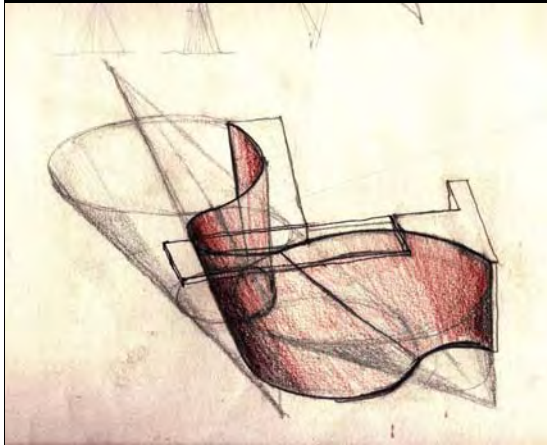




Materials learning through investigation of a spatial/formal concept.

Reception desk



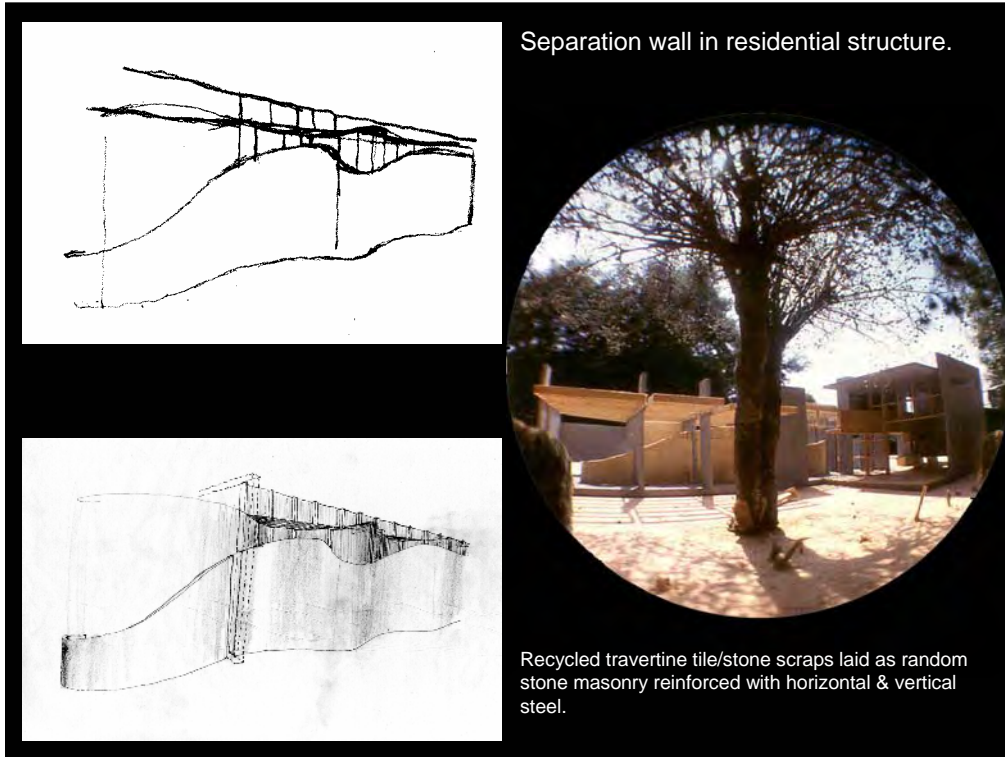
Structural Concept: steel skeleton/frame + maple plywood skin



Allen: Millwork and finish carpentry section of Interior finishes for wood light frame construction.

Concept: Skeleton and skin. Skin is one piece formed using kerf cuts to allow controlled flexing of material within its limits.

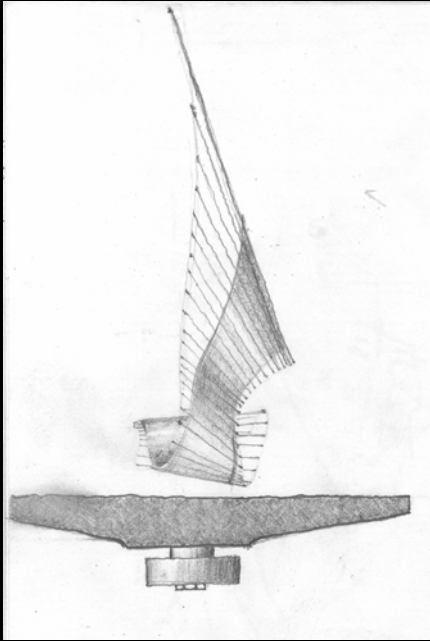
Steel frame/skeleton.– ref: Metals in Architecture section of Steel Frame Construction chapter.



Masonry: Allen: masonry chapter, stone masonry + horizontal reinforcing presented in Concrete masonry section of chapter.

Travertine chunks, random recycled stone pieces. Horizontal & vertical rebar in stone masonry construction.

Floor lamp



¼" Aluminum structural plate, steel base. Hardwood (purpleheart) ribs attached with countersunk SS screws.

Aluminum, manipulating sheet, rolling with conical shapes.

For cylindrical rolling example and machines:

http://www.americanmachinetools.com/bending_rolls.htm



Dining Table: 1/4" Aluminum structural plate, steel base, purpleheart diaphragm, 3/4" etched glass top.

Material connections: Aluminum to Steel – galvanic action prevention – washer or gasket – wood gasket/spacer.

Wood to aluminum, bolted connections, types of bolts, socket head cap screws, stainless steel

Glass: etching, difference between sand and silicone carbide. Masking

Twisted interior dividing wall, partially load bearing.

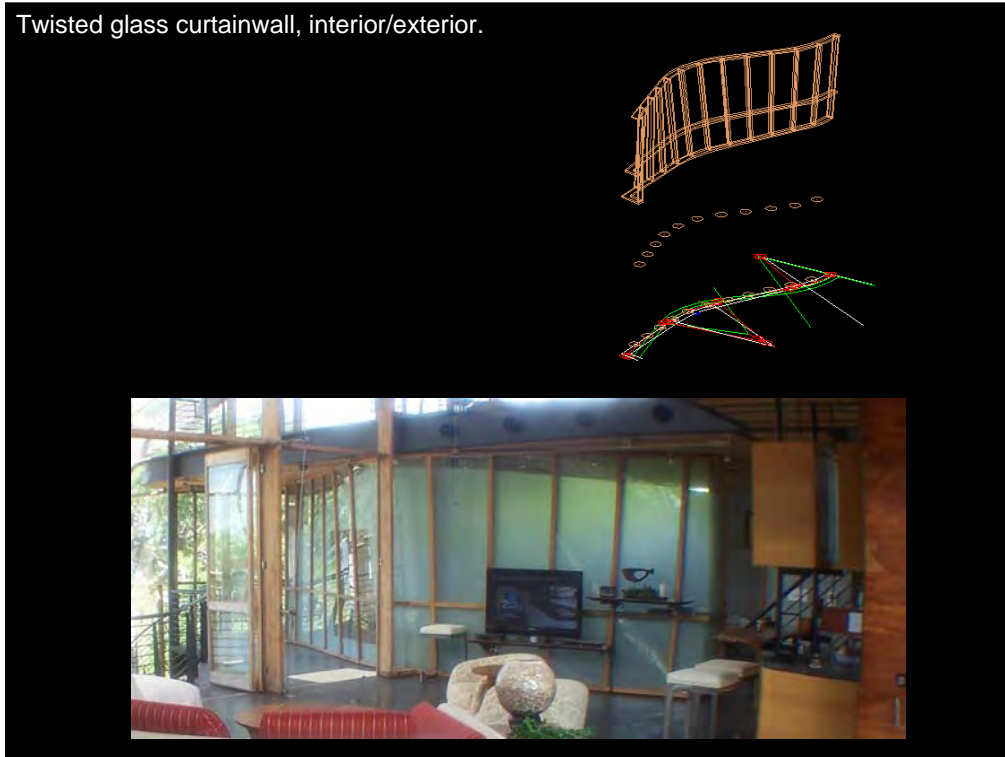


2x6 wood framed, ½" gypsum wall board, paint.

