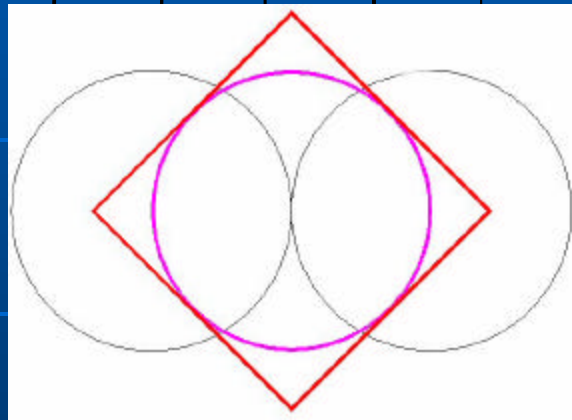


A DESIGN FOR ARCHITECTURAL EDUCATION



Kurt Dietrich
SK85ON23

Final Presentation
Level D9-B
Design Stage
30 January 2006

Introduction



- ✍ "Architects make blueprints."
- ✍ This thesis intends to address the public perception of Architecture through an educational setting.
- ✍ Process begins with development of an educational curriculum for instruction in architectural design principles.
- ✍ Process continues with an architectural program (based on curriculum) to facilitate the instructional aspect.
- ✍ Process concludes with an architectural design that demonstrates the method by which the educational curriculum and architectural program have been incorporated into a built form.

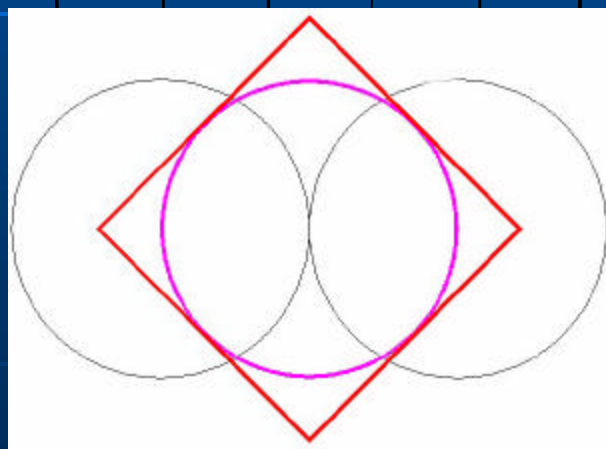
"We shape our buildings; thereafter they shape us"

Sir Winston Churchill



Thesis Statement

This thesis will provide a design solution for a building to facilitate instruction of an educational curriculum related to architectural design principles.



Background

Architecture is the art and science of designing buildings.

The practice of architecture includes design from the macro-level (civic centers, subdivisions, urban planning and landscape design) to the micro-level. (furniture and product design).

There are three key aspects considered in this thesis:

1.0 Architecture:

- Touches our lives in every way by the manner in which we exist and present ourselves through our buildings.
- The environment provided by the design must reflect the subject matter in order to teach and provide experiential learning.



Background

2.0 Education:

Architects educate the client:

- Explain the process
- To analyze the problem
- Propose the design solution

This thesis

- Creates opportunity for awareness and understanding
- Encourages positive development of attitudes and approaches.

Educational delivery process:

- Attendance one half-day each week, 24 week duration
- Process based on Components of Differentiated Learning (*Differentiating Instruction in the Regular Classroom*

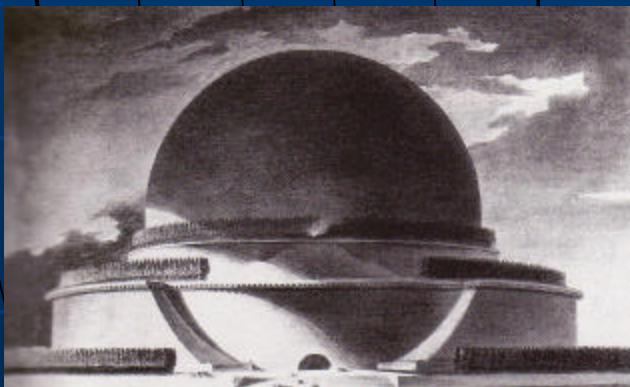
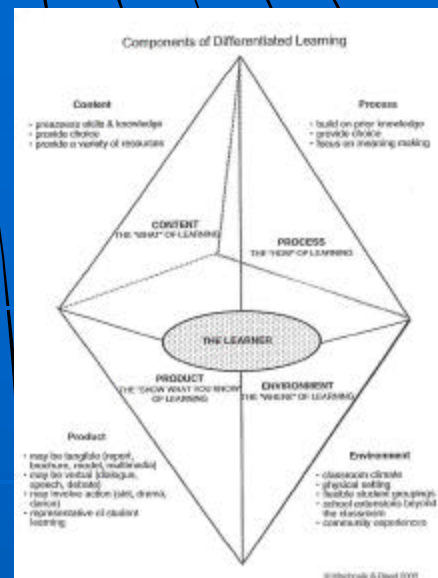
Diane Heacox, Ed.D.):

CONTENT: What is to be taught.

PROCESS: How is it to be delivered.

PRODUCT: Show what you have learned.

ENVIRONMENT: Where would the learning take place.



Background



3.0 Students:

- Retain capability and freedom to absorb new ideas and concepts
- Stereotypes relative to the built environment remain flexible
- Identifying their personal space and role within the community
- Developing a greater awareness of themselves in their world
- Have the language and comprehension skills necessary to discuss concepts and ideas relative to architectural design
- manageable within a fixed classroom grouping.



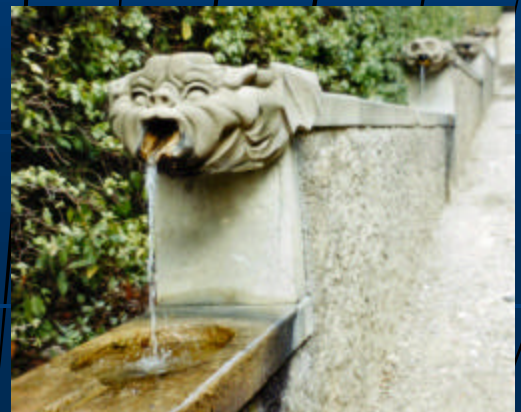
Stage One

Research and Programming

The first stage researches architectural design principles relative to proposed educational components.

The Research Process:

- Research of the specific component: existing literature, history and developments.
- Analysis relative to architectural design.
- Development of curriculum and instructional guidelines in coordination with Education Advisors.
- Development of spatial and functional program for each area.
- Review of the specific item with the advisor team to ensure relative aspects have been addressed.
- Additional research as required.



