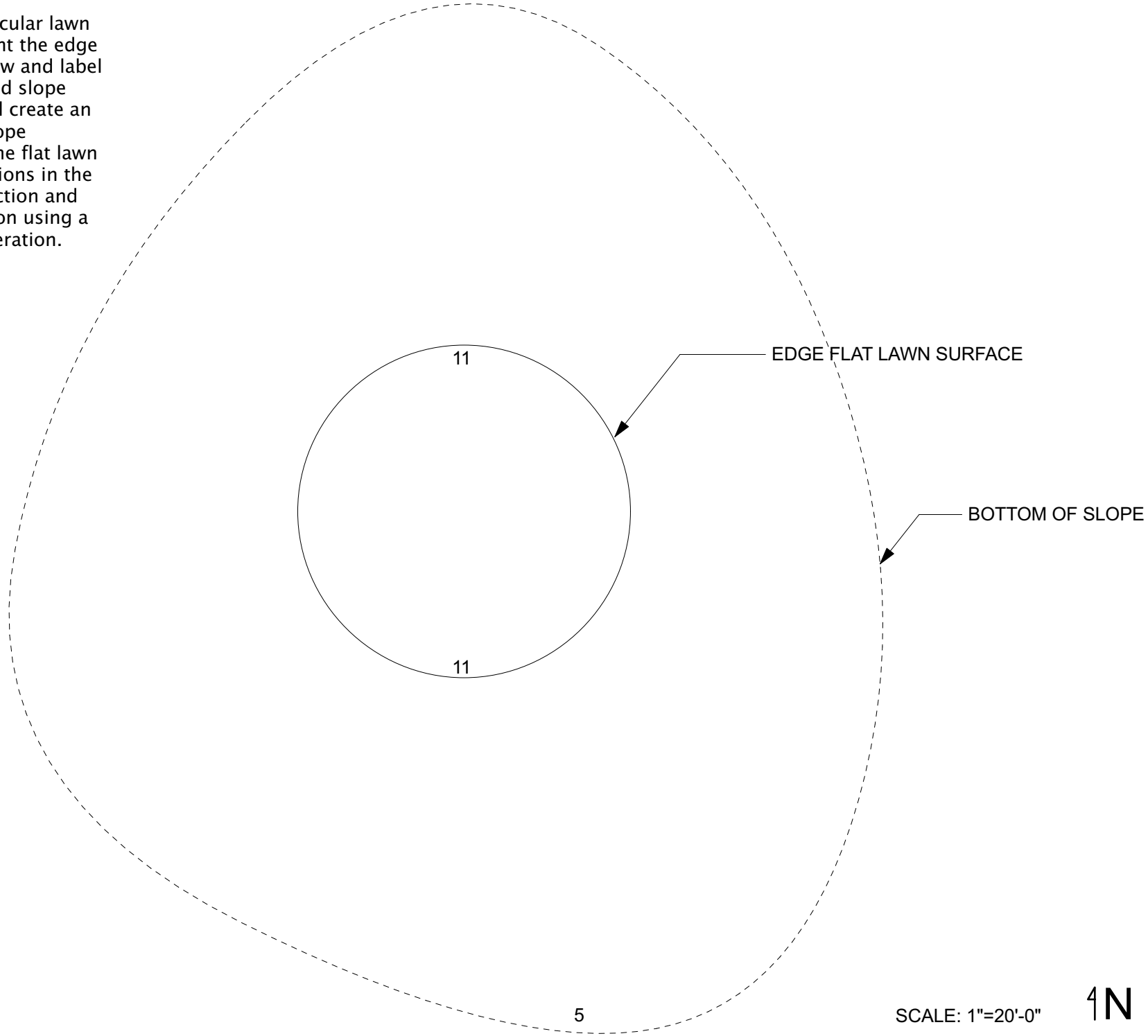
2. Consider the circular lawn surface to represent the edge of a flat plane. Draw and label all the contours and slope indicators required to make the edge of the flat surface six feet above the surrounding grade. Use a 3:1 slope on the north side of the surface, 2:1 slope on the east and west sides, and a 4:1 slope on the south side of the surface. Draw the corresponding section in the east / west direction and the north and south directions using a 2:1 vertical exaggeration.



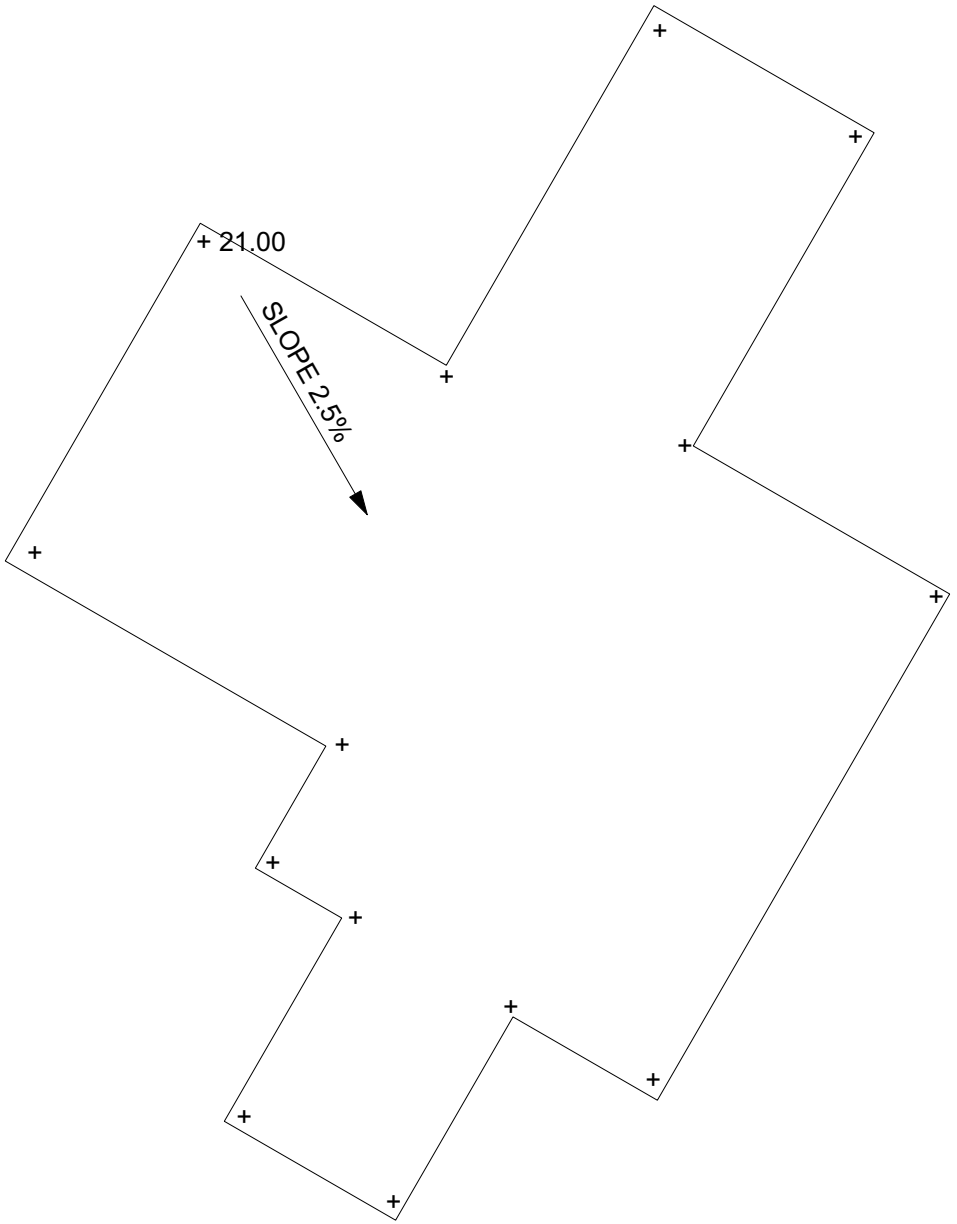
SCALE: 1"=20'-0"

N

3. Consider the circular lawn surface to represent the edge of a flat plane. Draw and label all the contours and slope indicators required create an even consistent slope perpendicular to the flat lawn surface. Draw sections in the north / south direction and east / west direction using a 2:1 vertical exaggeration.



4. Using the information provided, calculate all the missing spot elevation as indicated to the nearest tenth of a foot.



SCALE: 1/16"=1'-0"

N

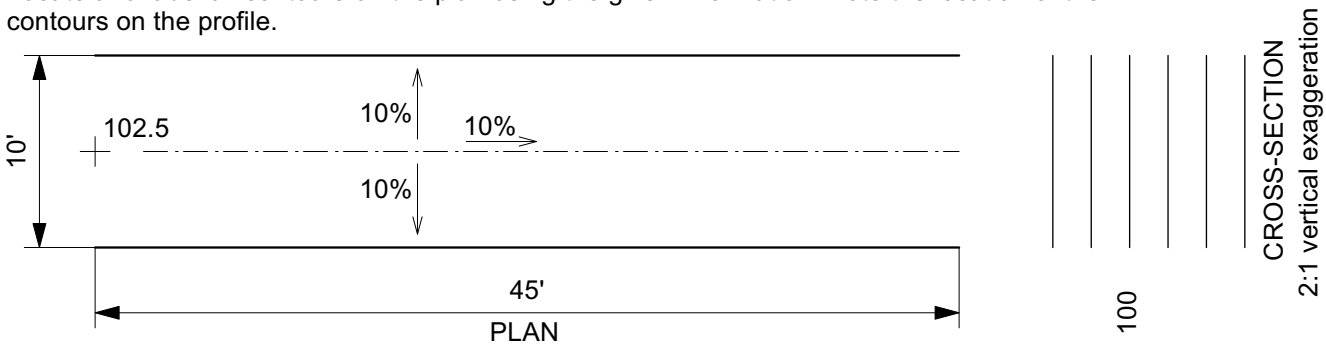
Exercise	**#4**
Issue	**210925**
Submit	**211002**

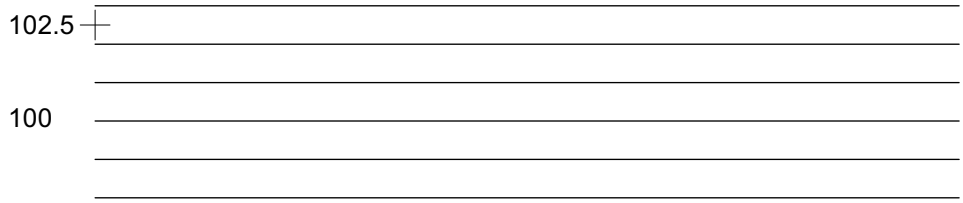
Clemson University
Landscape Architecture 2620/8610_ Earthworks

Complex Slope Applications

Statement:
The following exercises will test your ability to read, interpolate and apply concepts about contours and slope as we have discussed in lectures. These exercises will build upon our discussion of longitudinal slope, cross, slope, crowns, curbs and simple swales. Read the following questions carefully. Note and follow the scale on each page. Provide the contour and sectional information as needed.

1. Cross Slopes: Using tangential cross slope profiles, draw both the centerline and profile sections. Locate and label all contours on the plan using the given information. Note the location of the contours on the profile.