Allen Book: Wood light frame construction Chapter. Interior wall construction, non-bearing. Gypsum wall board.

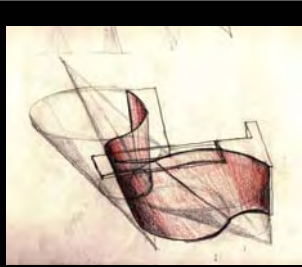
<http://www.nationalgypsum.com/resources/>

Twisted glass curtainwall, interior/exterior.

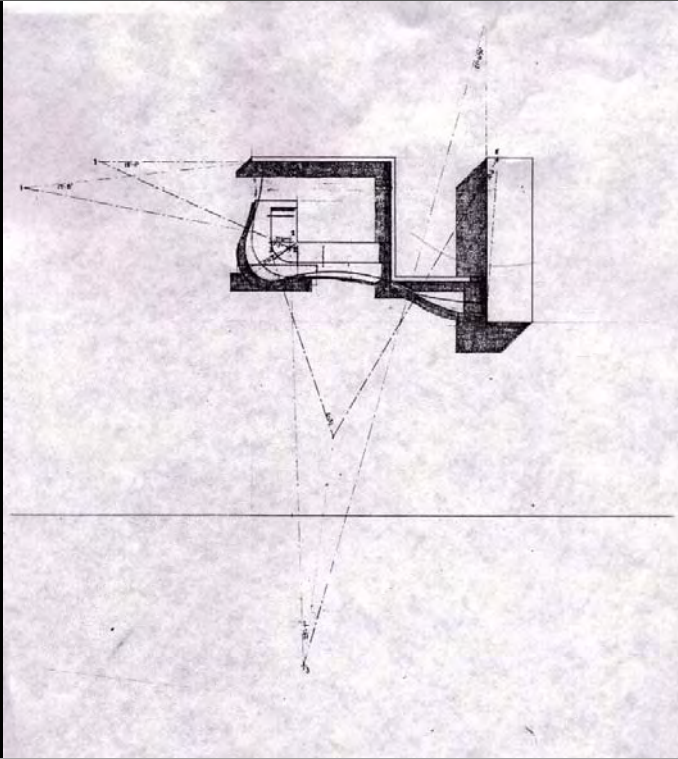


Allen chapters: Wood Light Frame Construction-Building the Frame section. Glass and Glazing. Cladding, Curtain Wall Design section and Sealant Joints in Cladding section.

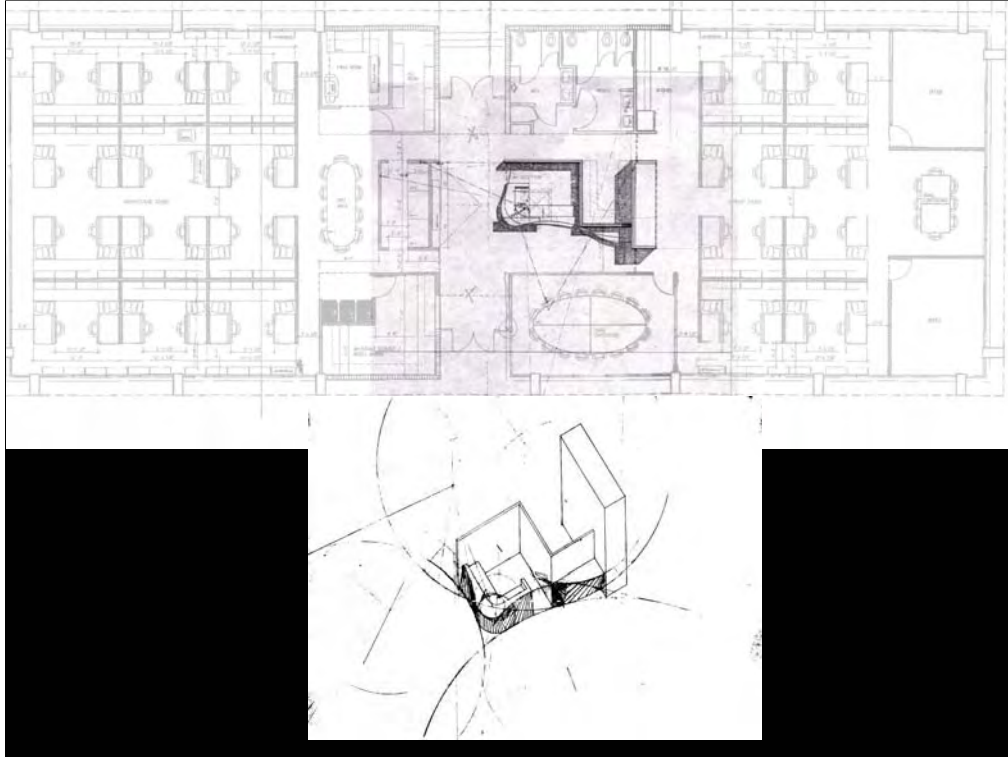
Concept: rough sawn cypress mullions with differing curves for top & bottom plate, evenly spaced verticals.



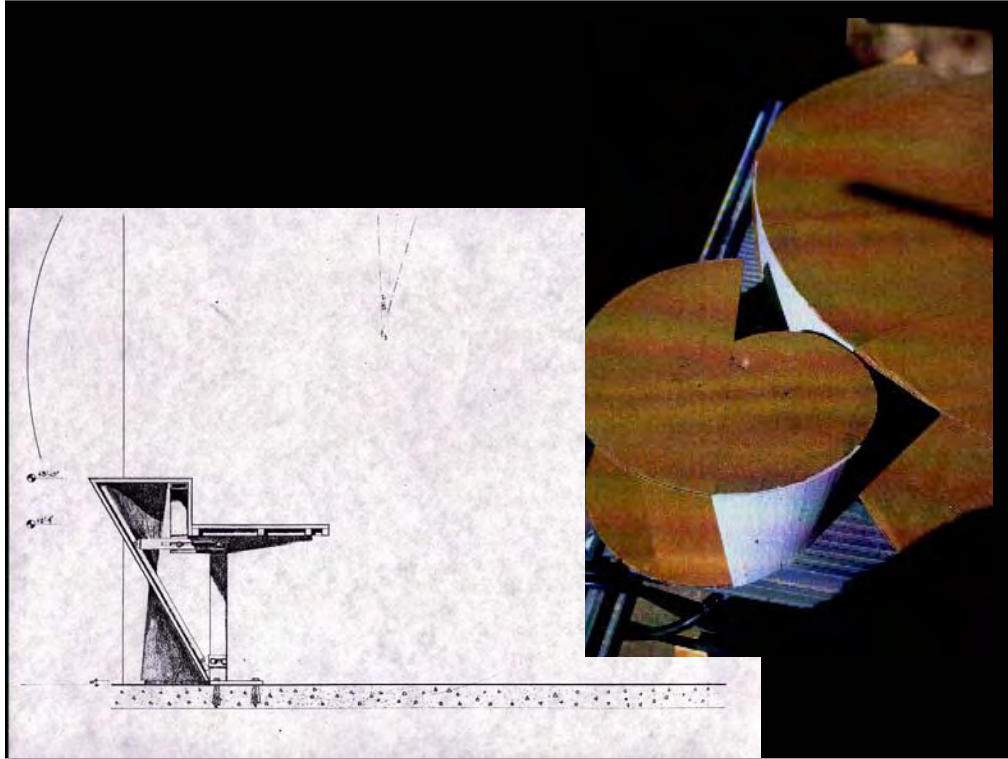
Reception desk



Concept – fluid shape within orthogonal context, move occupants through the space, not static.