Curriculum Components

ABSTRACT: {Definition of architectural relevance}

PREAMBLE: {General course outline, extent, etc}

COMPONENT INTIATIVE: {Goals for this component}

COMPONENT COURSE MATERIALS: {The meat}

INSTRUCTIONAL STRATEGY: {Fixed options}

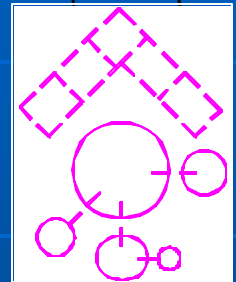
ACTIVITIES: {Student activity listing for the class}

ASSESSMENT METHOD: {student performance/retention}

COMMON ESSENTIAL LEARNINGS: {How educational component fits the Common Essential Learnings}

ENVIRONMENT: {Type of environment required}

MATERIALS / RESOURCES REQUIRED: {Listing of required materials}



Curriculum Section Summary

Section 1.0: Architectural History of Western Civilization

Major periods of development

Influence of context on period architecture

Analysis of the development of early architecture

Evolution from master builder to design consultant and architect

Great architectural triumphs: Vitruvius, Palladio, Brunelleschi, the Renaissance architectural movement

Modern architecture and current trends;

Historic Precedents

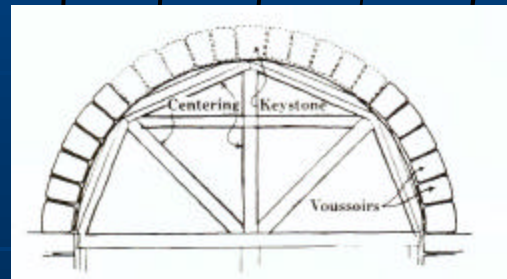
Influences in terms of period and style.

Use of precedents in current architectural design.



Section 2.0: The Science of Buildings

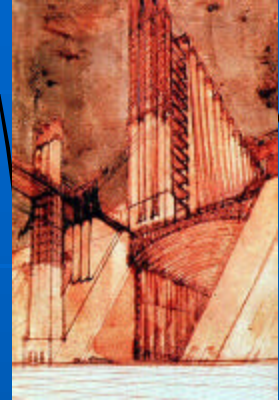
- Building Materials
- Seasonal Construction
- Structural Force Loads
- Structural Systems
- Building Orientation
- Wind / Snow / Rain Penetration
- Thermal Insulation / Vapour Barrier
- Air Leakage / Humidity Condensation
- Sealants



Curriculum Section Summary

Section 3.0: Art in Architectural Design

- • Development of Design
- • Art within Architecture
- • Article I – Sketching
- • Article II – Graphic Presentation/Analysis
- • Article III – Artistic Composition
- Development of a design
- Use of a sketch book
- Use of graphics to communicate the design solution.
- Bubbles, diagrammatic views, graphic symbols, means and methods by which to illustrate the idea
- Artistic composition: Creating a display to convey a design solution.



Section 4.0: Sociology and Architectural Design

- ✍ 1.0 The Context of Society
- ✍ 2.0 Cultural Traits
- ✍ 3.0 Individual Social Aspects
 - (1) Self-Worth/Friendship Formation
 - (2) Group Involvement
 - (3) Personal Space
 - (4) Personal Status
 - (5) Individual and Group Territory
 - (6) Communication
 - (7) Personal Safety and Security
- ✍ 4.0 The Role of Architectural Design

Curriculum Section Summary

Section 5.0: Geography

1.0 Five Modes of Understanding

- Thing: relates to the tangible collection of site elements
- Order: Order consists of the heavenly influence (a cosmic influence) related to the local geographic structure.
- Character: relates to the definition of natural elements, relating them to human traits. This aspect is commonly referred to as assigning characteristics to inanimate objects.
- Light: symbolic within our civilization as being a positive element, source of inspiration, and related to the heavens through the religious overtones applied to the presence of light.
- Time: Time incorporates the rhythm of our existence as we move in and around our chosen spaces. The element of time, like that of light, is in a constant state of movement, always changing but never repeating.
- Earthly aspects are characterized by the elements found in the modes of 'Thing' and 'Character'. These modes relate to the physical aspects of land forms and natural elements.
- Heavenly (sky) aspects are characterized by the elements found in the modes of 'Order' and 'Light'. These modes relate to the cosmic influences felt upon a particular site area or region.
- 'Time' is the mode assigned to neither heaven nor earth since time is both ever-changing (as the heavens) and constant in its progress (the constant relating to earth). Time is also that element that is assigned to the specific period of civilization relative to the architectural practices.

- ✍ 2.0 Topography / Soil
- ✍ 3.0 Orientation
- ✍ 4.0 Solar Orientation
- ✍ 5.0 Wind & Water Elements
- ✍ 6.0 Urban Design
- ✍ City Planning Models
- ✍ Energy and Environmental Design
- ✍ Civic Environmental Design



Curriculum Section Summary

- Section 6.0: Mathematics

- Cost Estimating**

- ◌ Estimating Methods
 - ◌ Factors influencing estimating
 - ◌ Building Development Costing
 - ◌ Mathematical Factors
 - ◌ Estimate Types

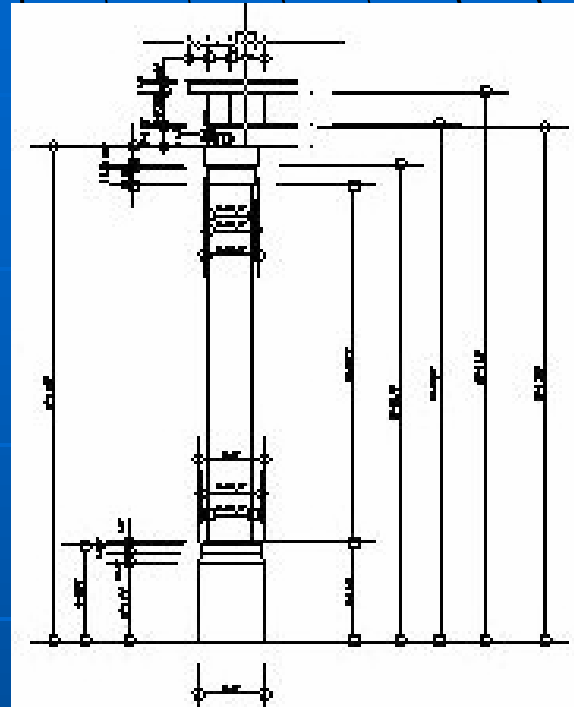
- Mathematical Building Analysis**

- ◌ Materials Analysis
 - ◌ Life Cycle Costing
 - ◌ Value Engineering
 - ◌ Project Delivery Methods

- Design Area Calculations**

- Geometry**

- ◌ Basic Geometry
 - ◌ Golden Rectangle
 - ◌ Fibonacci Number Series



- ◌ The principal three found in architectural design are:

- Circle: translates into an ellipse, arc, parabola or contiguous sine wave. This item represents the “fluid motion” of architectural design solutions.