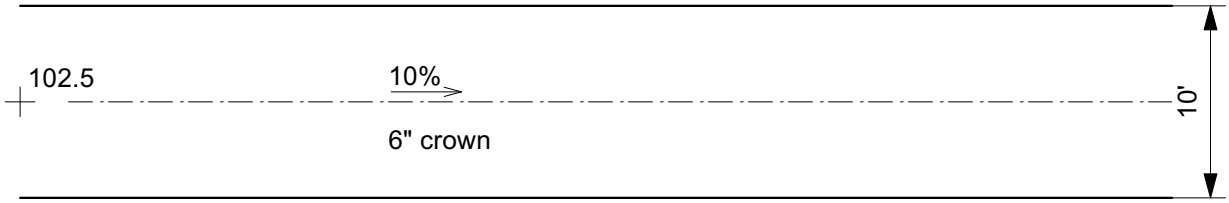




2:1 vertical exaggeration

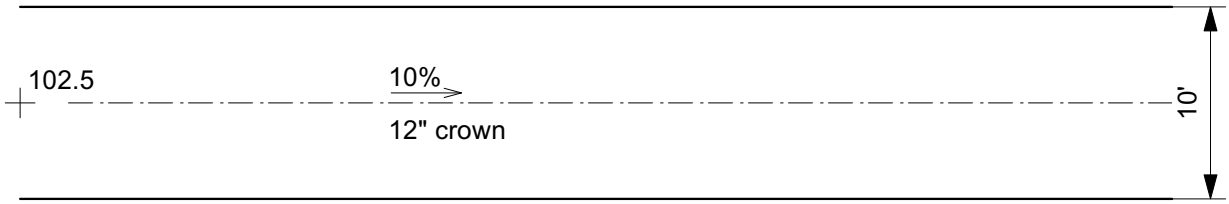
SECTION

Using the given information, illustrate a 6" crown height (the difference between the centerline elevation and edge of road surface)



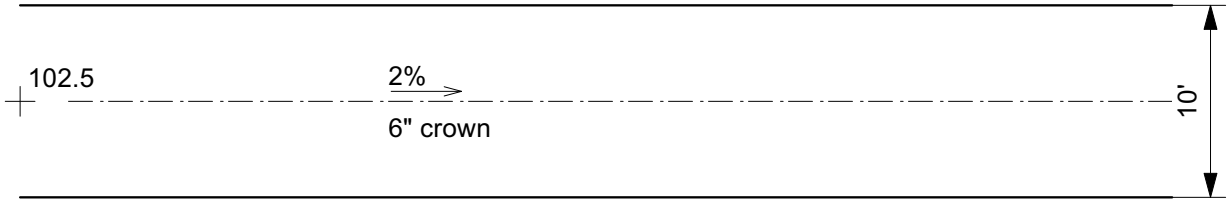
PLAN

Using the given information, illustrate a 12" crown height (the difference between the centerline elevation and edge of road surface). Note the difference when the height of the crown is changed.



PLAN

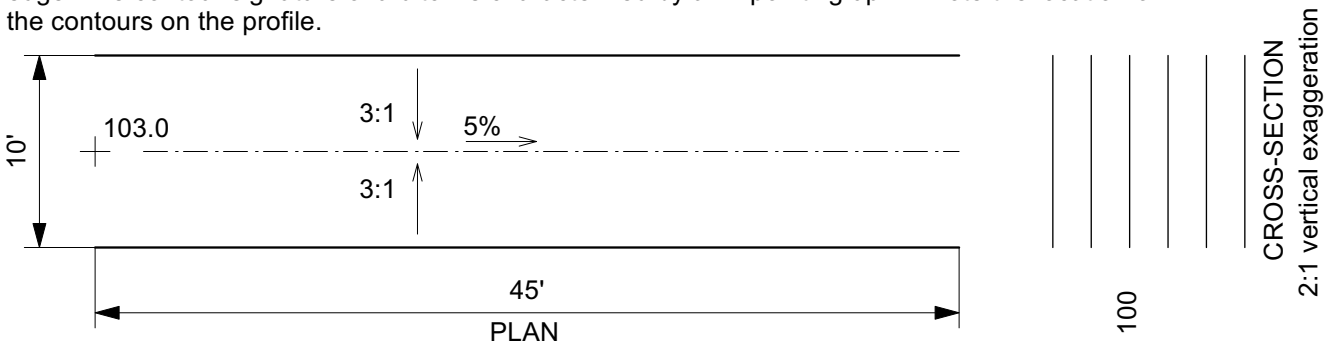
Locate and label all contours on the plan using the given information. Note what happens when the longitudinal slope changes.



PLAN

NOTE: All horizontal scales are 1"=10'-0"

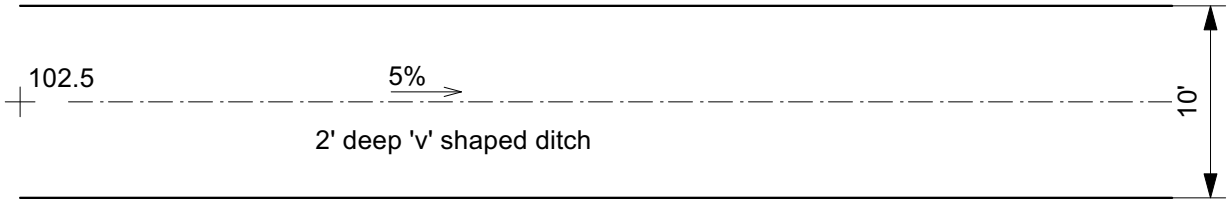
2. Cross Slopes: A ditch is a mirror image of a crown, a ditch has a centerline lower than either edge. The contour signature of a ditch is characterized by a 'V' pointing uphill. Note the location of the contours on the profile.



2:1 vertical exaggeration

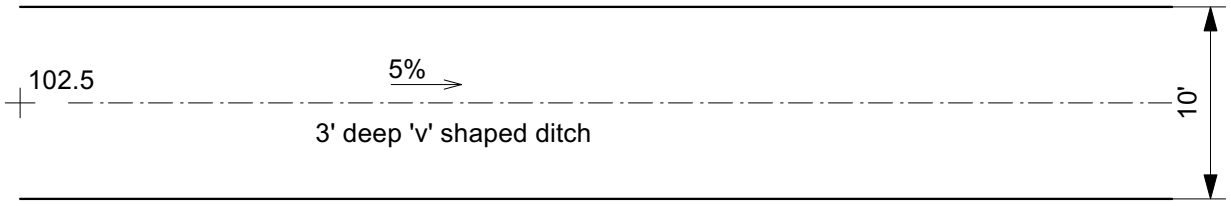
SECTION

Ditches and swales can also be designated by depth. Using the information below, draw and label all contours.



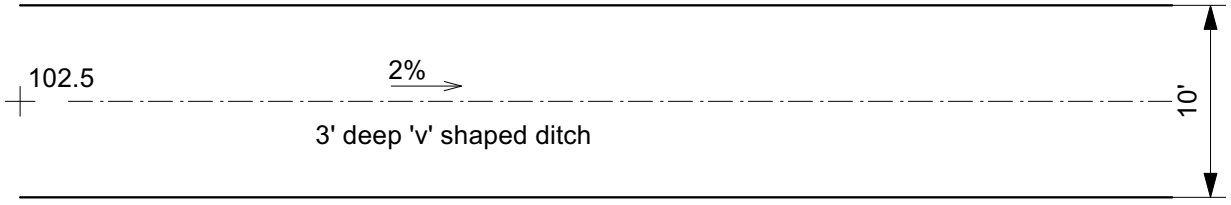
PLAN

What happens to the contour when the depth is changed?



PLAN

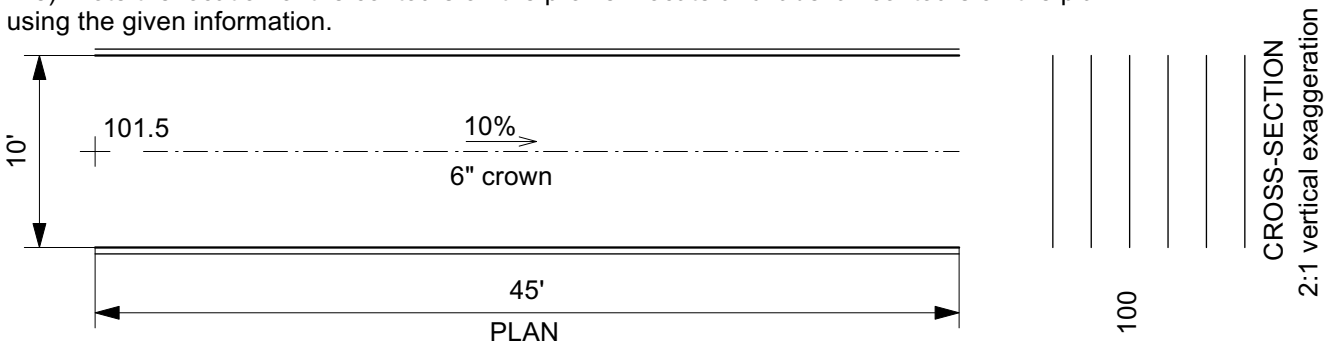
What happens to the contour when the longitudinal slope is changed?

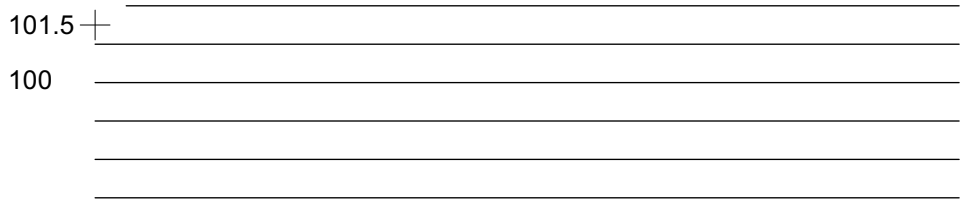


PLAN

NOTE: All horizontal scales are 1"=10'-0"

3. Combination Slopes: Draw profile of the road centerline and top of curb edge (use a dashed line). Note the location of the contours on the profile. Locate and label all contours on the plan using the given information.

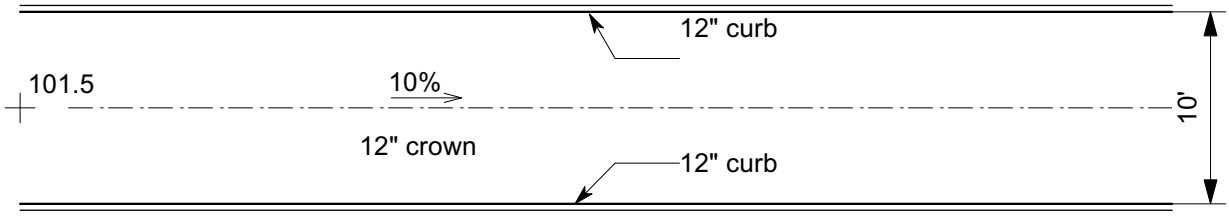




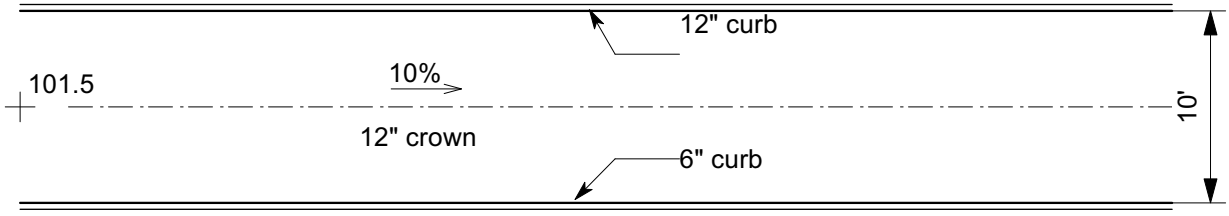
2:1 vertical exaggeration

SECTION

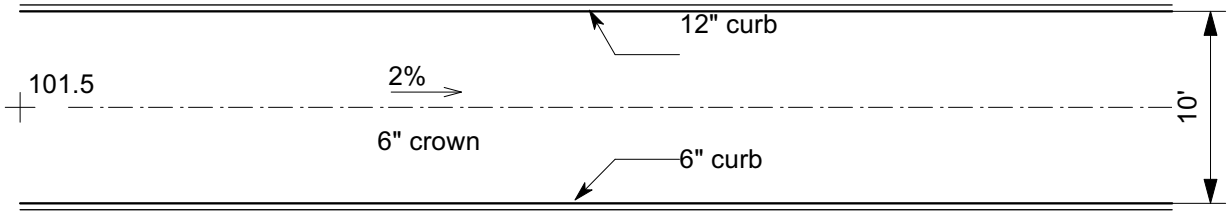
The crown and curb have a consistent graphic relationship. What happens when the curb height is changed?