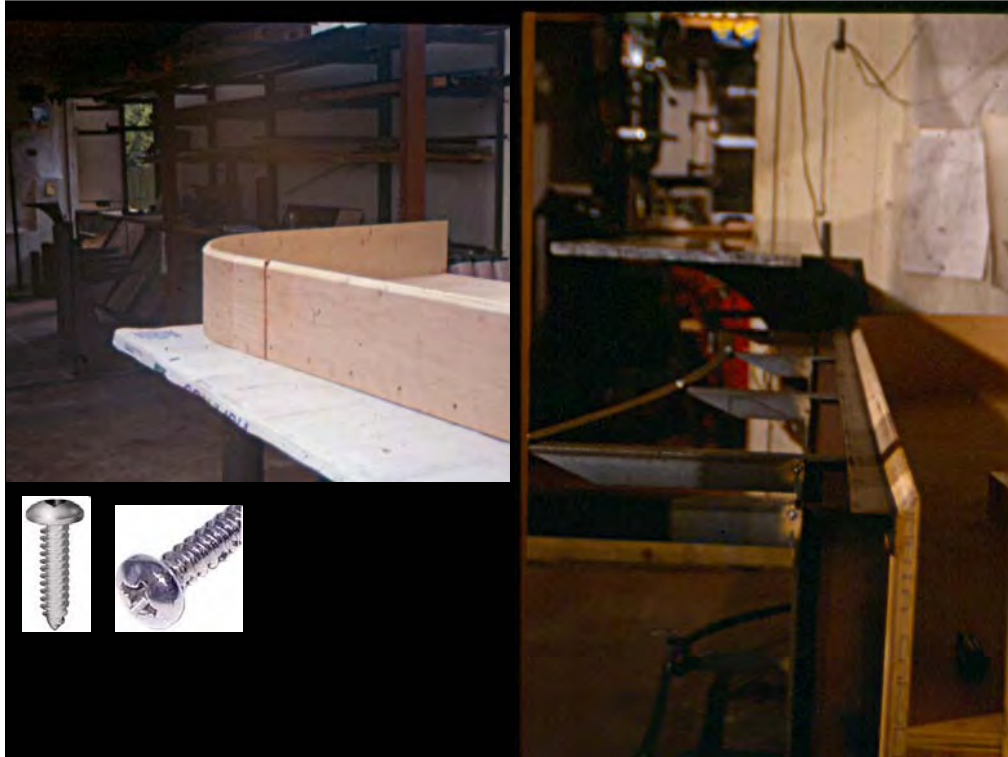
Context ("site") drawing + concept drawing of how to define the shapes. Defined by lower and upper fluid curves creating conical surfaces.



Concept drawing showing frame and skin. 3"=1'-0" concept model used to scale up kerf cuts in plywood. Divide curve segments into equal number of segments top & bottom. Remove mat board from model, flatten, and scale up by factor of 4, transfer to sheet of 3/4" plywood. Now with CNC technology, could use unrollsrf command (Rhino) define flattened shape of surface, then divide each curve evenly, then define kerf width, create CNC g-code file, send to router for kerf cuts first, then cutout.



Steel Frame, CNC plasma cut (outsourced). Rolled angles for top & bot curves (outsourced) welded angled. White maple. Top is recycled, blue pearl granite stone from existing building. Allen: Masonry Chapter, Stone section.



Plywood surface is kerfed in back – test cuts are made to determine depth of cuts to enable bending without cracking – bent dry. Panels are screwed from the back through steel angle with $\frac{3}{4}$ " pan head screws.



Inlays are of padouk (hardwood, west africa) and serve to transition between different cone surface sections and allow tolerance.

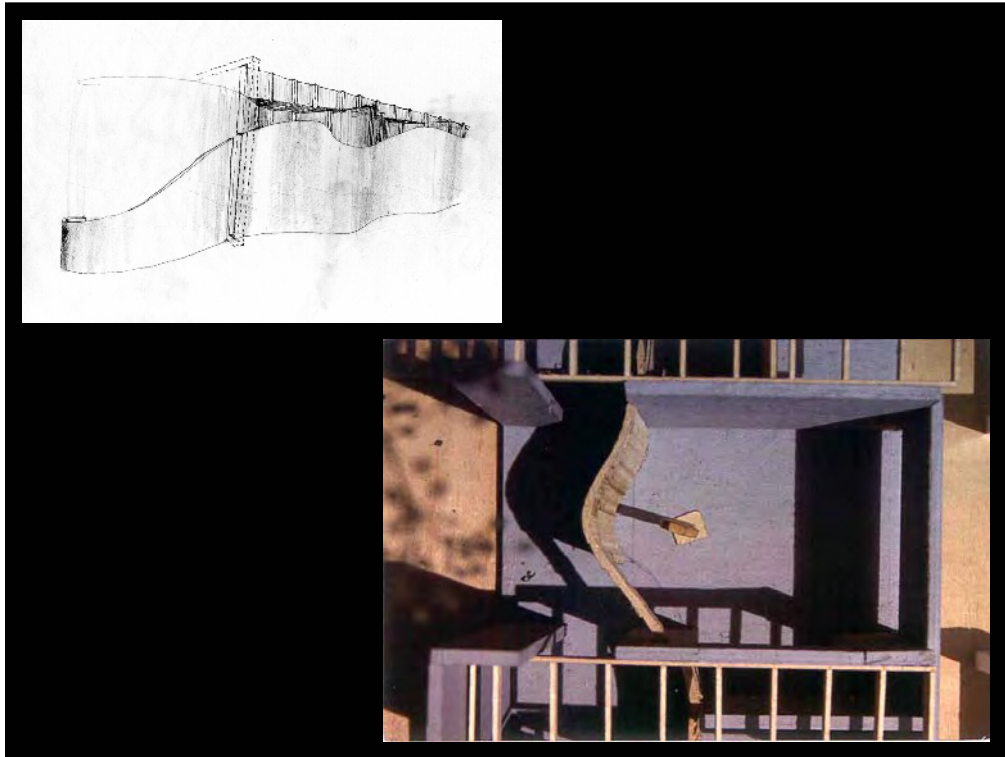
Finish is a water based, clear acrylic spray by Minwax: Polycrylic. Sprayed after desk is completed. Surface



http://www.google.com/imgres?imgurl=http://www.blockwall.org/images/split-face-block.jpg&imgrefurl=http://www.blockwall.org/&h=265&w=354&sz=19&tbnid=aqpYJ8dZ36QrcM:&tbnh=91&tbnw=121&prev=/images%3Fq%3Dsplit%2Bfaced%2Bblock&usg=__5fJkDbDnEHjflK98RtKeTvaYjYo=&ei=JRZyS4OBEY6vtgeIn72FCg&sa=X&oi=image_result&resnum=4&ct=image&ved=0CBIQ9QEwAw



Pen holder reverts back to initial concept but using steel sheetmetal, 16ga.