- Square: translates into a rectangle or grid system. This item represents the “fixed” element of architectural design solutions.

- Triangle: translates into modified squares or rectangles, creates what can be perceived as “slope” within design, leading the eye or participant in a specified direction. This item provides a sense of “movement” as a rectilinear pattern; straight, not fluid as a circle.

Curriculum Section Summary

Section 7.0: Architectural Design Elements The Process of Design

Section 1.0: Architectural Design Elements

- Materials
- Colour
- Line
- Shape
- Mass
- Space
- Texture



Section 2.0: Architectural Design Principles

- Balance
- Connection
- Contrast
- Emphasis
- Form
- Grouping
- Imagery
- Meaning
- Symbolism
- Pattern
- Placement/Proximity
- Proportion
- Rhythm
- Scale
- Unity
- Variety



Section 3.0: Additional Design Considerations

- 3.1 Function
- 3.2 Time
- 3.3 Lighting in Architectural Design
- 3.4 Acoustic Influences in Design
- 3.5 Architecture and the Environment
- 3.6 Landscaping and Architectural Design



Design Programme

A design programme of individual room areas was generated upon completion of each curriculum section.

These programme items were completed in conjunction with the teaching requirements of the curriculum

Each space was reviewed relative to its specific requirements, spatial qualities and special features including design influences from the curriculum sections.

The total design programme is available for review upon the web distribution site.

Number L11		Section Name Architectural History: Lecture Area	
Section Influence Vitruvius and the order of proportion. The Great theory of Ecole des Beaux Arts. Renaissance influences relative to the proportions of man. See also the Modulor as proposed by LeCorbusier		Instructional Strategy Lecture series complete with written material handouts. Slide presentation of building types illustrated from handout materials. Audio visual presentations. Student research	
Environment Open classroom layout, resource area, lecture assembly theatre.		Material Resources Audio/visual resources. Materials reproduction services.	
Spatial Requirements Lecture theatre Presentation area for viewing of Audio/Visual presentations, spoken word lectures, student presentations and guest speakers.			
Number of Students 30	Number of Staff 1	Principal Room Size 112	Storage Requirements 4
Group Accommodation Classroom setting for group instruction	Support Facilities Storage zones for a/v materials, staff areas for consultations	Adjacent Relationships Resource research area, art area for reproduction work, student work areas	
Environmental Variables Standard for classroom settings			
Acoustic Requirements Spoken word, enhanced voice systems, group discussion capabilities	Thermal Requirements Standard requirements for instructional settings	Visual Requirements Visual access for lecture or audio/visual presentations, flexible lighting conditions, day light	
Utility Services Required Basic utility services, voice and data capabilities, cctv capabilities, computer/modem/laptop connections	Display Requirements Display area for illustrations and artifacts, display for student works	Special Equipment Audio/Visual equipment, data projector, projection screens, voice reinforcement systems	
Furnishings Lecture seating, group seating accommodations, research stations, computer access for manuals, lecture			
Other Items			

Design Programme

Design Programme Influences:

Section 1.0: Architectural History of Western Civilization

- Vitruvius and the order of proportion.
- The Grid theory of Ecole des Beaux Arts.
- Renaissance influences relative to the proportions of man.
- Use of Materials to reflect historical development

Section 2.0: The Science of Buildings

- Clearly identifiable structural elements.
- Allow for study of structure to occur within facility.
- Exposed structure to illustrate influences.



Section 3.0: Art in Architectural Design

- Display areas for sketch materials and presentation submission.
- Areas allowed for sketching in groups.
- Natural elements and materials for sketch purposes.

Section 4.0: Sociology and Architectural Design

- Study of human nature, social observations, interactive relationships
- Role playing in class setting for situations

Section 5.0: Geography

- Land forms, contextual placement, natural force influences, landscaping; bringing the exterior in - unity between spaces

Section 6.0: Mathematics

- Allowances for special circumstances relative to areas of study
- Geometric study and analysis of the building form, clear geometry

Section 7.0: Architectural Design Elements

- Influence on design strategies on composition: light, shade, texture, colour, composition and presentation.
- Clear Massing, volume and spatial resolution.



Design Areas

The calculations for room areas are based on:

- ✍ historical education area data as provided by SaskLearning
- ✍ spatial allowances for staffing and teaching environments
- ✍ percentage mark-ups for spaces such as building support areas, circulation and wall thickness allowances.

These area calculations total the gross square footage for the facility.

Item.	Area Name	Staffing/Students Units	Area Unit Rate	Subtotal
1.0	Instructional Area			
	Lecture Area			888.75
	Lab Area			804.33
				1693.08
2.0	Resource Area			
	General Resource Area	319	0.5	159.60
	Seminar / Computer	9	5	45
	Resource Administrator	9	7	63.00
	Media Storage	268	15%	40.14
				307.74
3.0	Administration			
3.1	Administrator's Office	1	14.00	14.00
3.2	General Office	2	12.00	24.00
3.3	Workroom	319	0.20	63.84
3.4	Visiting Lecturer	1	12.00	12.00
3.5	Staff Room	319	0.20	63.84
3.6	Staff Lockers	32	0.44	14.04
3.7	Staff Washrooms	23	4.40	13.49
3.8	General Storage	319	0.15	47.88
				253.10
4.0	Building Support Services			
4.1	Student Washrooms	21	3.00	63.84
4.2	Maintenance Areas		10%	201.00
4.3	Building Service Areas		5%	110.55
4.4	Student Commons		20%	338.62
				714.01
5.0	AREA TOTAL			2967.93
6.0	Circulation		20%	593.59
7.0	Wall Allowance		9%	320.54
8.0	GRAND TOTAL			3882.05

Design Areas



Design Areas Special Conditions:



Student Commons:

- Student Commons included as a central circulation space for the overall facility.
- Area will serve as observation (Social), sketching (Art) and study (History and Design).
- Area will also contain water elements (Geography)



Individual room areas:

- Individual room areas have been separated to include spaces for instructors and storage within each element. This is a response to the dedicated nature of the facility relative to the instruction.



Additional storage:

- Additional storage requirements identified for each space, based on percentage allowances of the net floor area for the specific space.



Circulation allowance:

- Circulation allowance is increased to allow for additional display, observation and gathering spaces around the facility.



Special features:

- Commons serves as the student hub.
- All areas of the curriculum bear influence on the design solution parti.



Future site development:

- Site has to allow for bus accommodation to serve individual classes in each instructional area.
- Site area also must allow for exterior class instruction around the facility.