What happens to the contour when the depth is changed?

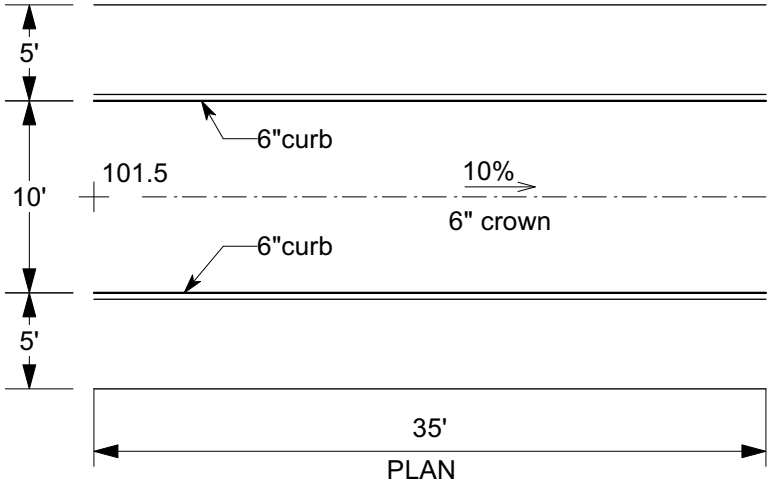


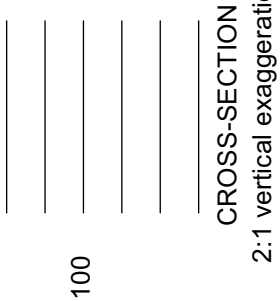
What happens to the contour when the longitudinal slope is changed?

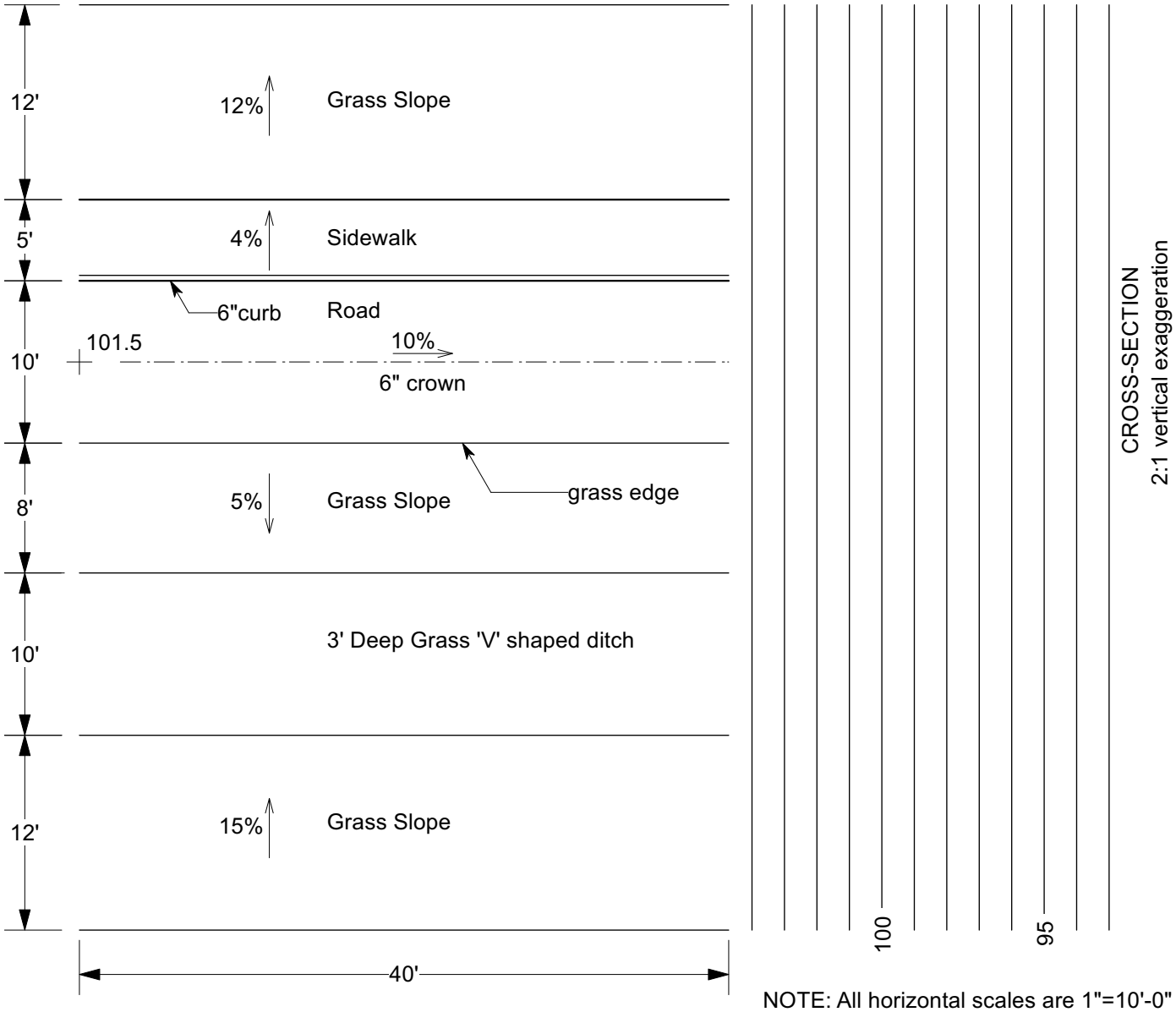


NOTE: All horizontal scales are 1"=10'-0"

4. Combining adjacent slopes: Transitions between landscape elevations can be constructed by combining adjacents slope surfaces.



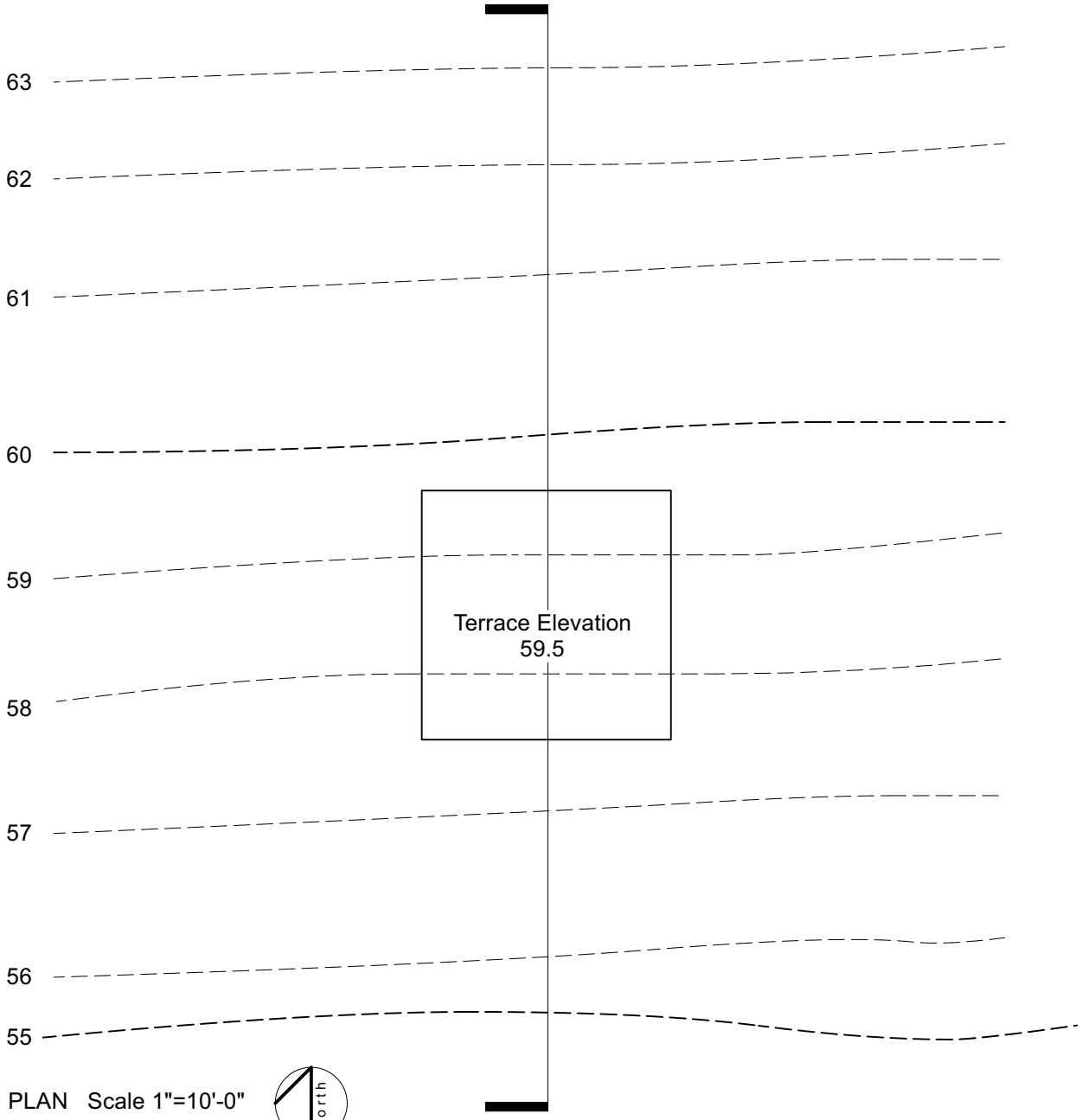




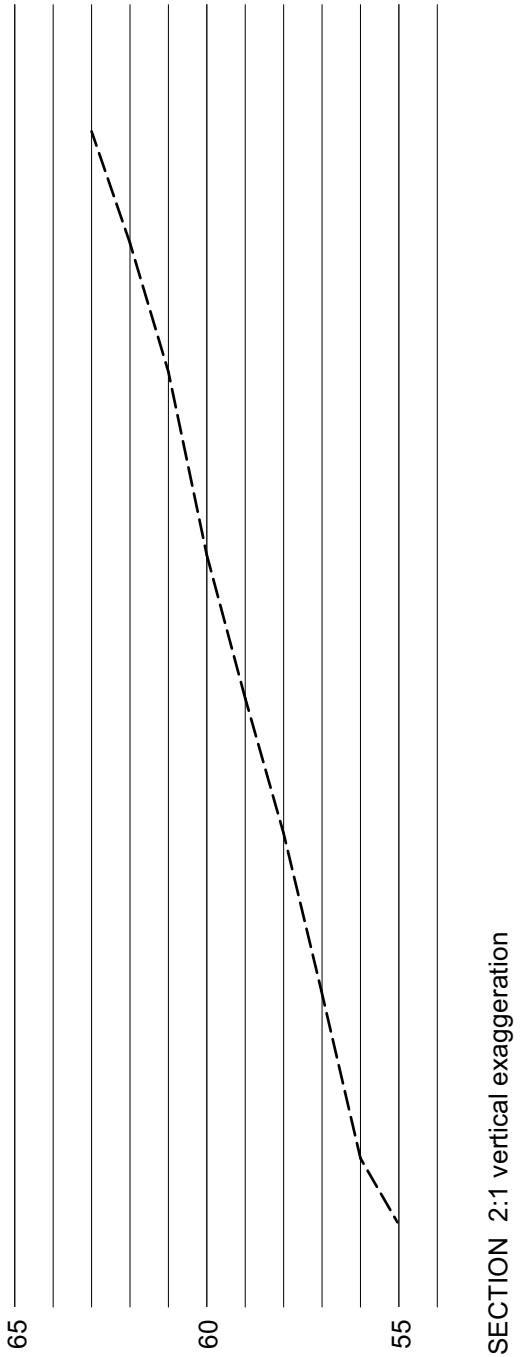
NOTE: All horizontal scales are 1"=10'-0"