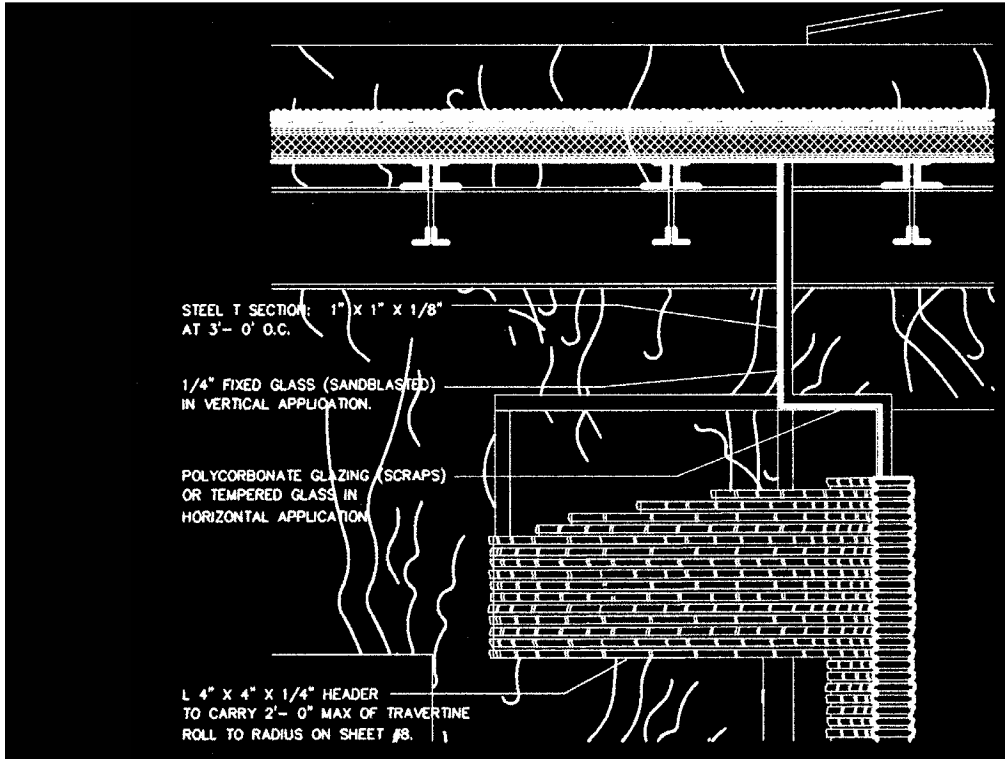
Fluid wall to separate private spaces (bedrooms, bathrooms, closets) from public space, courtyard + circulation.



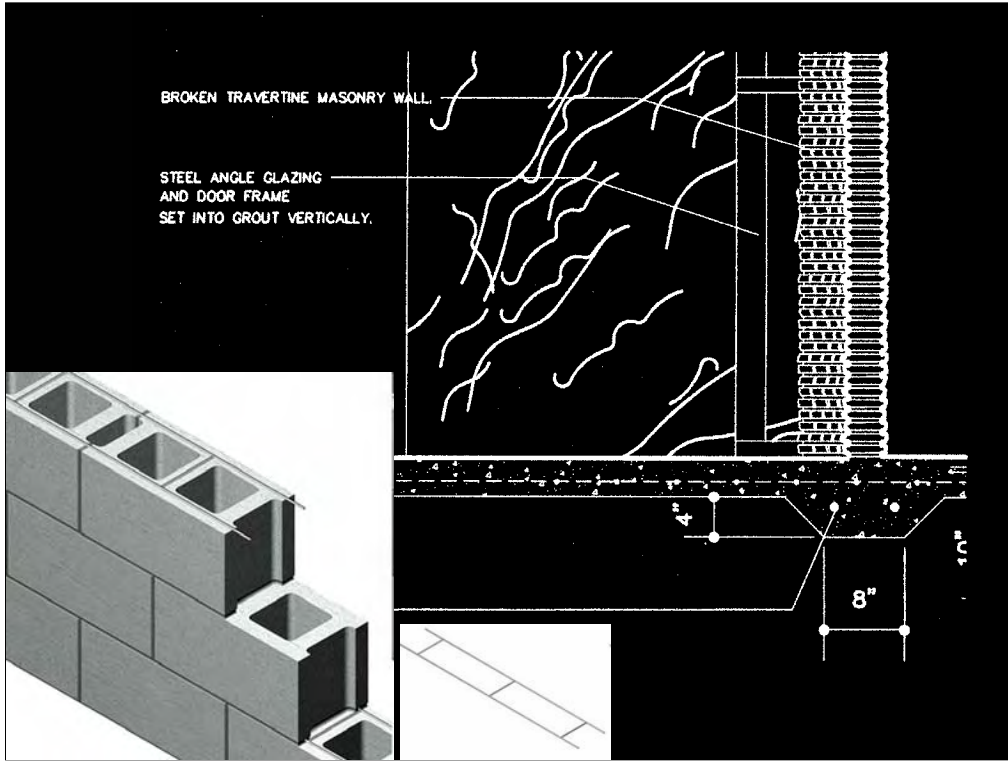
Eladio Dieste, Atlantida Church, 1960

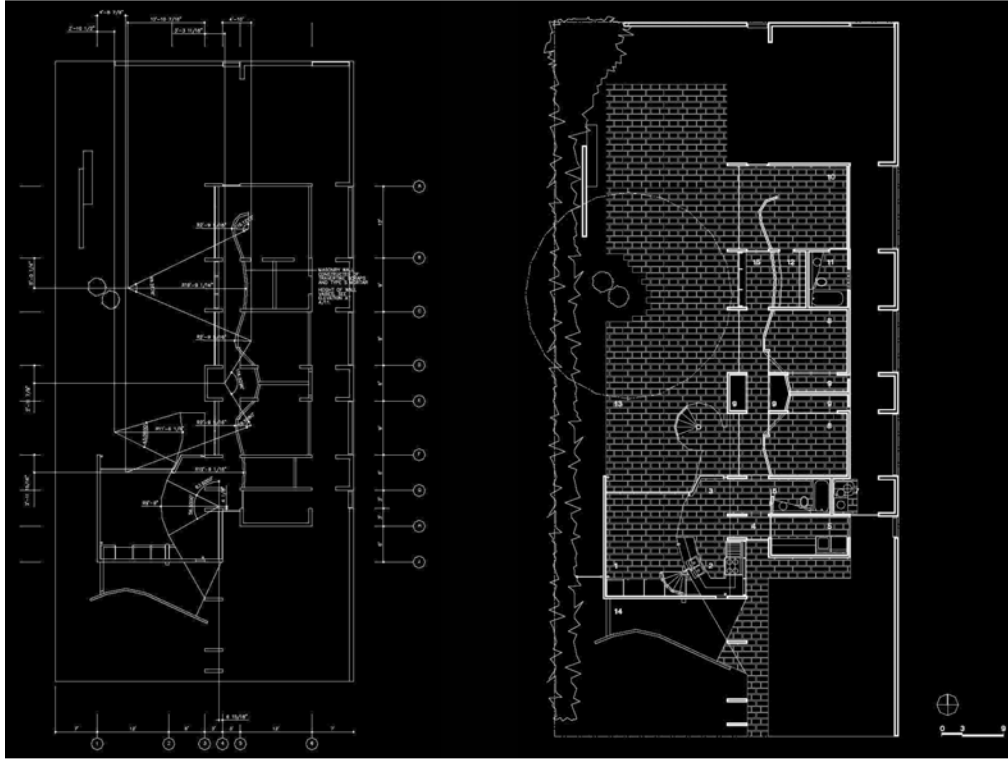
Felix Candela 1958 Mexico

Felix Candela ~1958 Mexico – strength and structural stability from shape (or geometry rather than mass)
Eladio Dieste Uruguay, 1960.