Stage II

Analysis and Design

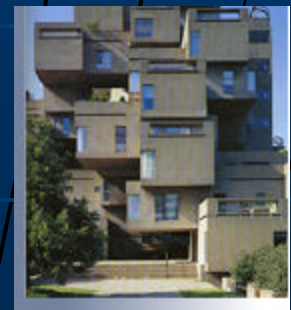
Part Two: Building Design Solution

Buildings, too, are children of Earth and Sun
Frank Lloyd Wright

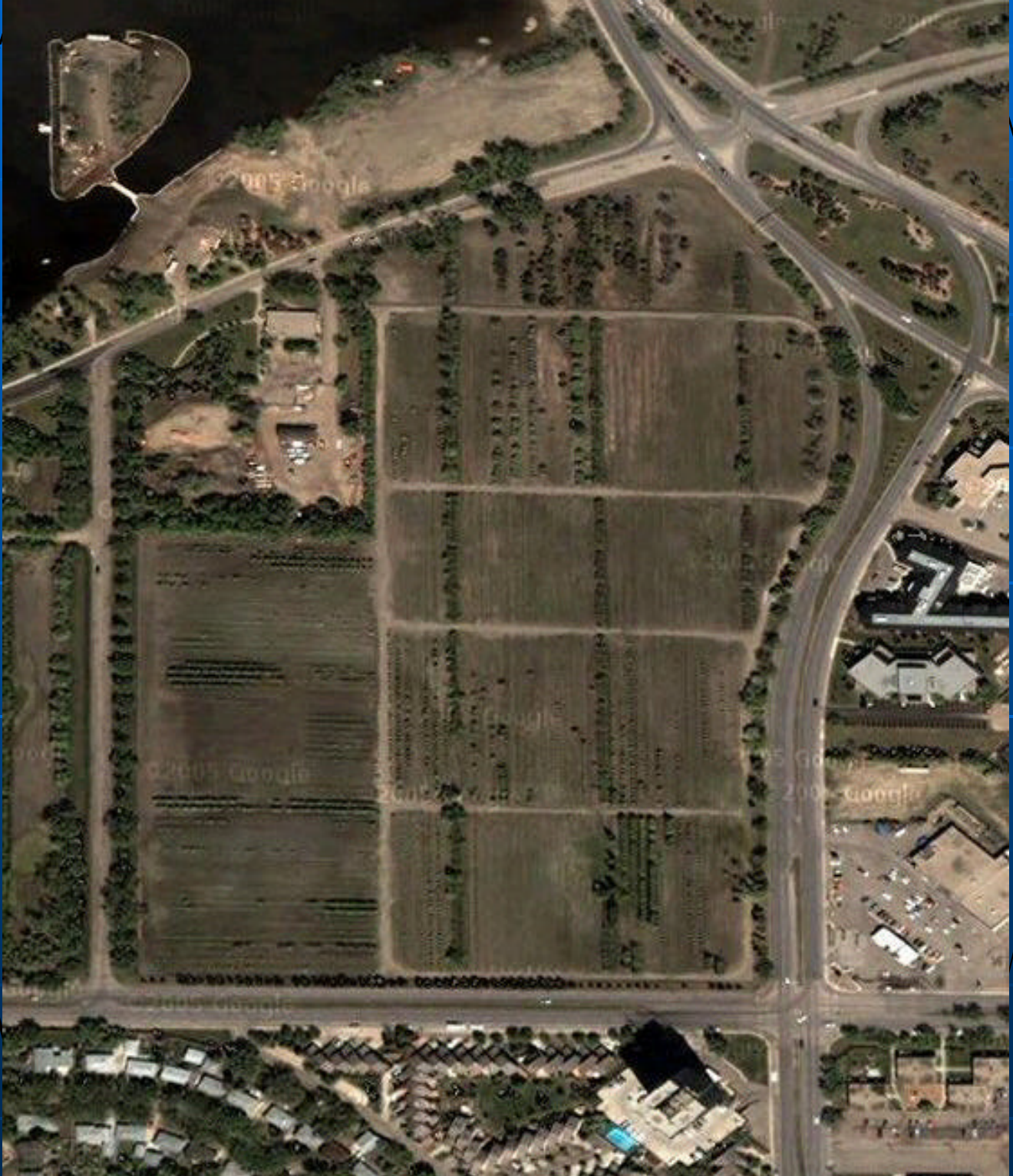
This stage will create a design solution that embodies and reflects the principles developed through the Research Stage.

This stage will carry on from Stage One through:

- Site selection and analysis,
- Conceptual design and design development;
- Graphic analysis and integration of research concepts into design solutions;
- Final design solution;
- Graphic / verbal presentations;
- Final Presentation documentation and arrangement.