1.0 PLAN

Fill slopes: grade all slopes 5:1



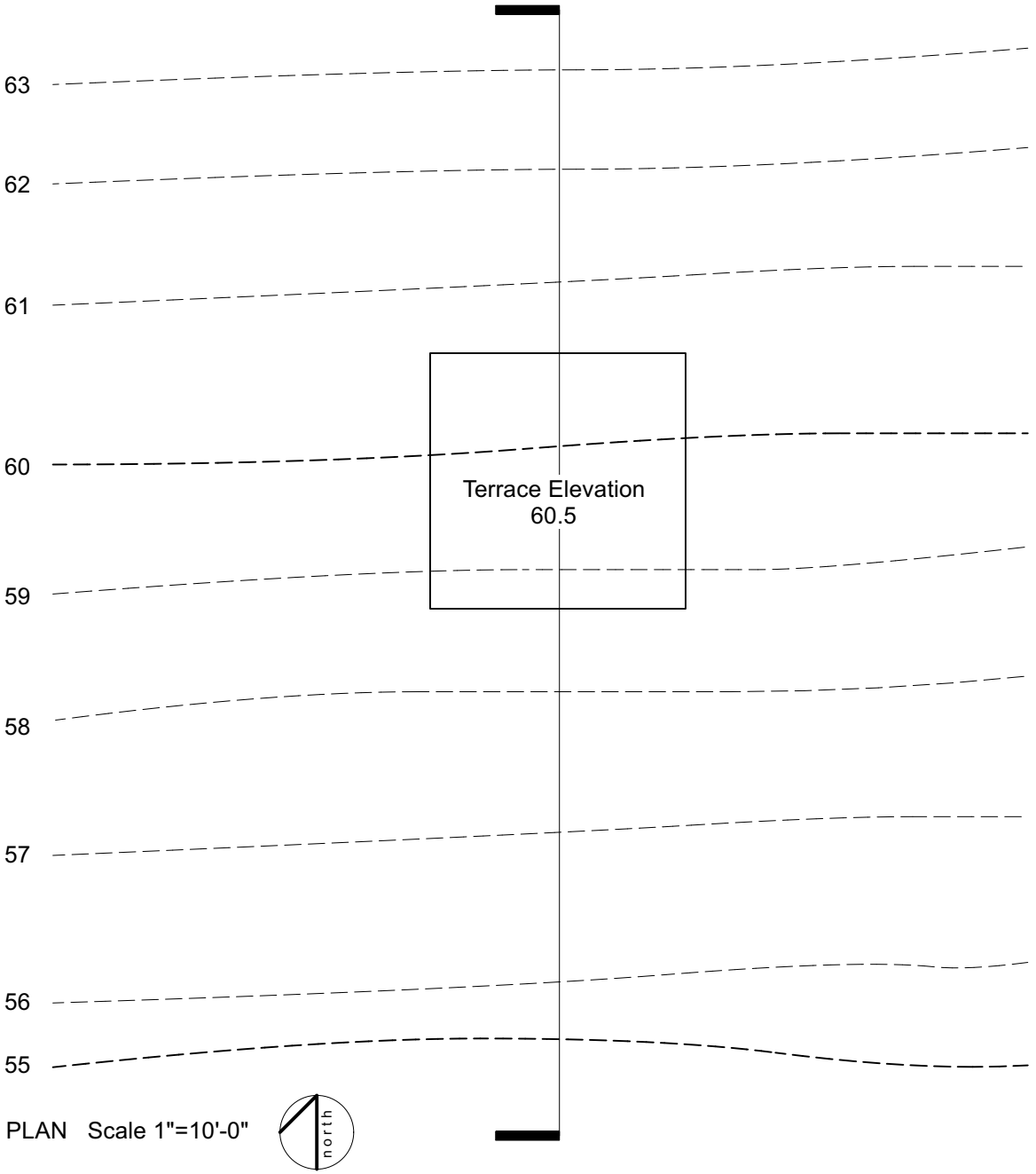
PLAN Scale 1"=10'-0"



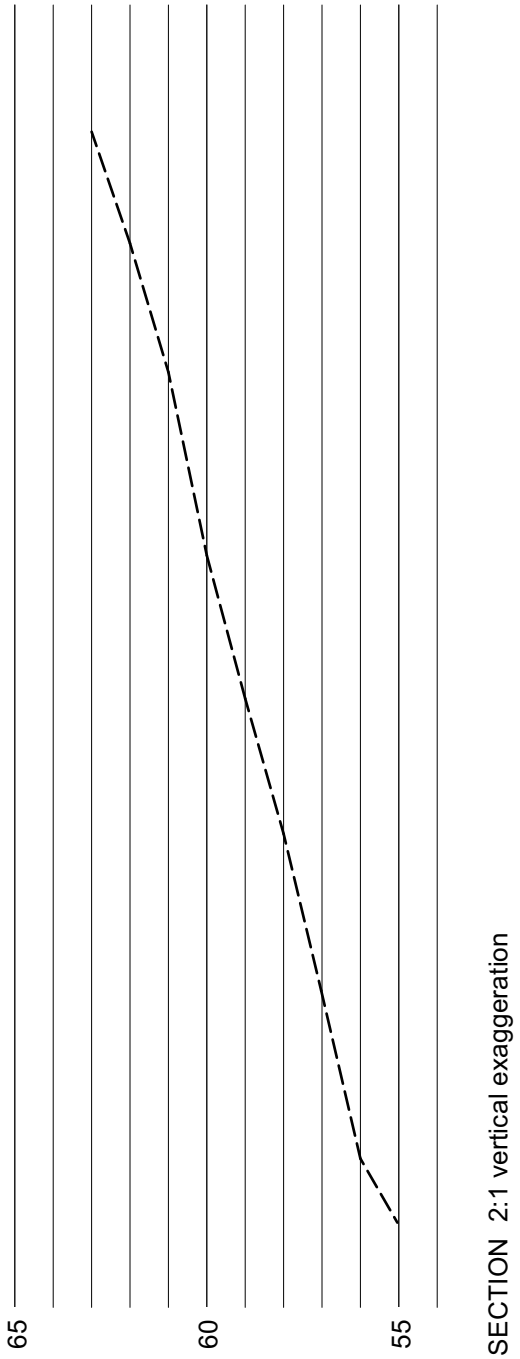
SECTION 2:1 vertical exaggeration

1. PLAN

Fill slopes: grade all slopes 5:1



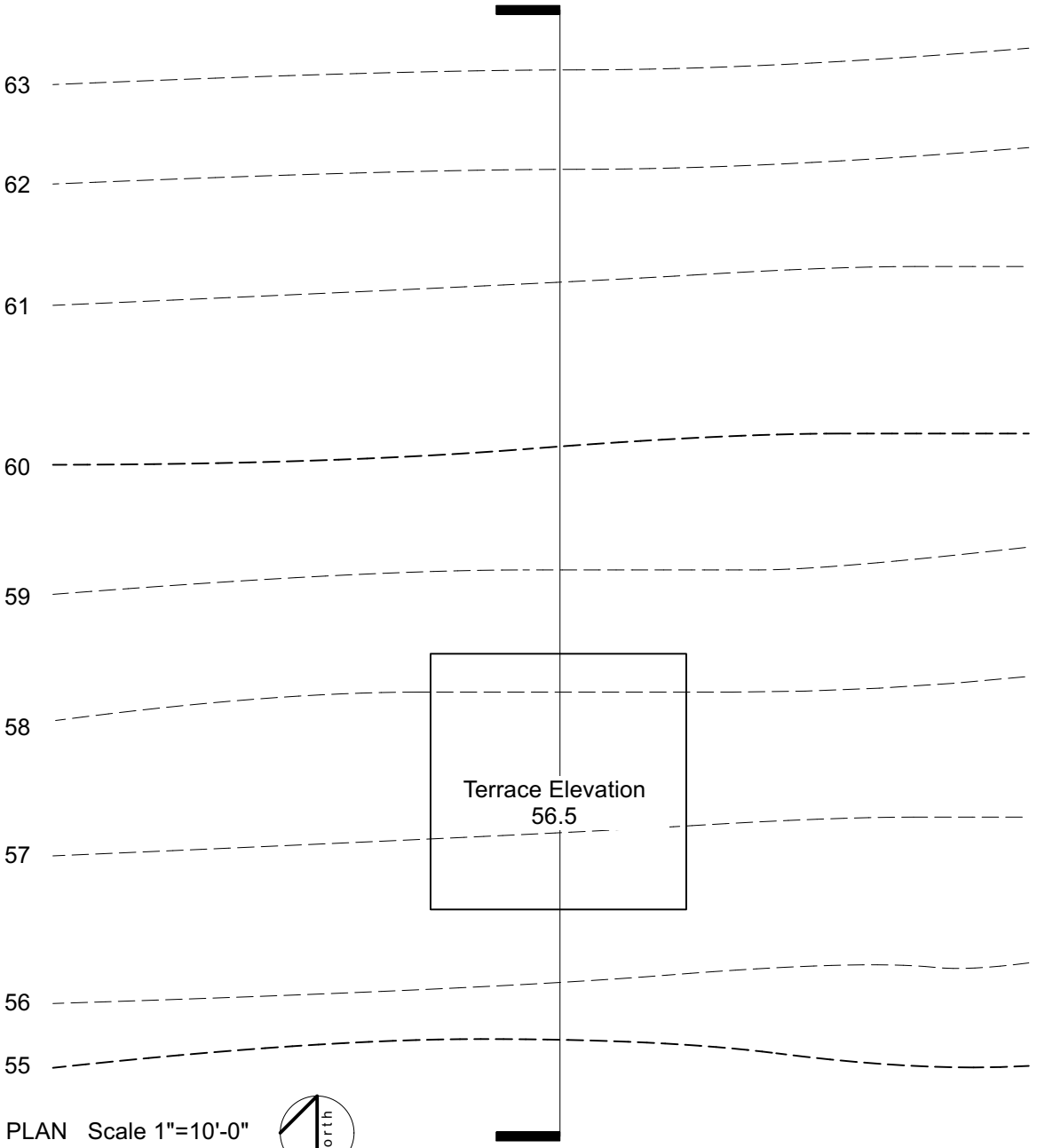
PLAN Scale 1"=10'-0"