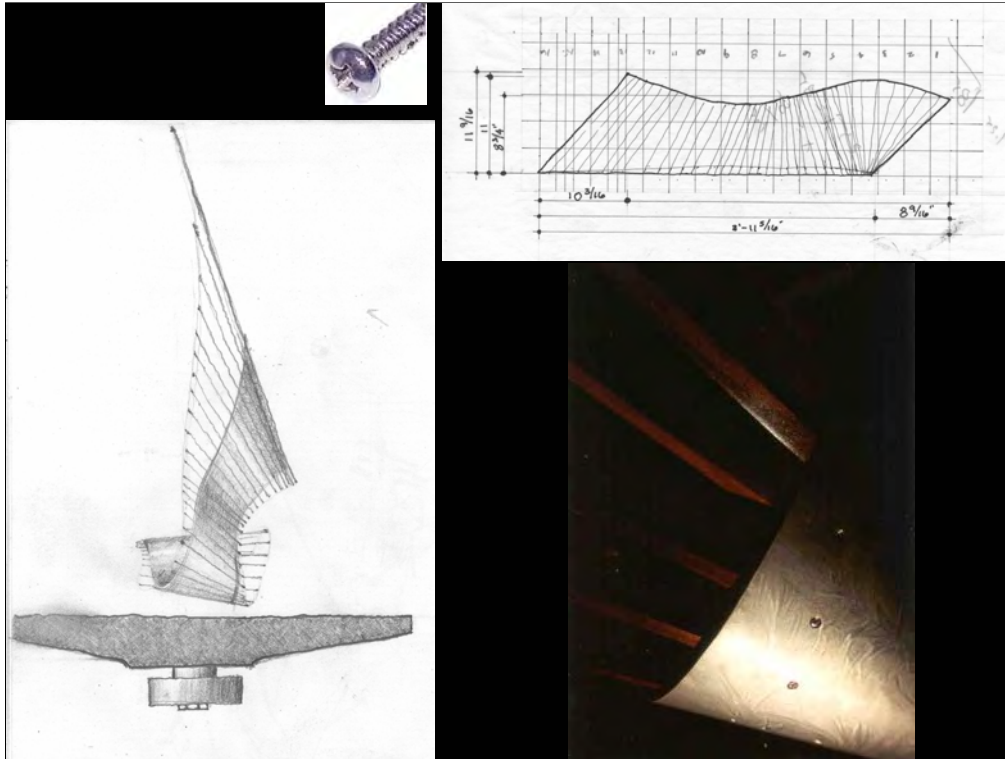


Section drawing showing concept for travertine scrap wall with raked horizontal joints.





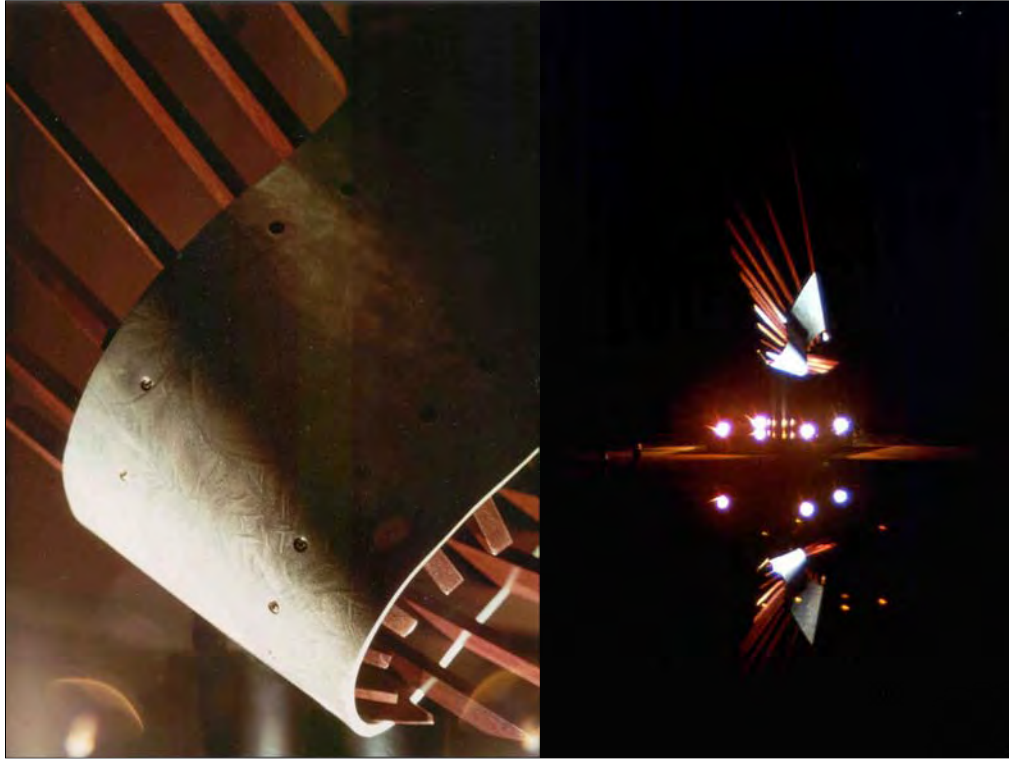




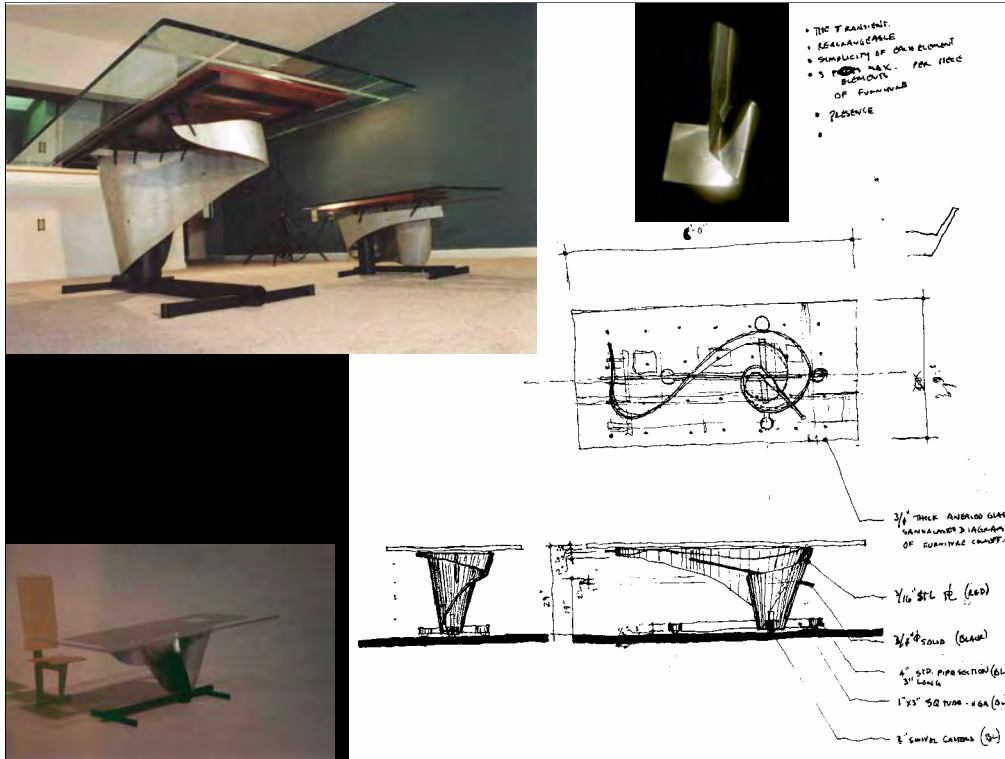
Fasteners, Stainless steel pan head phillips screws. Countersunk into alum.

Finishes: Powder coating. <http://www.pcoating.com/Content/Default.aspx> – powder coating magazine. A process of finishing metals where a dry powder is electrically charged and is sprayed onto oppositely charged metal, then is baked and powder melts and fuses to the metal creating a hard, abrasion resistant, polymer coating on the metal. Used extensively with Aluminum, less with steel.