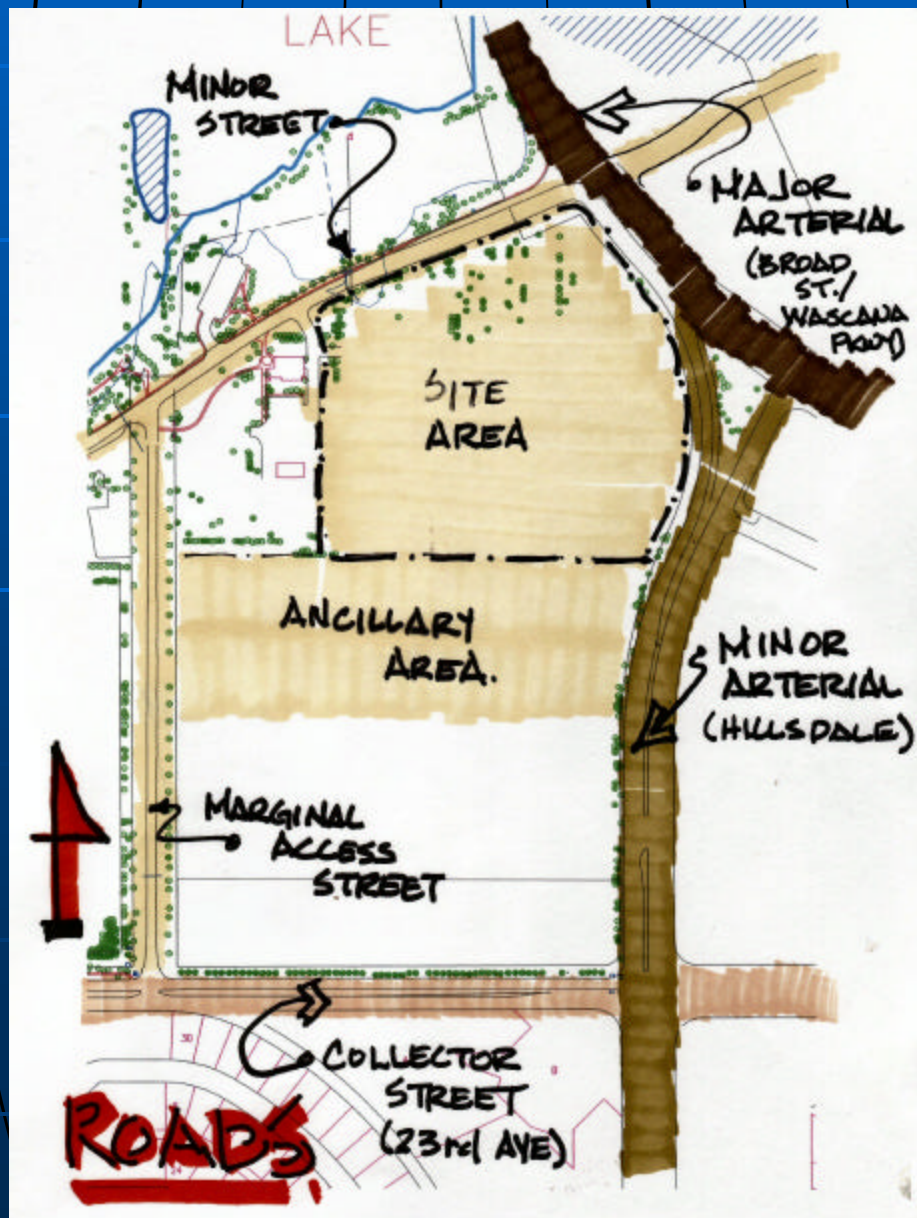


Site Analysis



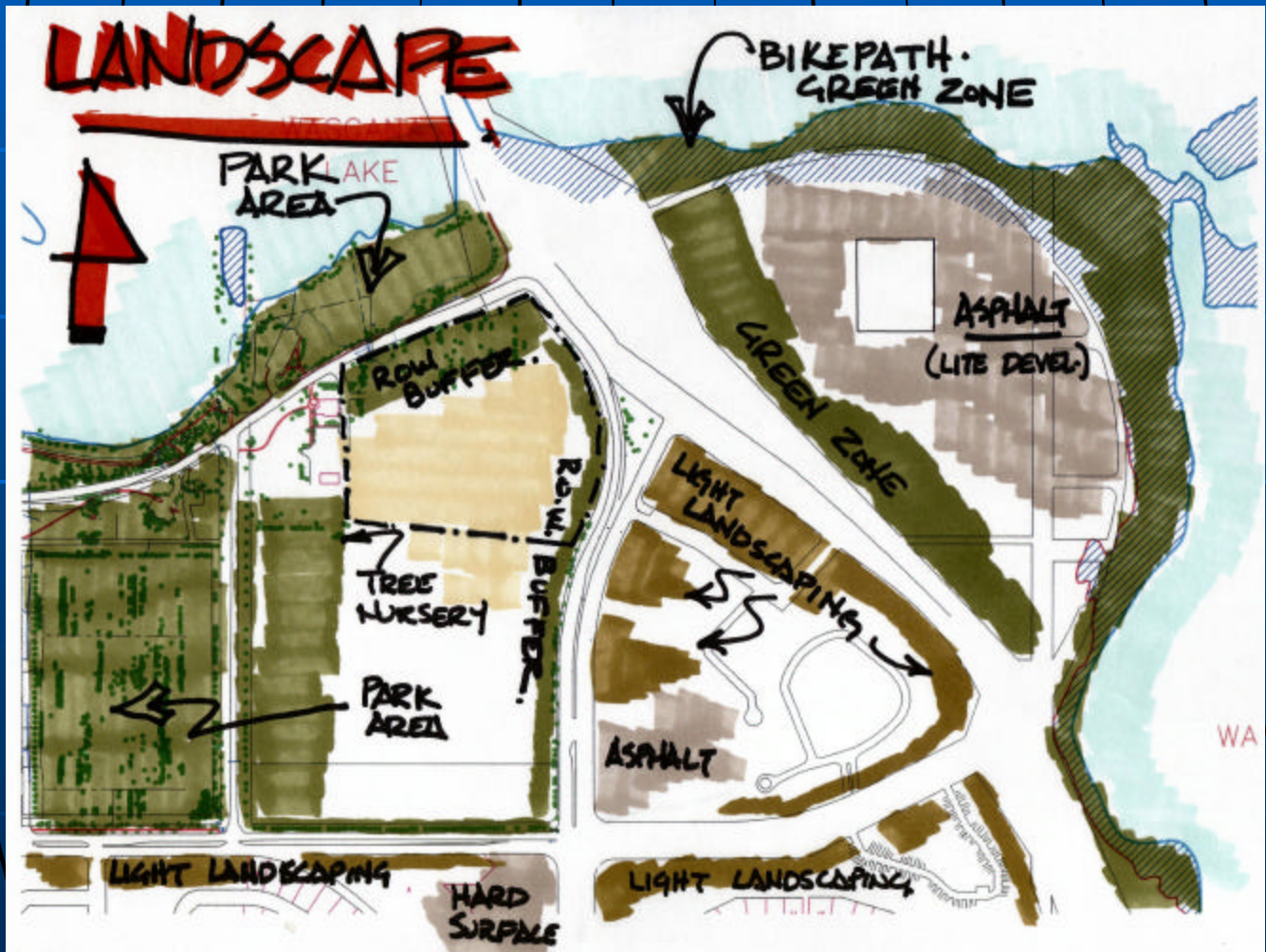
Site: Roads

- MAJOR ARTERIAL TO EAST AND NORTH-EAST
 - MINOR STREET ON NORTH SIDE
 - MARGINAL ACCESS STREET ON WEST
 - COLLECTOR STREET BORDERING SOUTH SIDE.
- **OPTIMAL ACCESS FROM NORTH MINOR STREET****