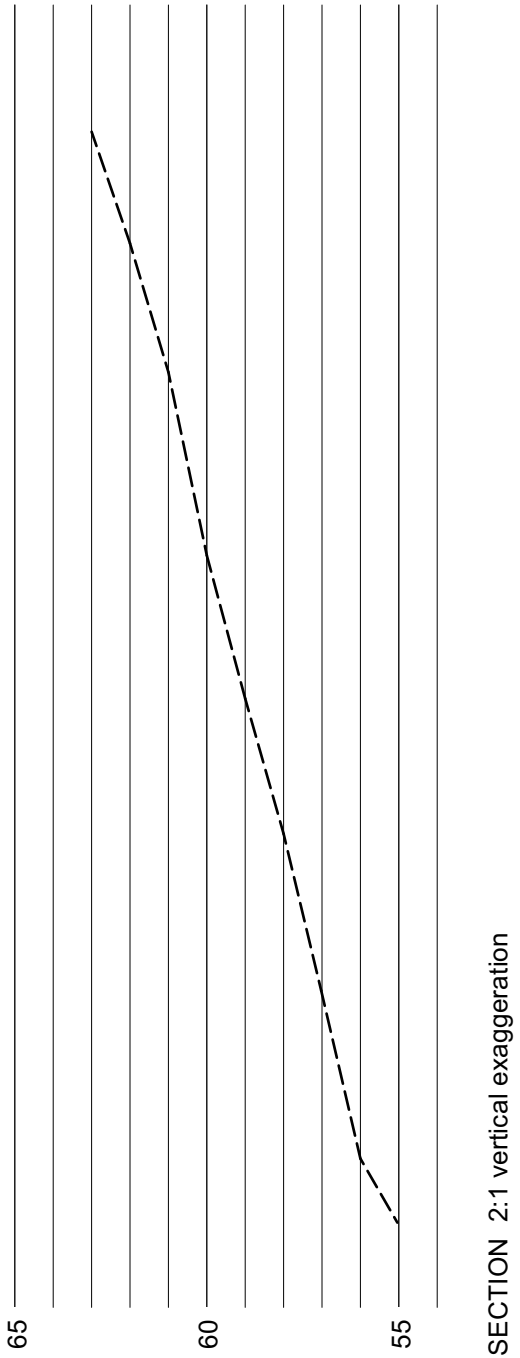
SECTION 2:1 vertical exaggeration

2. PLAN

Cut slopes: grade all slopes 4:1

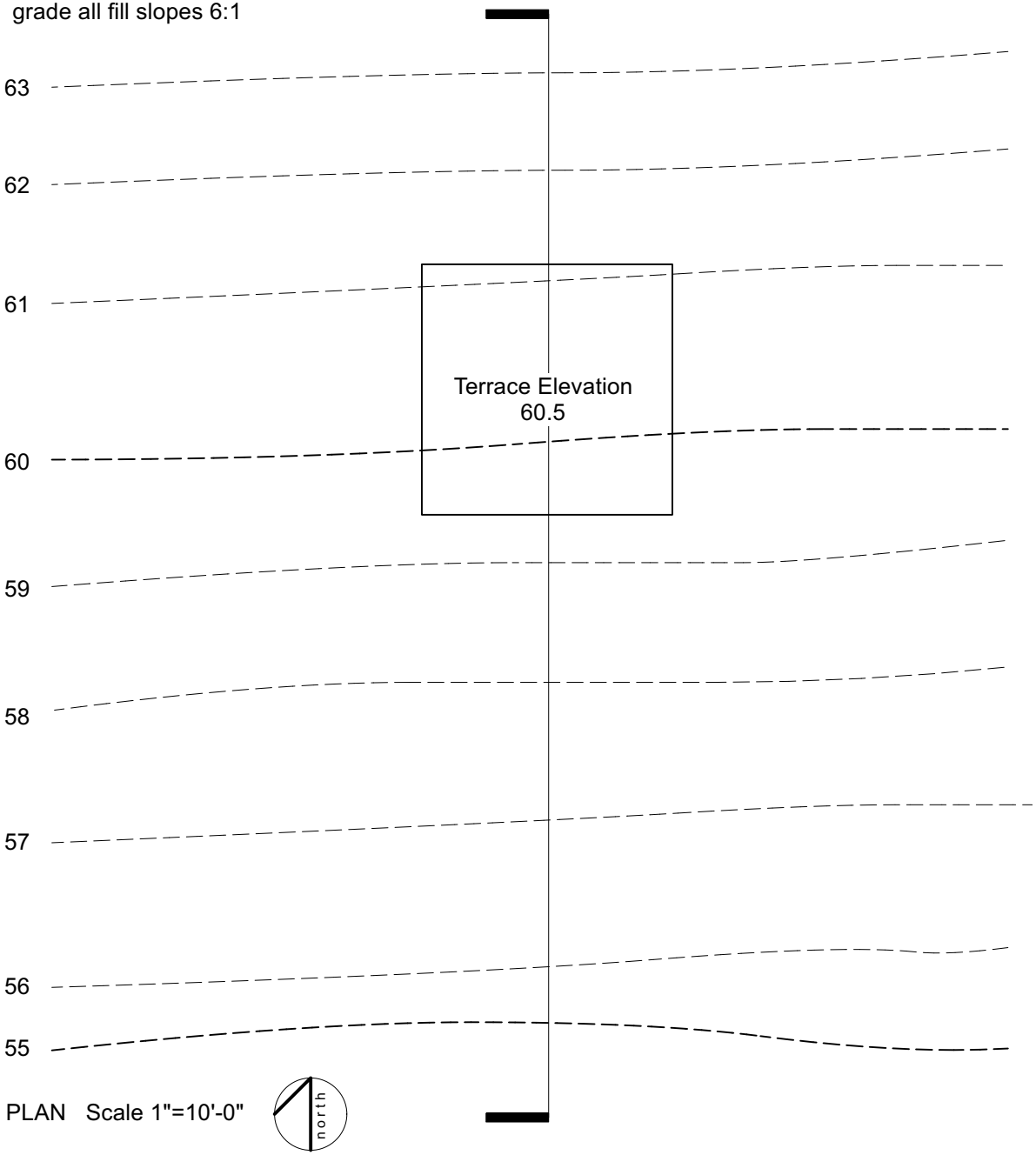


PLAN Scale 1"=10'-0"

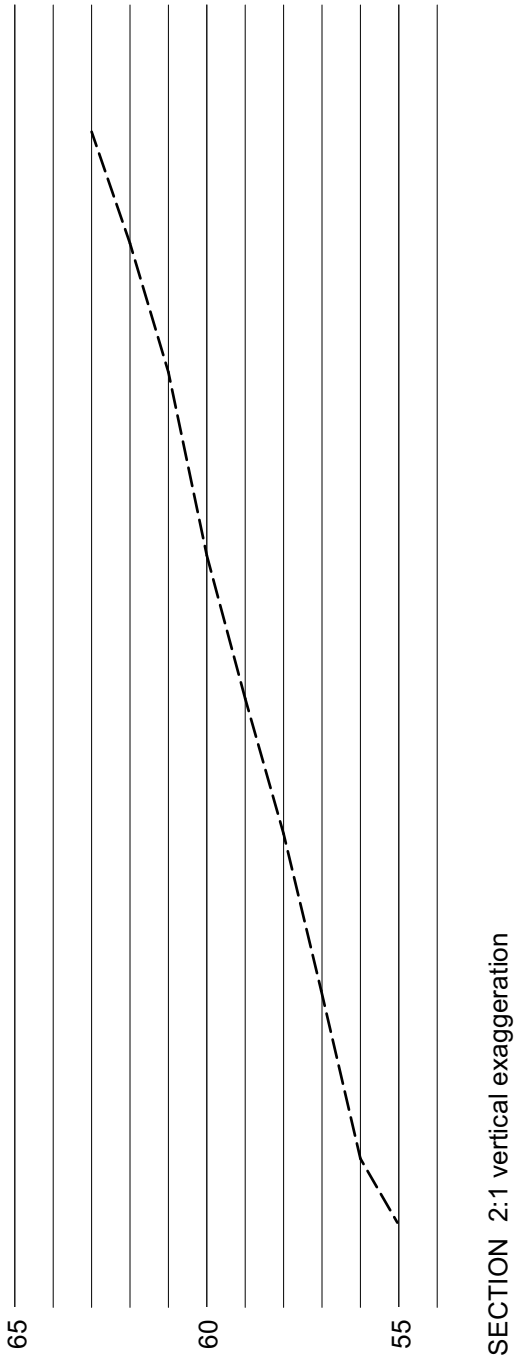


3. PLAN

Cut / Fill combination slopes: grade all cut slopes 5:1
grade all fill slopes 6:1



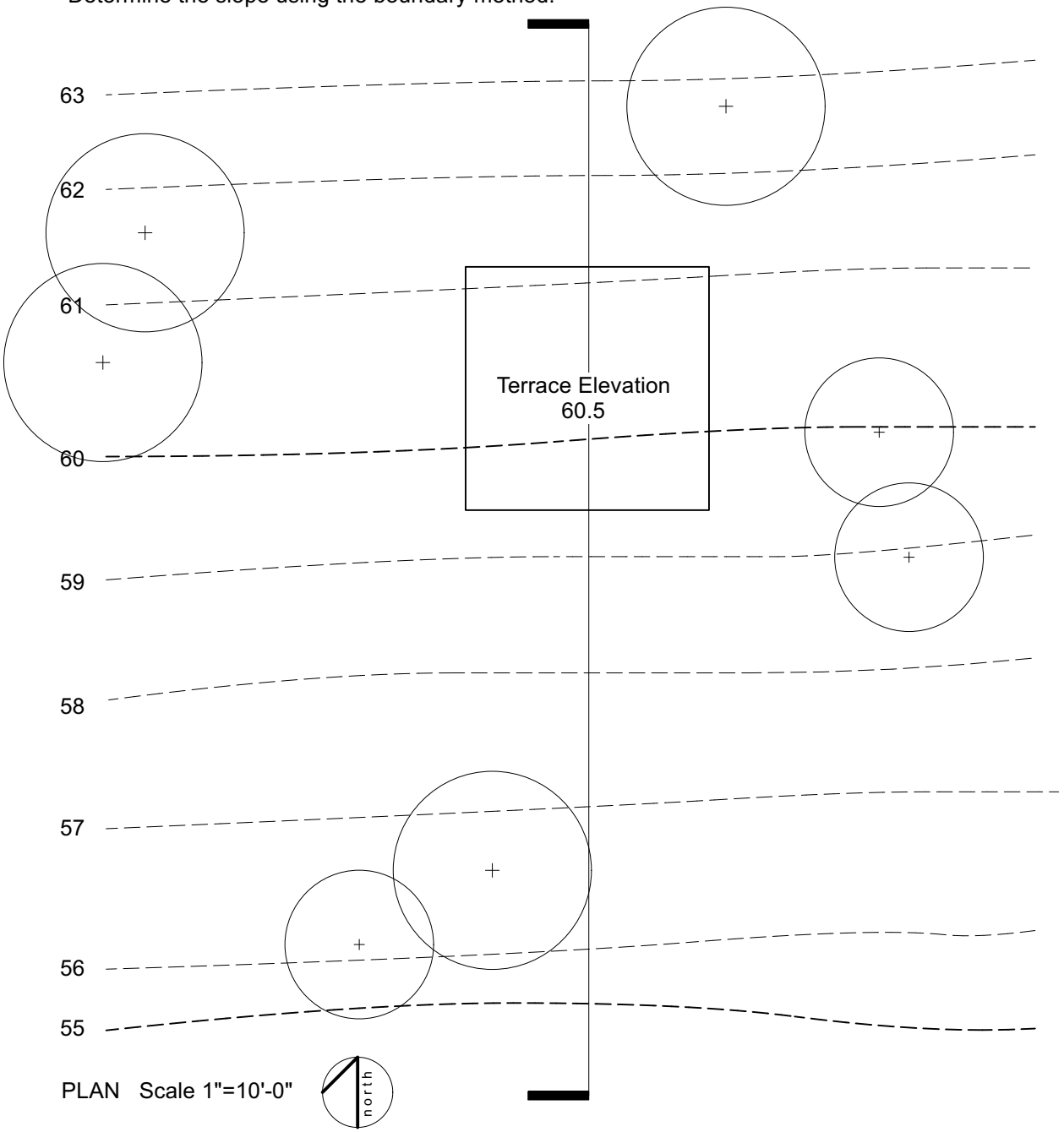
PLAN Scale 1"=10'-0"



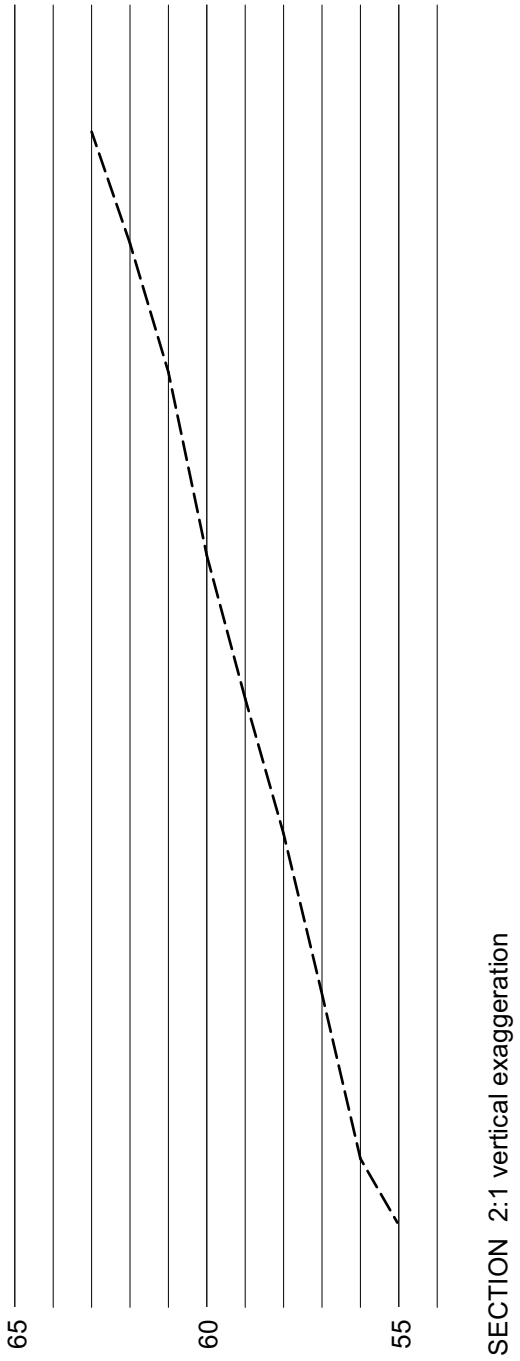
SECTION 2:1 vertical exaggeration

4. PLAN

Determine the slope using the boundary method.