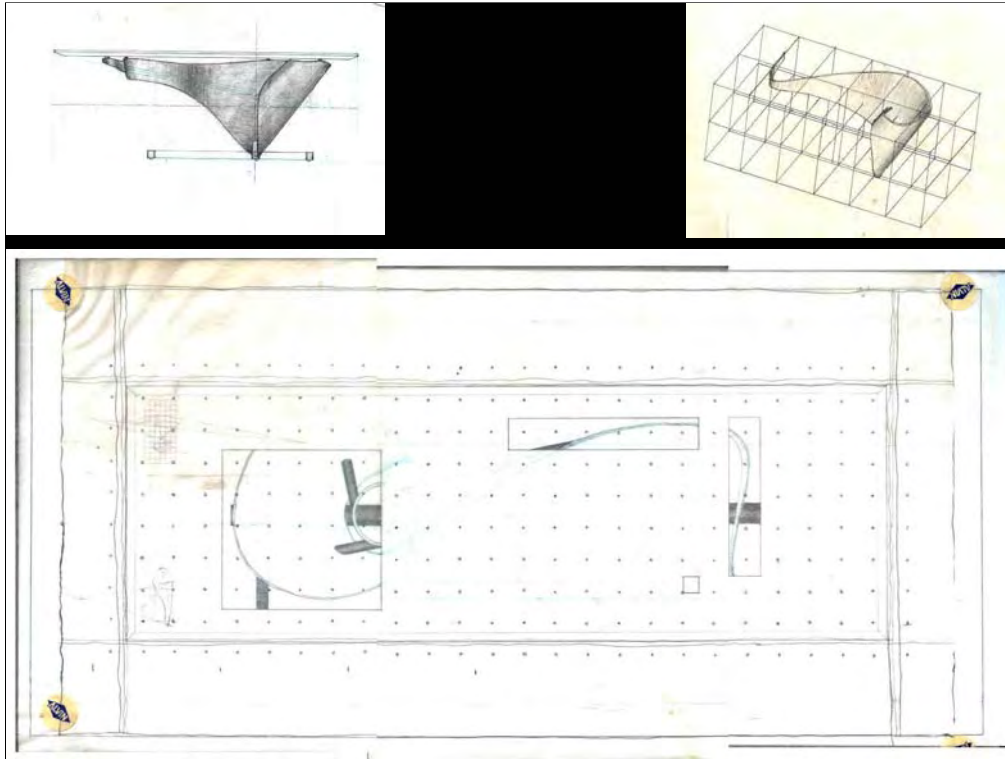
Prelude to following projects. Definition of bend lines along conical lines of surface, ref: kerf lines of reception desk skin.



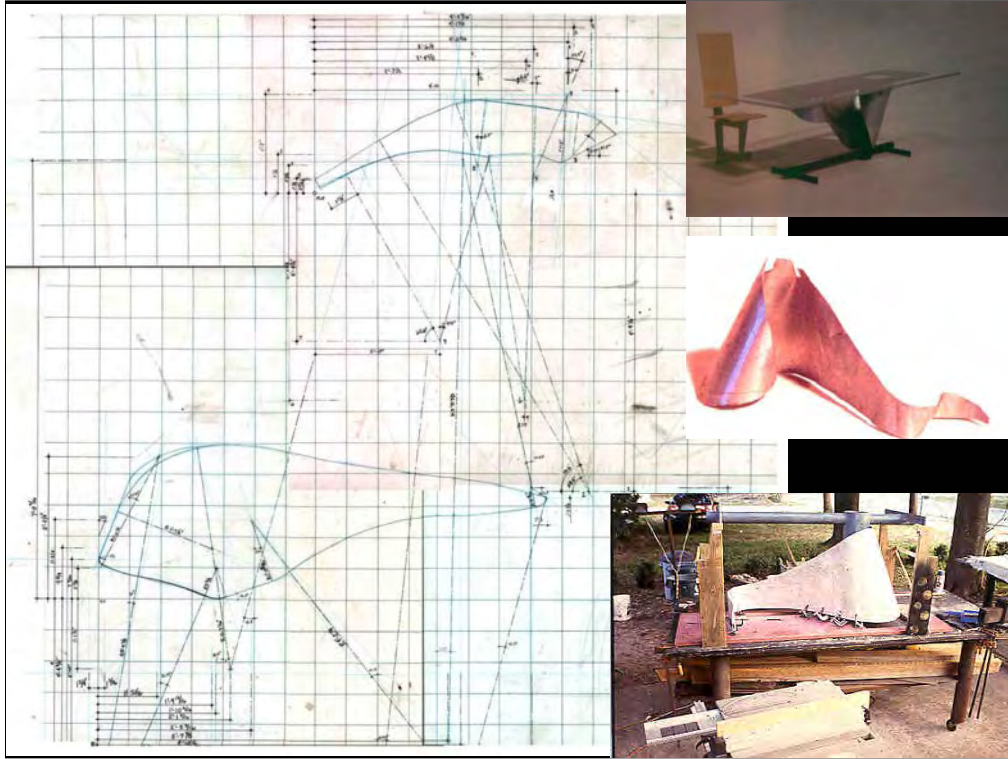
Texture on mill finish alum, simple efficient, random orbital sander.



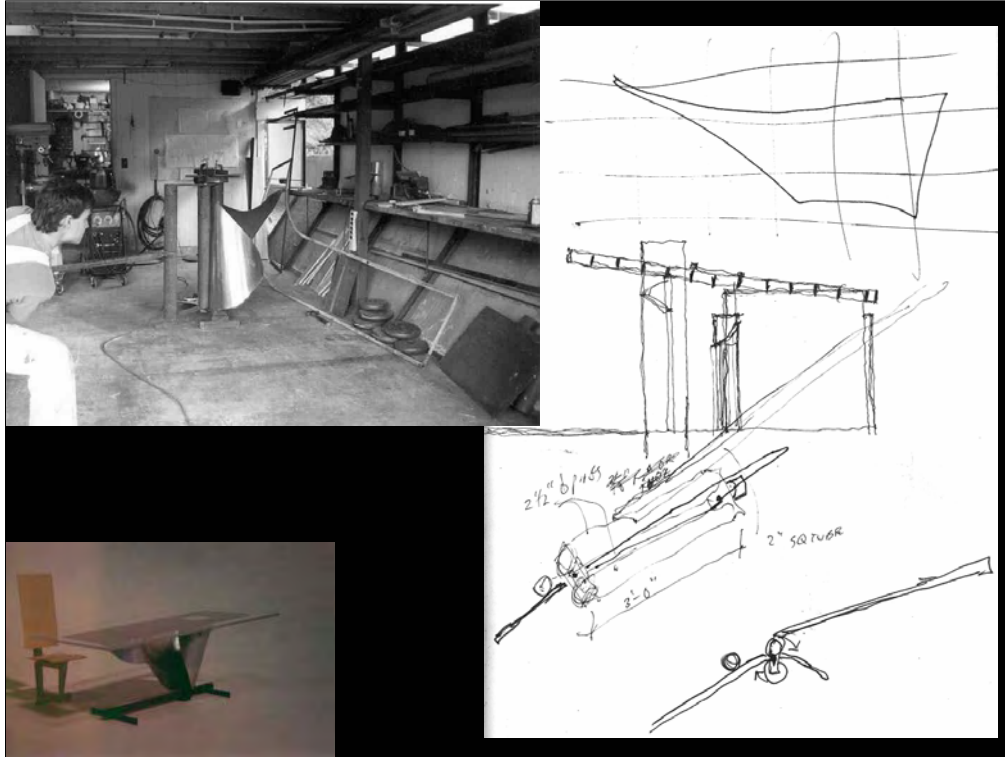
Dining table and cocktail/coffee table.