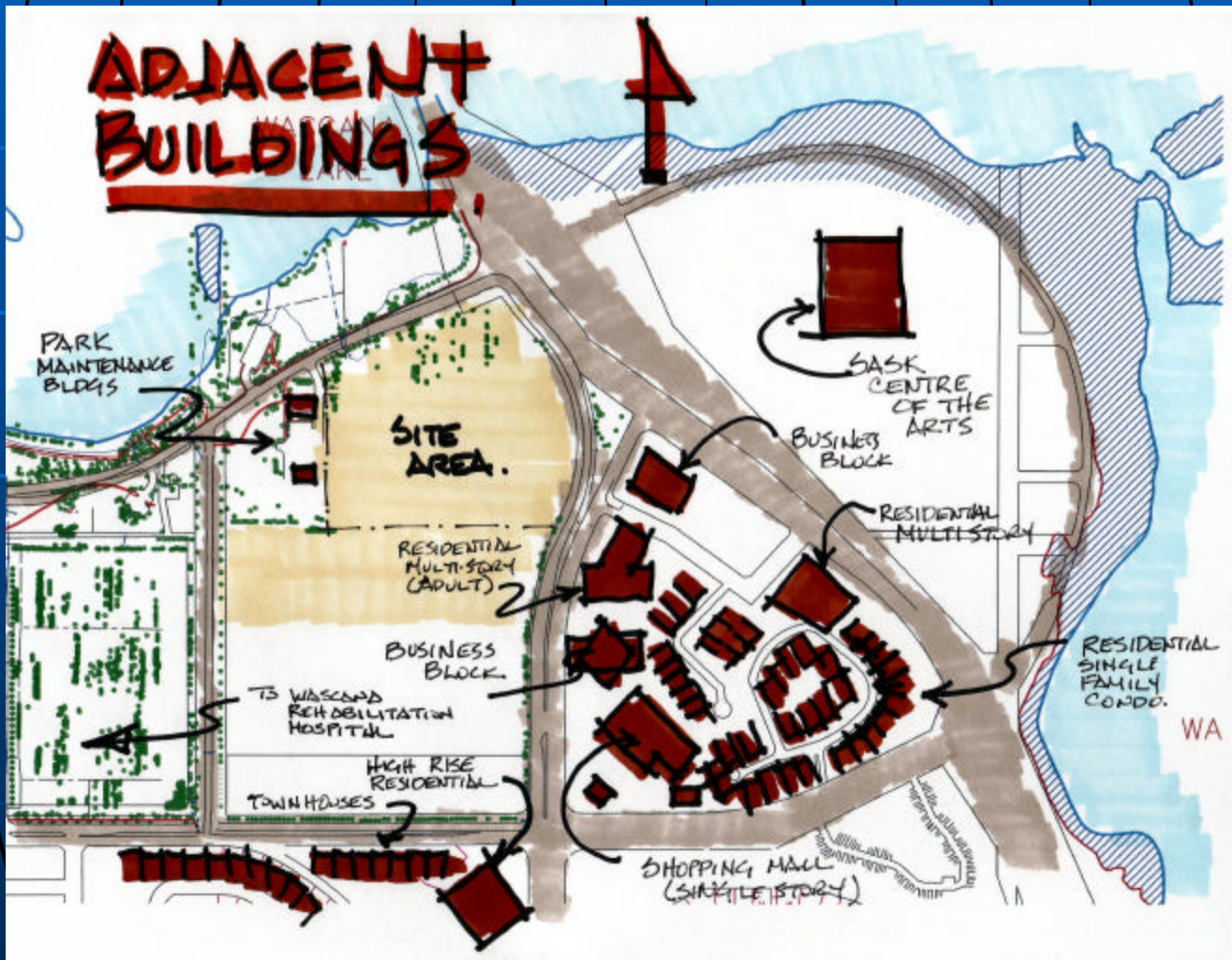
Site: Landscape

- ✍ MATURE LANDSCAPING AROUND NORTH HALF OF SITE.
- ✍ NEW GROWTH (TREE NURSERY) EXISTING ON SOUTH HALF.
- ✍ MATURE LANDSCAPING BORDERS AROUND EAST AND WEST SIDES



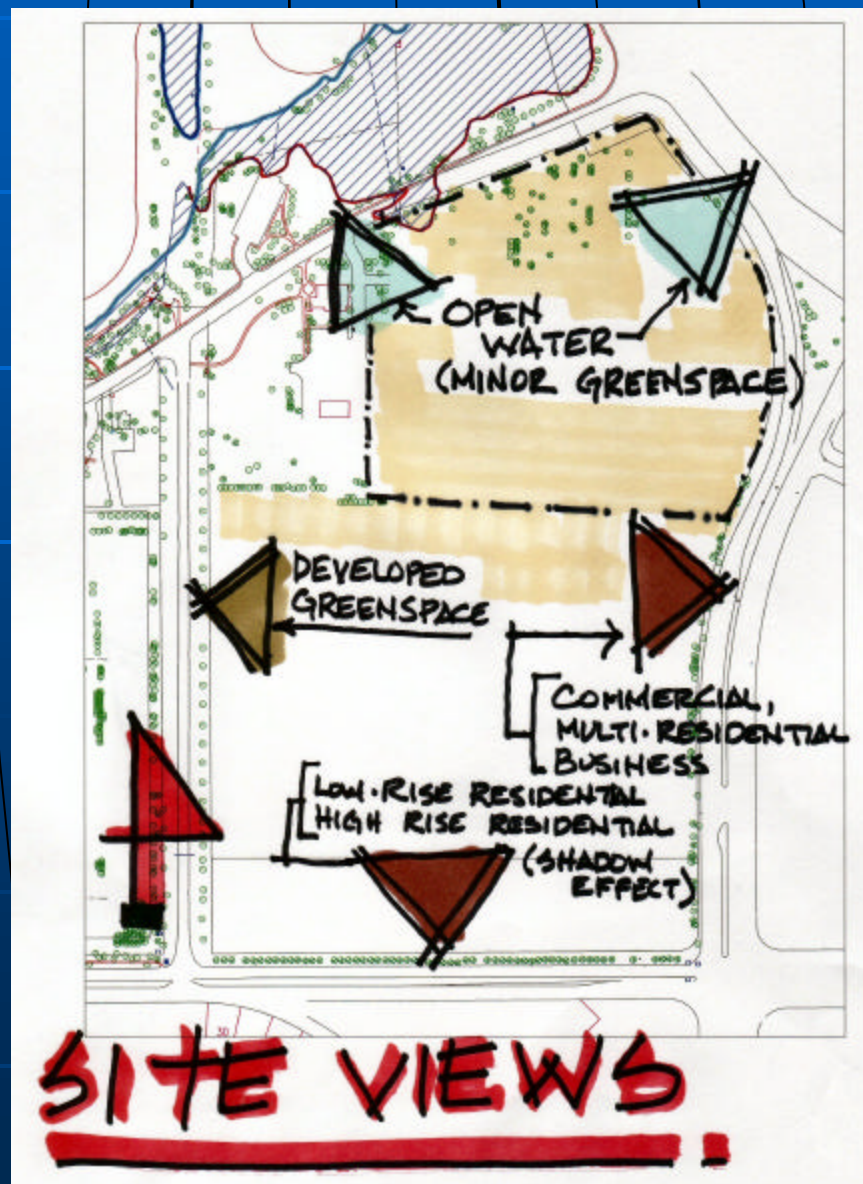
Site: Existing Buildings

- ✂ BULK DEVELOPMENT (THREE STOREY OFFICE/MULTI-TENANT RESIDENTIAL) BORDERING EAST SIDE.
- ✂ DISTANT STRUCTURES INCLUDE BLOCK MASSING OF SASK. CENTRE OF THE ARTS (EAST) , WASCANA REHAB HOSPITAL (WEST) AND ROBERTSON PLAZA (SOUTH)