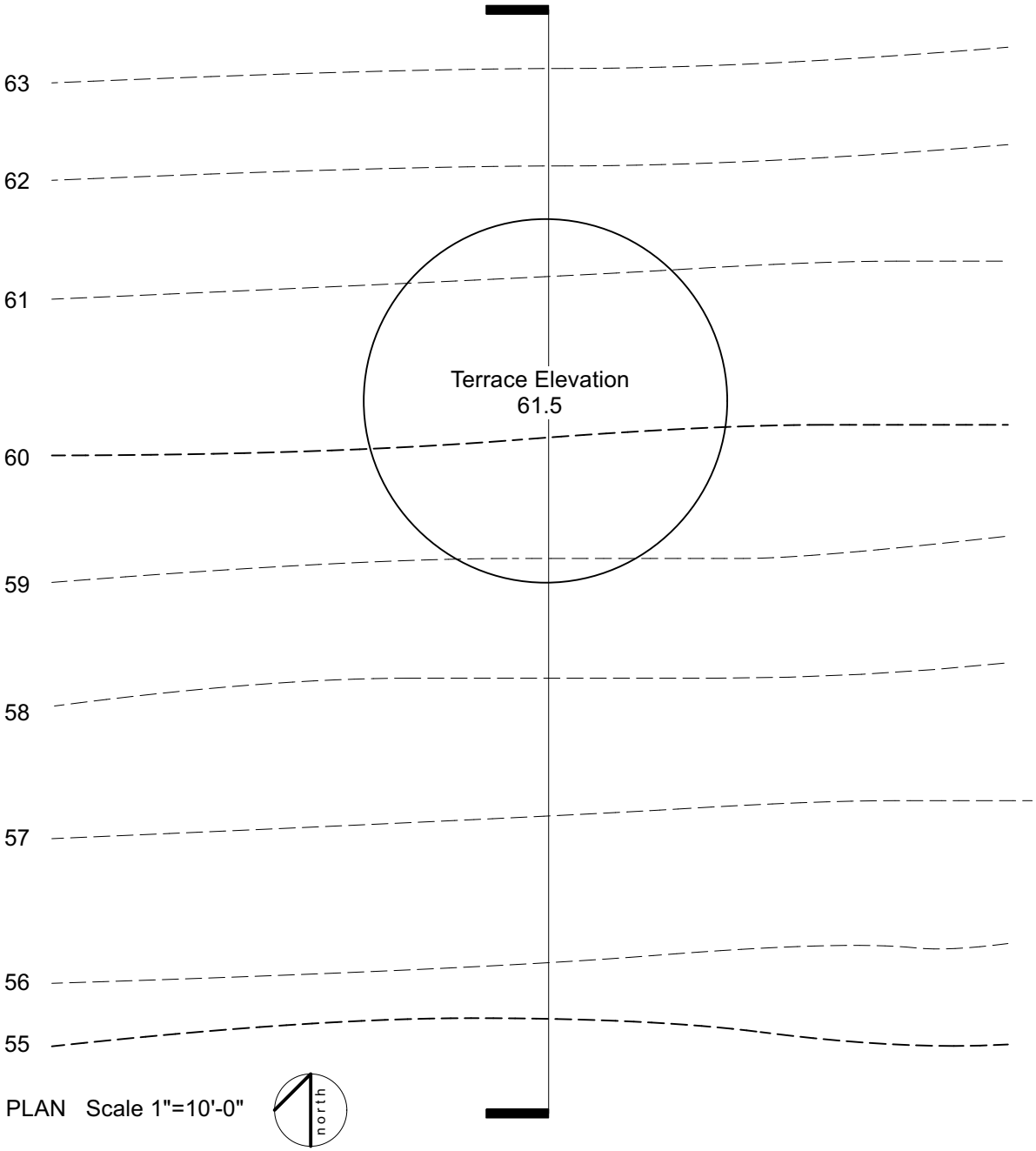
PLAN Scale 1"=10'-0"



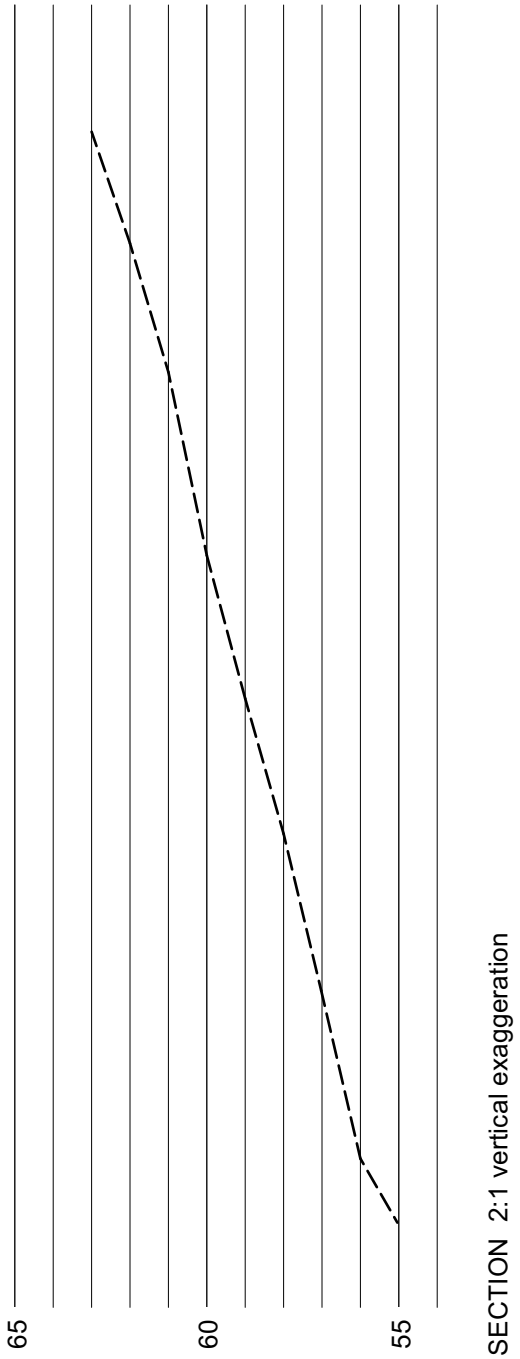
SECTION 2:1 vertical exaggeration

5. PLAN

Fill shaped slopes: grade all fill slopes 4:1



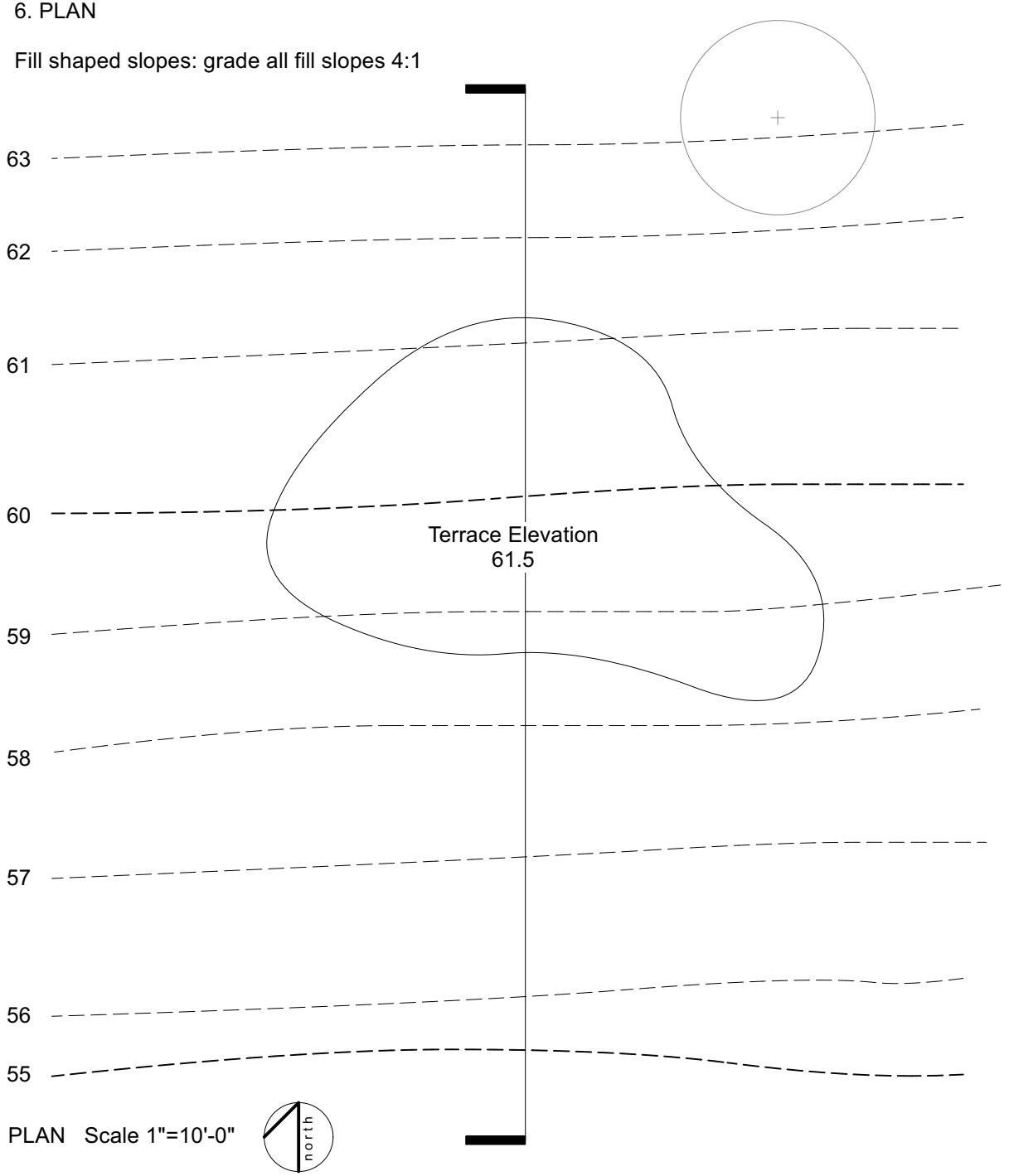
PLAN Scale 1"=10'-0"