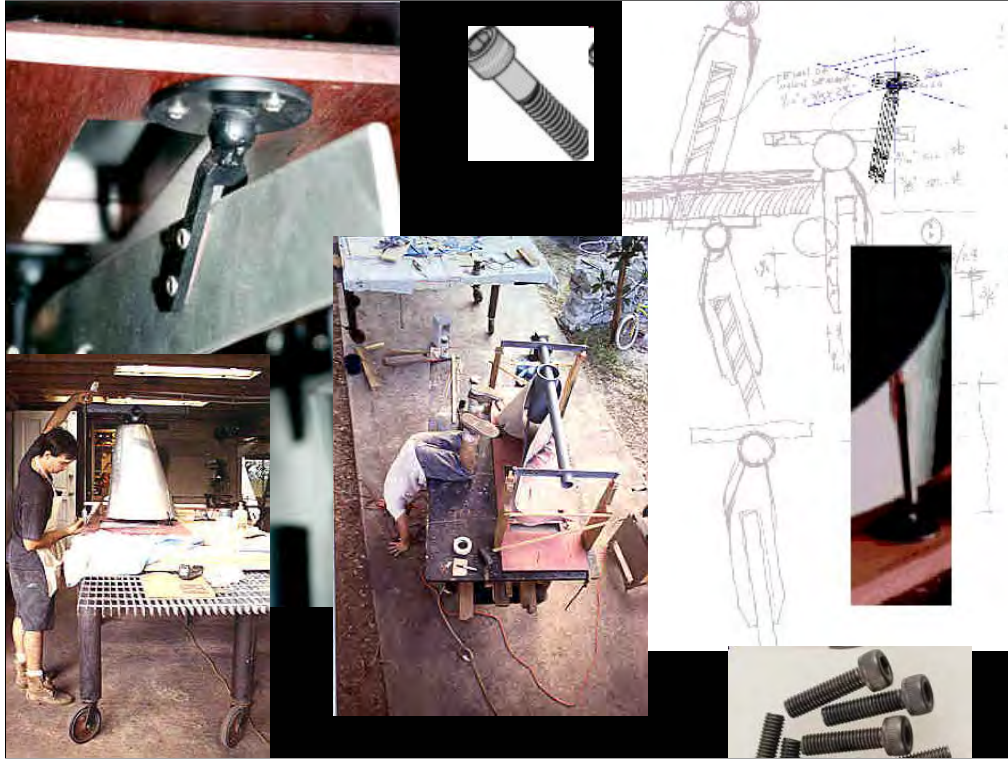
Fluid shape concept, same for previous projects. Quantify the shape.



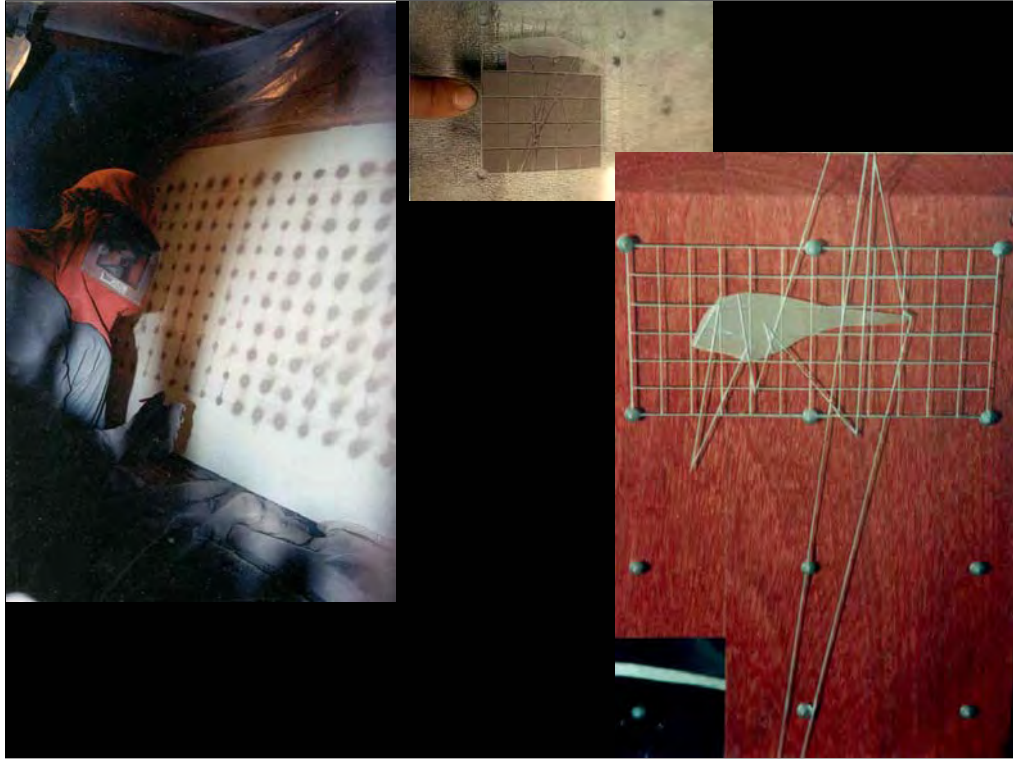
Allen Chapter Steel Frame Construction, The Material Steel section.



Define how to create the shape at the scale of $\frac{1}{4}$ ' plate. Lever arm, 3 pipes, bearings.

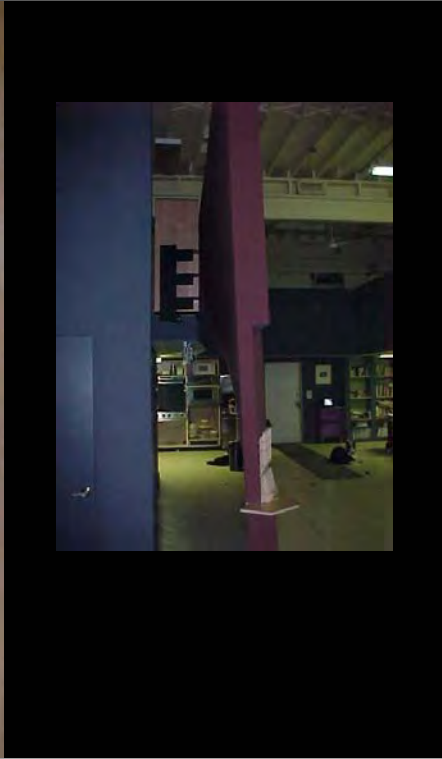


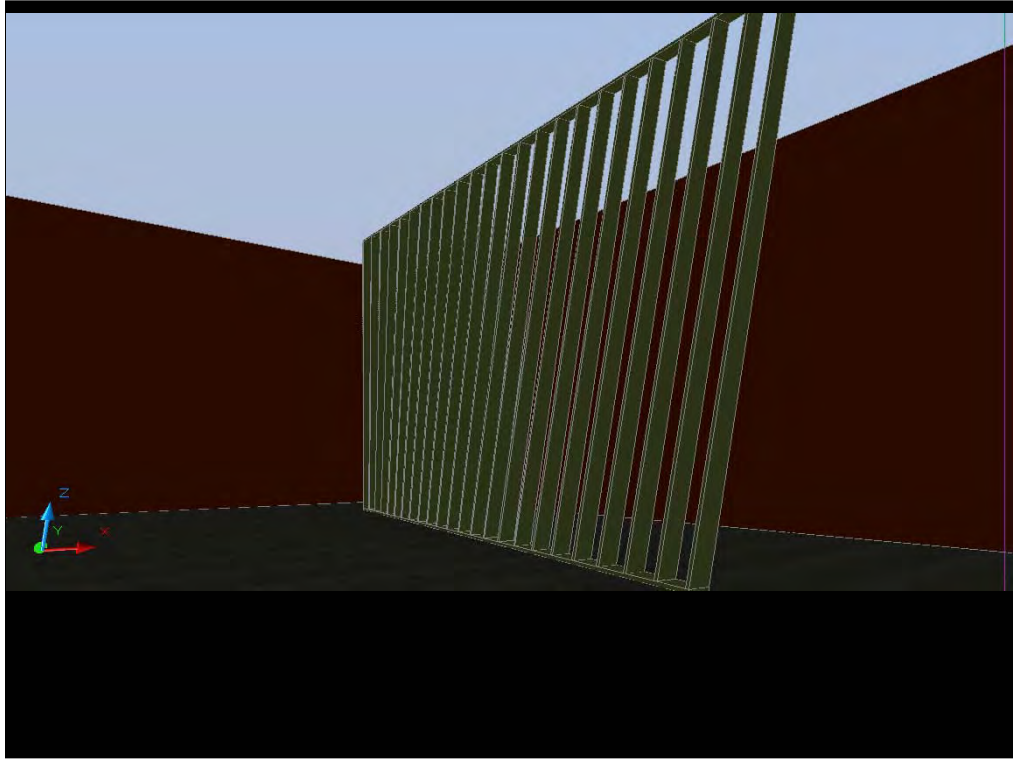
Resolve geometry and varying height of alum. Plate with flat diaphragm, purpleheart top. Galvanic action, spacer between aluminum and steel fork. Sphere resolves varying angles, fork allows different heights. SS bolts. Socket head cap screws, finished, clean look. SS for durability.