Site: Views

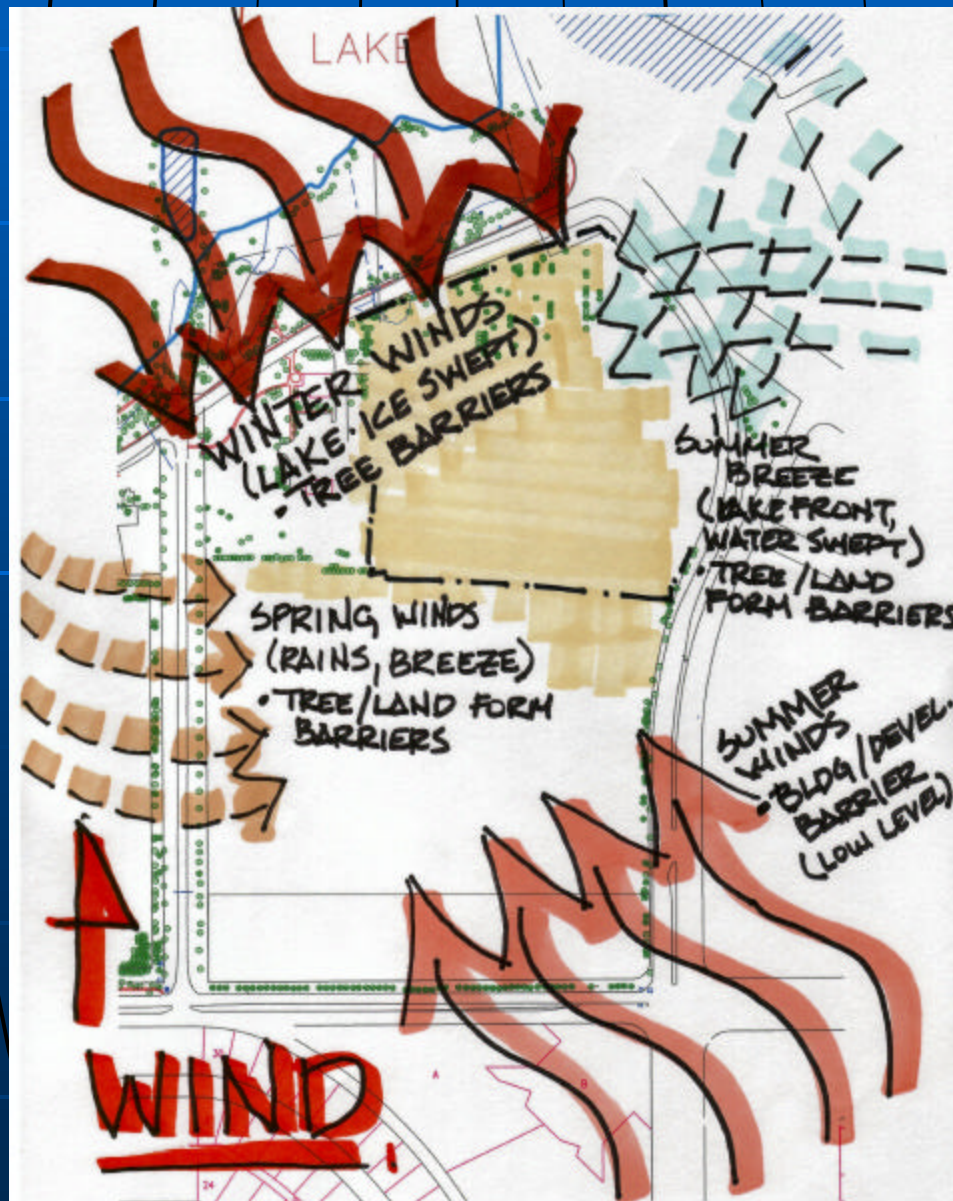
- OPEN WATER (THROUGH LANDSCAPING) VIEWS TO NORTH AND NORTH WEST.
- CROSS-ARTERIAL WATER VIEWS TO NORTHEAST.
- DEVELOPED GREENSPACE TO WEST
- MASSING DEVELOPMENTS TO EAST
- LANDSCAPED VIEWS AND DISTANT HIGH-RISE VIEWS TO SOUTH.



