

Project **DP**

SPACE + VOLUME from DRAWING

An Object

There is a base rectangular solid which is 40' x 24' x 24'. The minor axis runs north to south and the longitudinal axis runs east to west. The solid is divided into a 4' square grid throughout the solid. This grid is "evidenced" on each of the outer 6 surfaces of the solid. The origin point for our exercise will be the north-west corner of the grid on the "top" surface of the solid. The squares of the grid are identified by a matrix of numbers from the origin to the east of 1-10 and they are identified from the origin south by letters A, B, C, D, E and F. The square in the north-west corner is therefore referred to as A-1. The top surface of the solid has upon it two planes bounding neatly the north and west edges of the top surface of the solid. The planes are 12' high and 2' thick. They are joined together so as to be continuous. These planes are aligned on their exterior with the northern and western faces of the base solid. There is a square opening in the west segment of the wall which is 4'x4'. The opening is centered in the plane horizontally as seen from the west exterior elevation. The opening is centered vertically as seen from the interior elevation looking toward the west. There is a 20' long horizontal opening on the north wall which starts 4' east of the exterior north west corner and 4' above the top surface of the base solid. The opening is 2' tall on the interior (south facing) surface of the wall and 1' tall on the exterior (north facing) surface although the length is the same on the inside and out. The opening changes from a 2' to 1' height in equal taper on the top and bottom. Squares B2, B3, C2,C3 are occupied in entirety by the base of a triangular "wedge" solid. The triangular solid has a rectangular west elevation of 8' x 24' which is perpendicular to the ground plane. The north and south elevations of this solid are triangular. Centered on the grid line between D and E is a rectangular solid which is 8' east-west and 2' north south. The west end of the solid is on the line between 1 and 2. The solid is 24' high. In the south-west corner of squares F2, F3, F4, F5, F6 and F7 sits a square column with a base of 2'x2' and a height of 16'. The south-west corner of the column touches the south-west corner of the grid. At the intersection of the grid lines between C and D and 5 and 6 is the center point of a cylinder with a base radius of 4' and a height of 14'. If you were to draw a line from a point on the top surface of the base solid at the grid line between 5 and 6 and A and B to a point at the grid line between 8 and 9 and C and D you would have the center-line of the base of a plane 6" wide and 8' tall. Square A10 is entirely occupied by a rectangular solid 4' x 4' and 24' tall. The top of this solid is "indented" with a void in the form of an upside down pyramid with a base equal to the top of the solid and a height (depth) of 4'. 6' above the (up not north) a point on the easternmost edge of the top surface of the base solid centered on grid C is the center point of a sphere with a diameter of 12'.

Drawn
Object

Due Wednesday 31 August 2007_02:10pm

Please draw the object described above at a **scale** of 1/8" = 1'-0" in graphite **line drawing** each group of drawings centered on neatly cut pieces of 18"x18" vellum, with keen attention paid to **line weight**. Please execute the following drawings:

Drawing One:

1. Plan – cut at 40' above the top surface of the base solid.
2. Plan – cut at 4' above the top surface of the base solid.
3. Section – cut along the line between B and C, looking south.
(the section line may/should be "jumped" to give the best view)

Drawing Two:

4. North elevation
5. South elevation
6. East elevation
7. West elevation

Drawing Three

8. Axonometric – South east corner being lowest. Angle at 30/60 degree with the eastern edge being at a 30 degree inclination to a line parallel to the bottom of the sheet.

Modeled
Object

Due Wednesday 05 September 2007_02:10pm

Please model the object first described and then drawn, at a scale of $1/8" = 1'-0"$ in chip board. Be careful to choose a chip board appropriate to the scale of model you are undertaking. Pay careful attention to craft both in the cutting and gluing of the pieces. Maintain true dimensions, taking into account the thickness of the chip board. Please execute the following models:

1. Positive Model
2. Void Model*

Goal:

The goal of this project is to induce a discussion of material and its relation to form. The solids modeled should be constructed in a "like" manner, such that the flat sheet material of chip board is used in the same way to render each solid. Final models will be evaluated for consistency.

**Void Model.* Drop the objects which occupy the top surface of the base solid through the solid such that their base is now on the bottom surface of the base solid. Render a model where the base solid is punctuated by voids which are the objects which were previously sitting atop the base solid. Consider the "manner" and "method" of model fabrication.