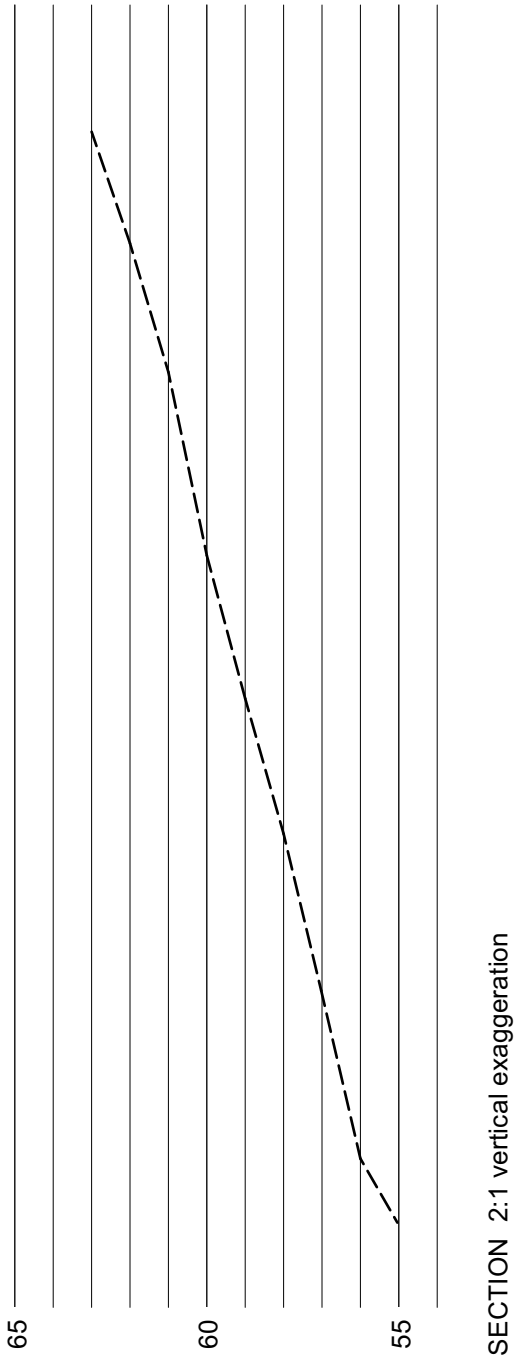
SECTION 2:1 vertical exaggeration

6. PLAN

Fill shaped slopes: grade all fill slopes 4:1



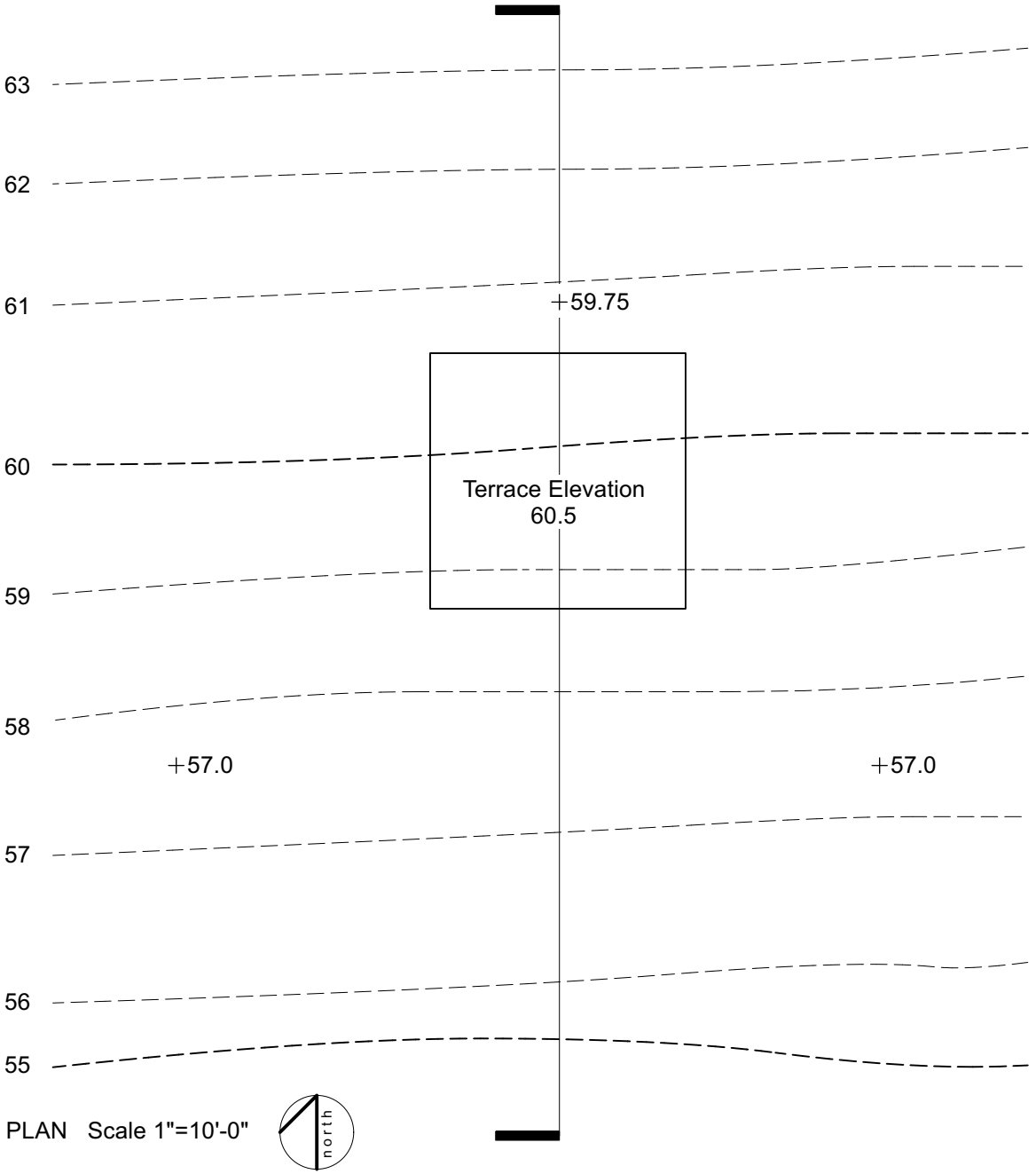
PLAN Scale 1"=10'-0"



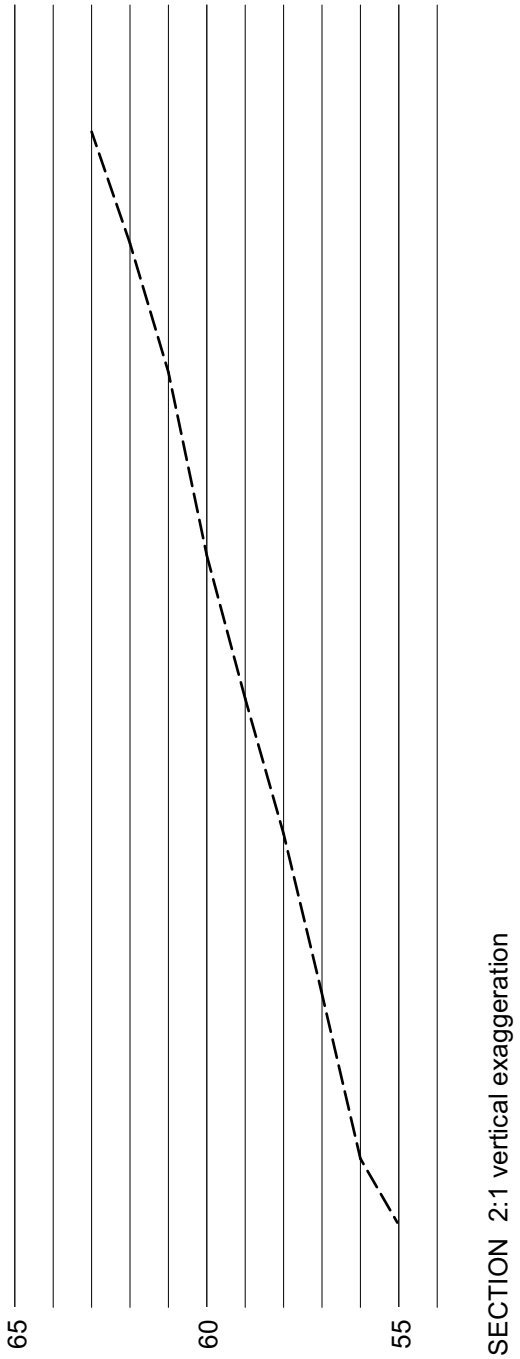
SECTION 2:1 vertical exaggeration

7. PLAN

Use a swale to prevent flow over the Terrace and create positive drainage



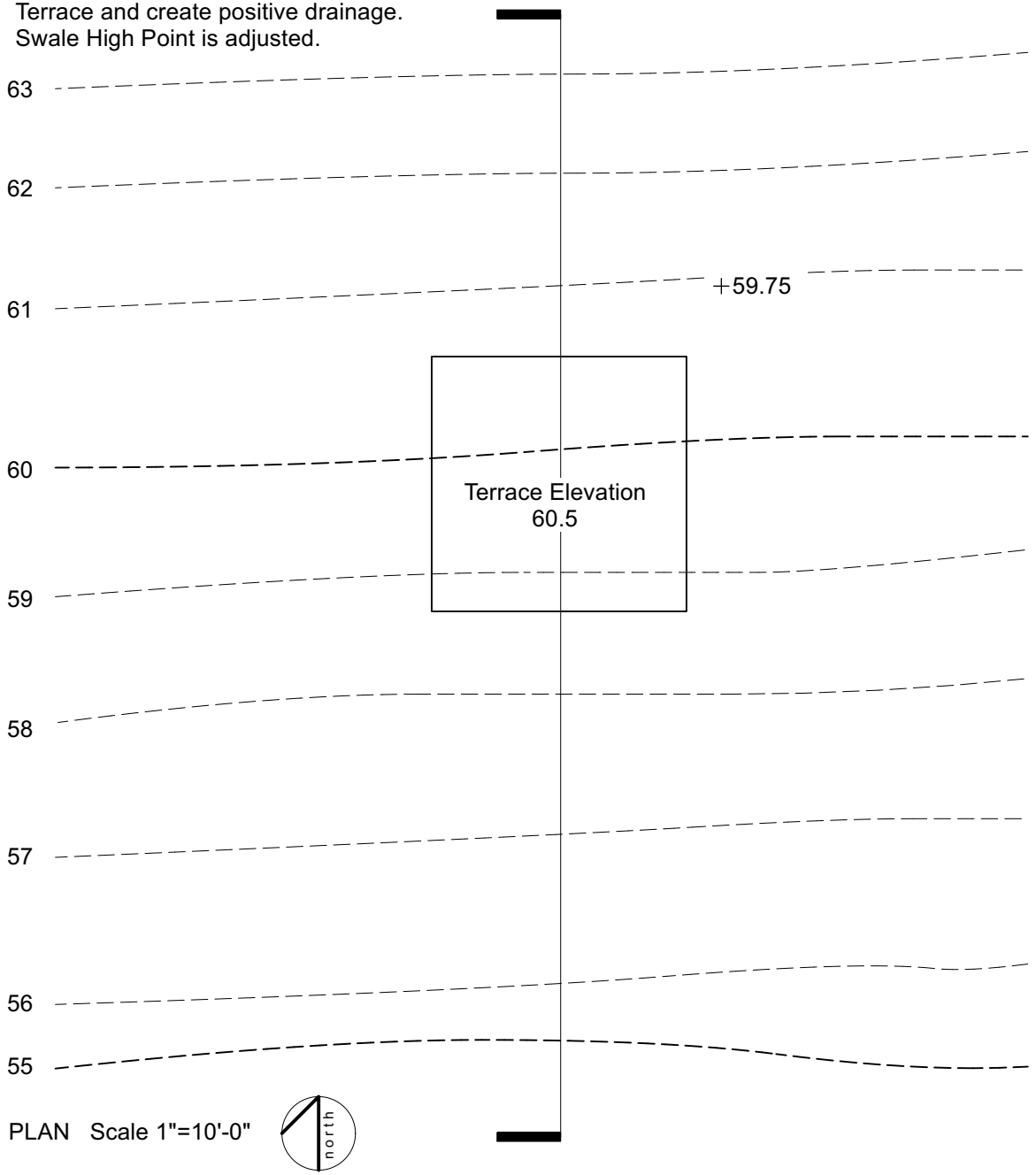
PLAN Scale 1"=10'-0"