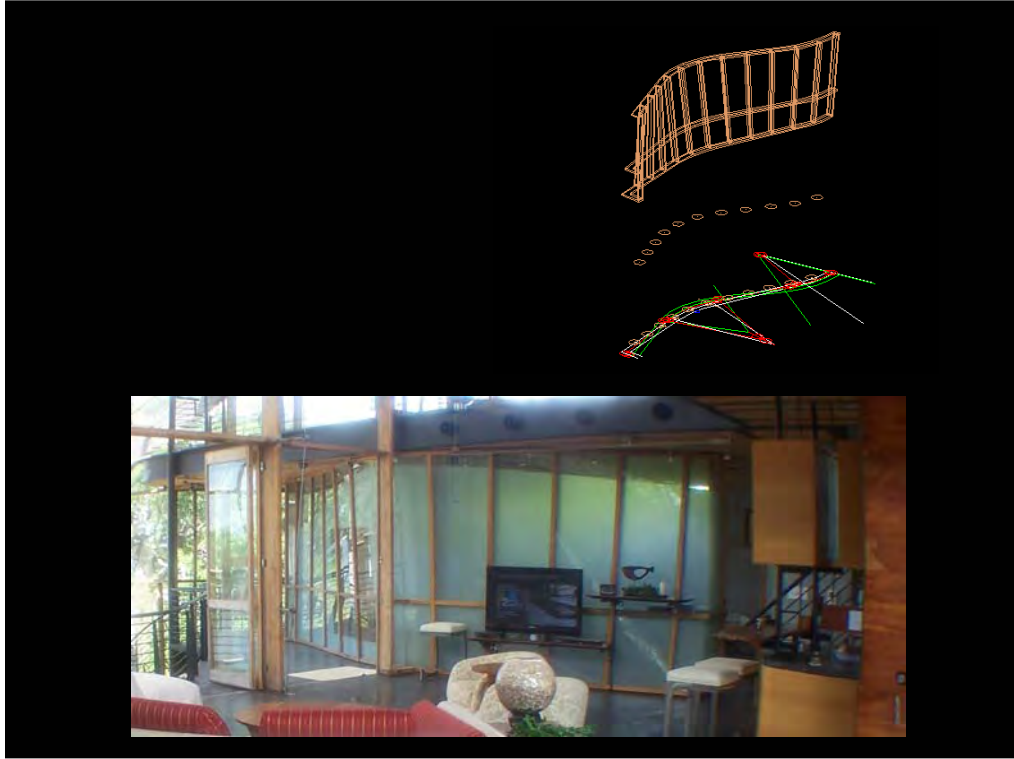


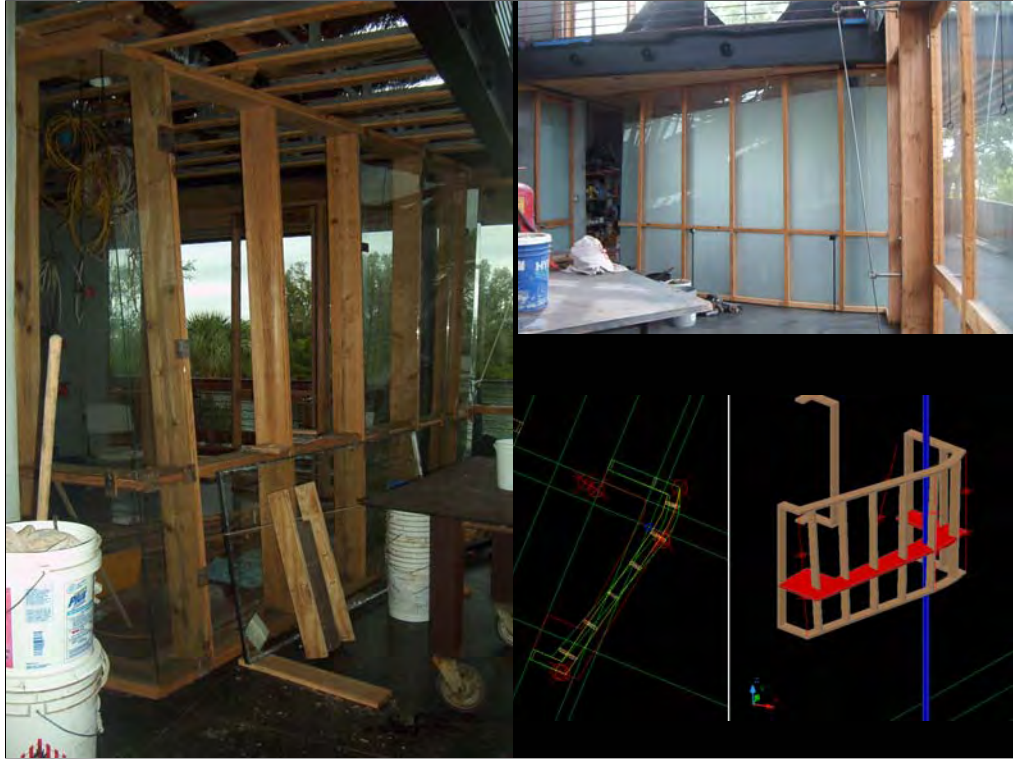






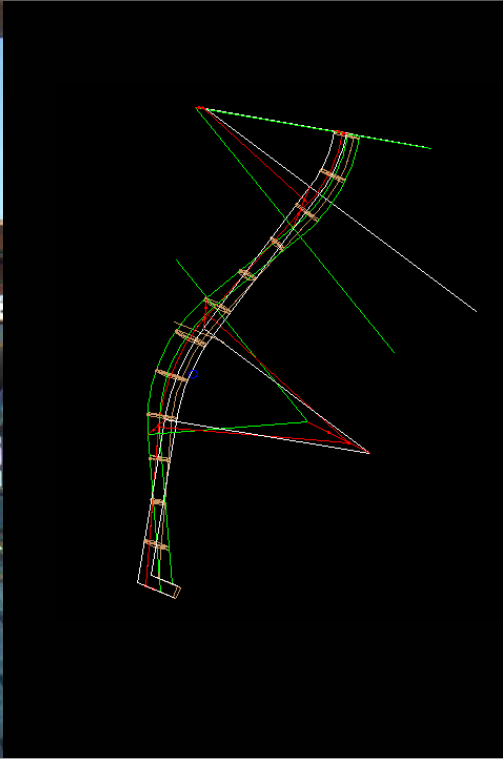

























ALCOA

Uniek gevelsysteem voor vrijgebogen gevels

AA 100 Q Twist

glasprofiel roterend rond stijf achterprofiel

ruime keuze in profielering

PROBLEEM BIJ STANDAARD SYSTEMEN

- vereenvoudigde aansluiting met gebouwen
- aansluiten van grote profielen met complexe diameters is erg duur
- met name wanneer alle met variërende straal verschillende SD gebogen zijn

OPLOSSING

- het achterprofiel is simpel van diameter en hoeft dus niet te worden gebogen
- het glasprofiel is door de grote straal van gewicht handmatig te buigen
- aansluiting met wand, vloer, plafond is standaard en kan ook met standaard componenten

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