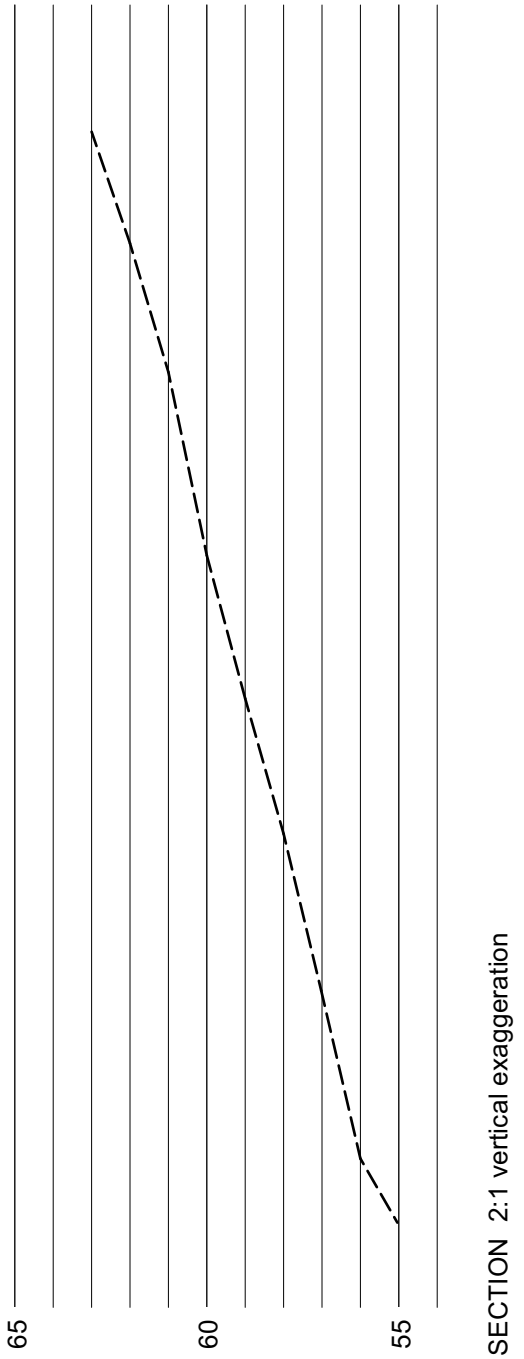
SECTION 2:1 vertical exaggeration

8. PLAN

Use a swale to prevent flow over the Terrace and create positive drainage. Swale High Point is adjusted.



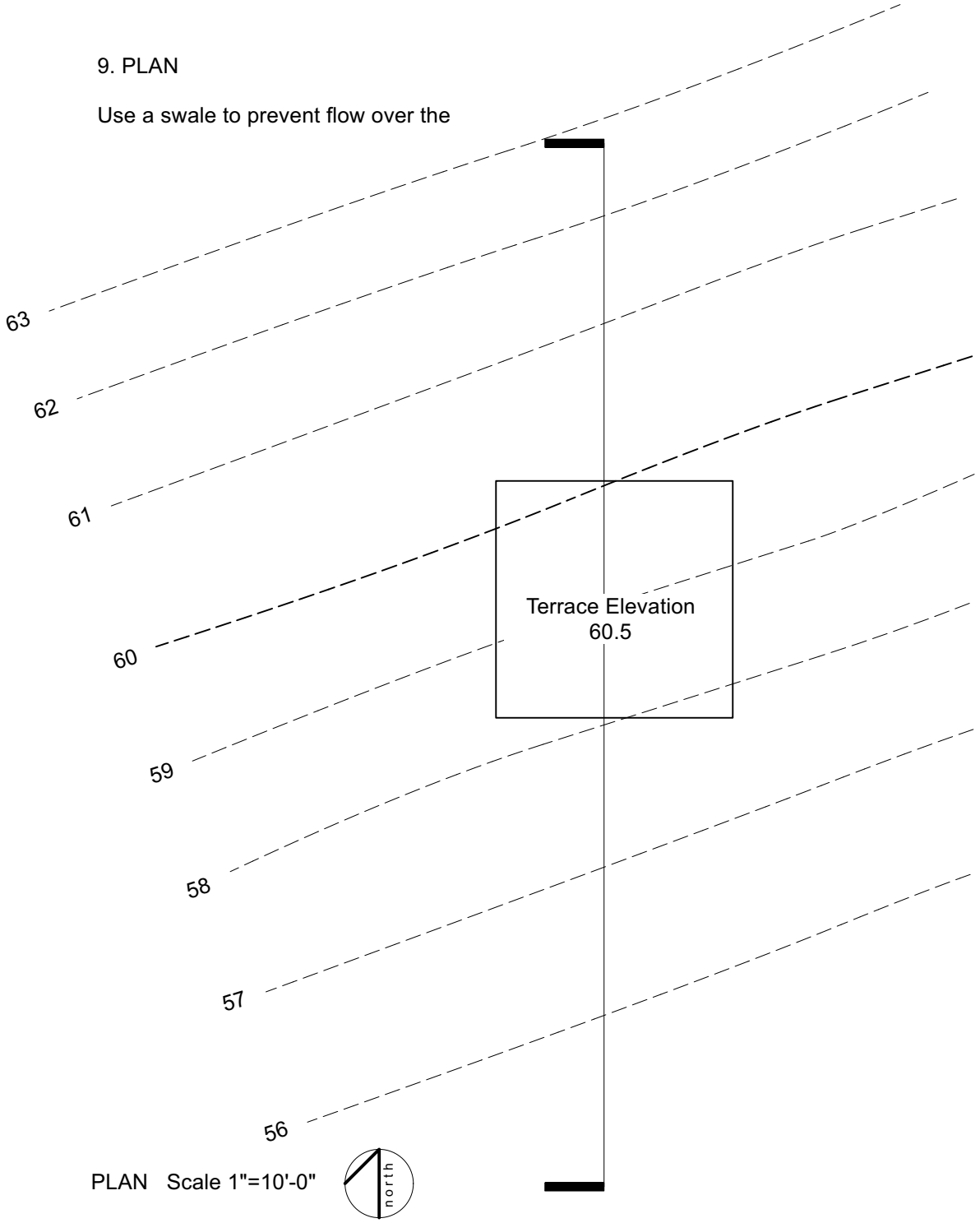
PLAN Scale 1"=10'-0"



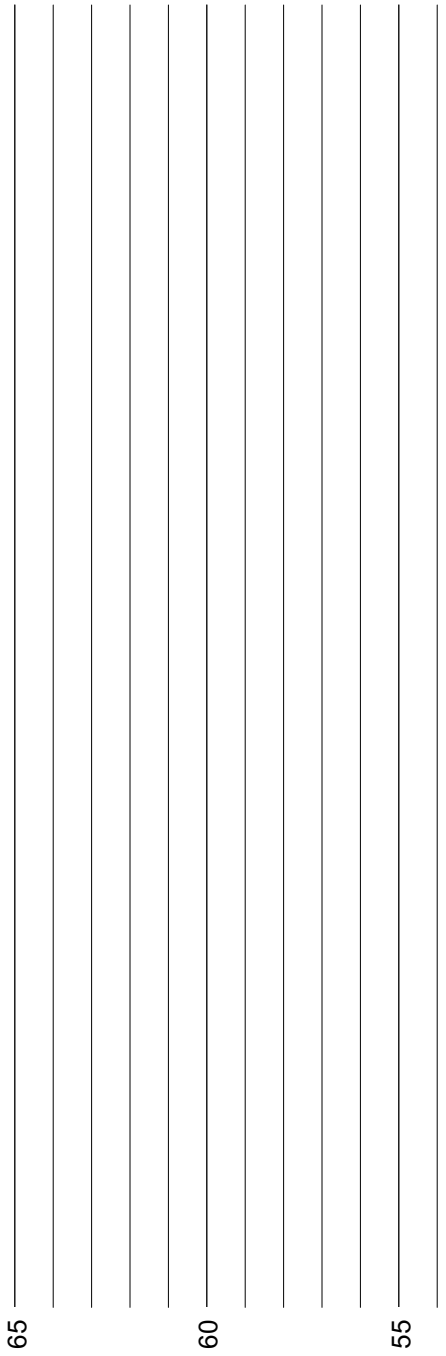
SECTION 2:1 vertical exaggeration

9. PLAN

Use a swale to prevent flow over the



PLAN Scale 1"=10'-0"



SECTION 2:1 vertical exaggeration

Project	1.1-1.2
Issued	231023
Submit	As Noted

Clemson University
Landscape Architecture 2620 / 8610 – Design Implementation I

Project #1.1 -1.2 Sectional Study

Part_1
Using the topographic drawing and brown butcher paper provided in class, each student will coordinate and select a single section from the drawing to from which to work. Each section drawing shall include the following content:

- Existing contour section line (dashed, fine line weight) 100' length
- Proposed section line (solid line, heavy line weight)
- Locate and annotate center line of retention basin on the section
- Indicate 50' offset from basin centerline using architectural dimension style
- Provide a 4' x 4' grid overlay across the section study (solid line, very fine line)
- Provide a graphic scale bar and written scale
- Indicate your TA and Section # on the drawing
- **Section shall be drafted at 1/4"=1'-0"**

- You may use black and white pens, markers, chalk, charcoal etc.

- You may use a single color for accent as needed

Attention
- Pay close attention to line weight variation
- Contrast
- Neatness and clarity
- Symmetry and composition

See you TA if you need additional butcher paper

Part_1.1
The second step of this project is to recreate your hand drafted section in ACAD. You are to use all the parameters listed above and draft the same existing and proposed sections as well as the grid in ACAD. This drawing shall be in black and white only, but may include gray scale as well.

Attention
- Pay close attention to line weight variation
- Contrast
- Neatness and clarity
- Symmetry and composition

Submit: 10/25/23

Part_1.2
The final step is to create a cut section model of your ***Proposed Section*** only. Use the same ACAD file to create a digital file that can be used with the laser cutter. **If you do not know how to use the laser cutter, you will need to set up a time to get trained and approved for its use ASAP.** The depth of the section shall extend 10' (at ¼"=1'-0") below the lowest contour on your section line. That is, the cardboard will extend 2 ½" below the retention area on your proposed section line. The section shall be 1" thick minimum. This means you will need to cut 4-5 layers of cardboard to achieve this thickness. Additionally, you will need to etch the following content on the front of your section model:

- Your name
- TAs last name
- Section line #
- Written and graphic scales

Submit: 11/01/23

Project	1.0
Issued	231018
Submit	231023

Clemson University
Landscape Architecture 2620 / 8610 – Design Implementation I

Project #1.0 Sectional Study

Part_1
Using the topographic drawing and brown butcher paper provided in class, each student will coordinate and select a single section from the drawing to from which to work. Each section drawing shall include the following content:

- Existing contour section line (dashed, fine line weight) 100' length
- Proposed section line (solid line, heavy line weight)
- Locate and annotate center line of retention basin on the section
- Indicate 50' offset from basin centerline using architectural dimension style
- Provide a 4' x 4' grid overlay across the section study (solid line, very fine line)
- Provide a graphic scale bar and written scale
- Indicate your TA and Section # on the drawing
- **Section shall be drafted at 1/4"=1'-0"**

- You may use black and white pens, markers, chalk, charcoal etc.

- You may use a single color for accent as needed

Attention
- Pay close attention to line weight variation
- Contrast
- Neatness and clarity
- Symmetry and composition

See you TA if you need additional butcher paper