Site: Winds

- ✍ NORTH WEST WINTER WINDS
- ✍ SOUTH EAST SUMMER WINDS
- ✍ WEST SPRING WINDS
- ✍ EAST SUMMER/FALL WINDS

**** DIAGONAL WIND APPROACH THROUGH SITE****



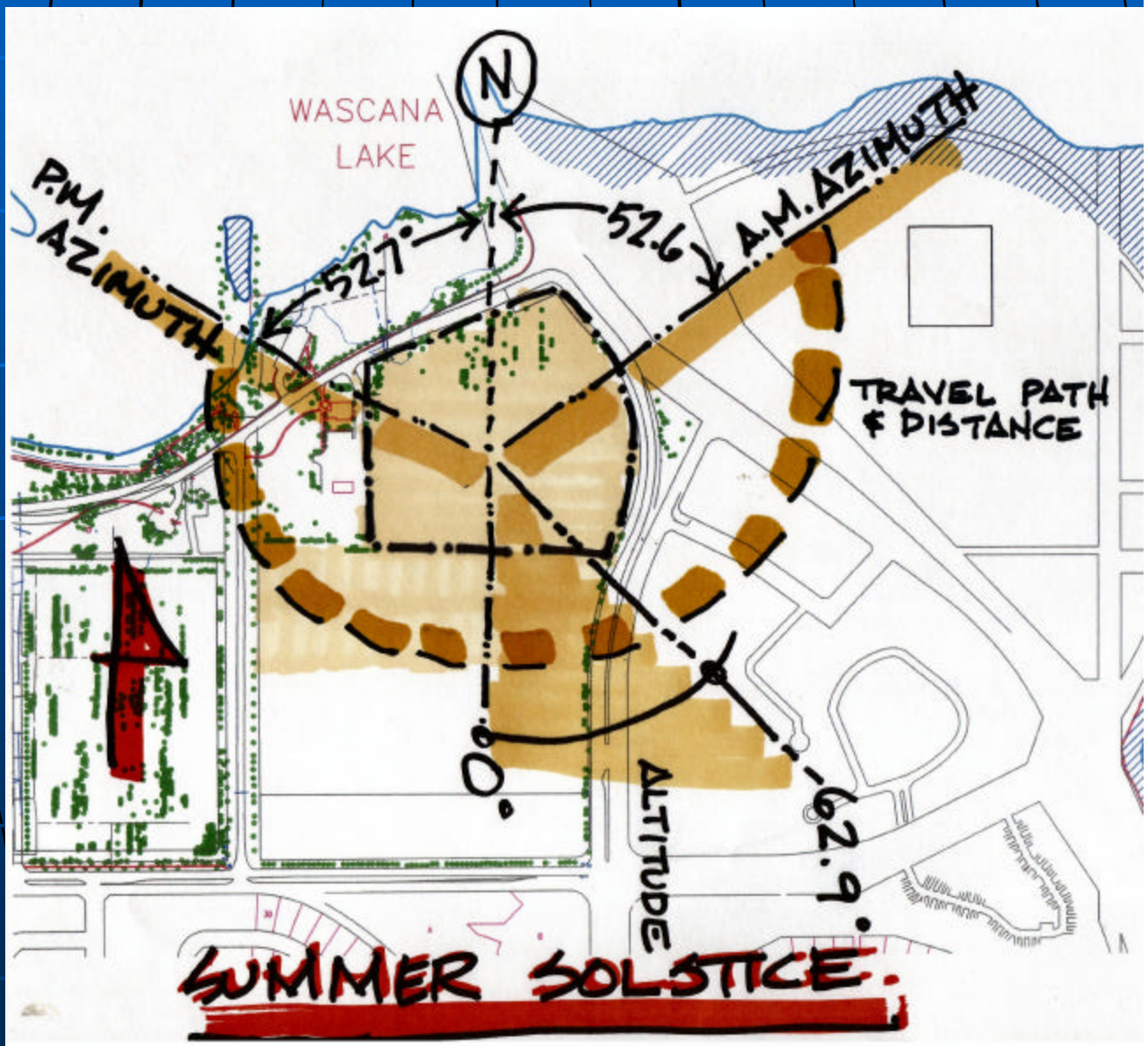
Site: Water

- ✂ PRIMARY WATER INFLUENCES TO NORTH-WEST (VIEW TOWARDS MAJOR BODY OF WASCANA LAKE)
- ✂ SECONDARY WATER INFLUENCE TO NORTH-EAST (VIEW TO POWER STATION / SASK SCIENCE CENTRE)
- ✂ FLOOD PLAIN LAPS TO MINOR AREA OF INTENDED SITE.



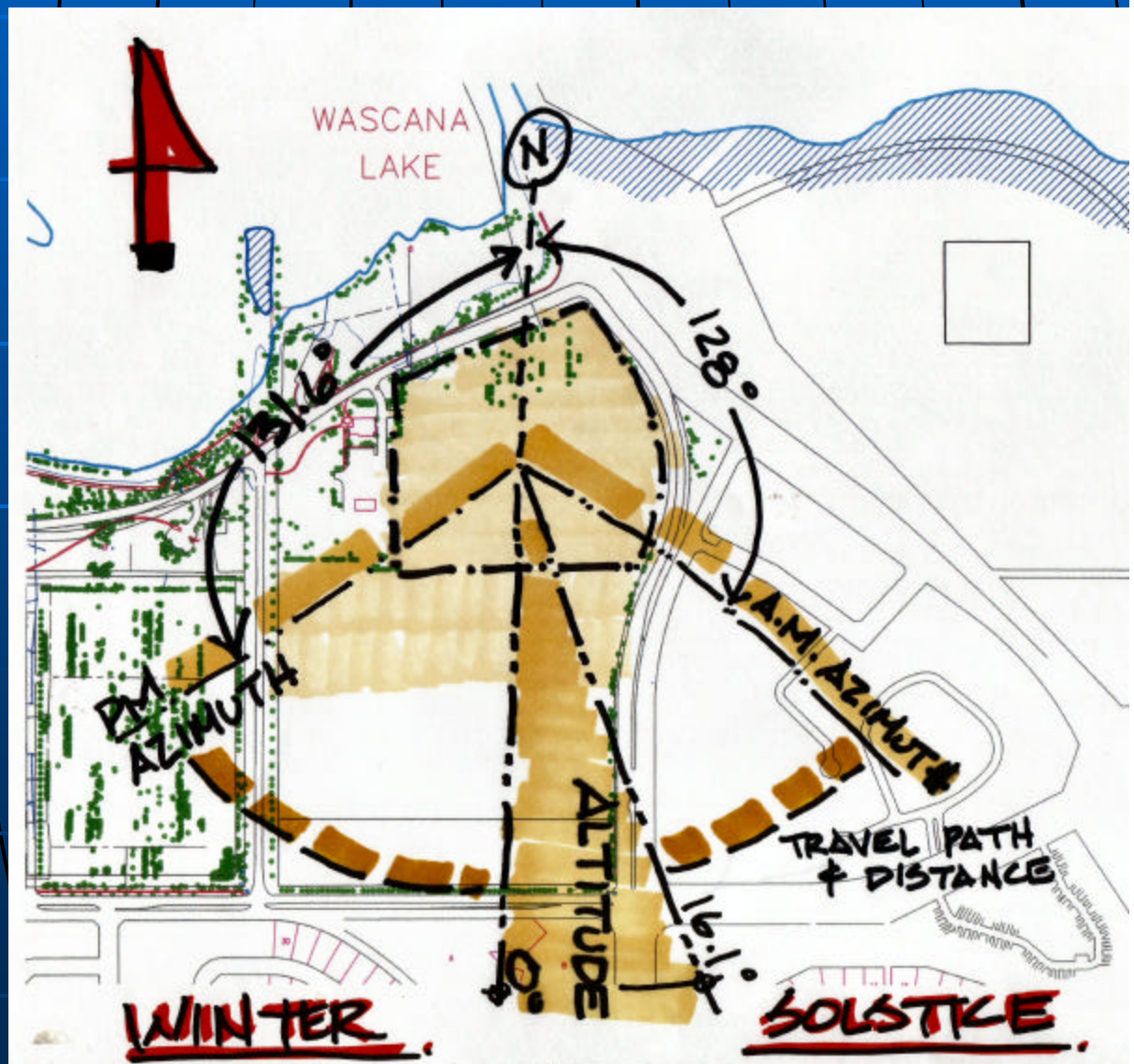
Site: Summer Sun

- ✧ FULL EXPOSURE TO SUMMER SUN
- ✧ PRIME ALTITUDE AT 63 DEGREES (JUNE 21 @ 11:00 A.M.)
- ✧ SUN RISE AND SET OVER LAKE AREAS
- ✧ NO OBSTRUCTIONS PRESENT IN THIS AREA.



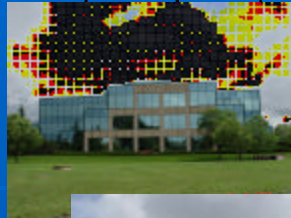
Site: Winter Sun

- PRIME EXPOSURE TO DIRECT SOUTH
- SOLSTICE ALTITUDE AT 16 DEGREES (DEC 21 @ 11:00 A.M.)
- LIMITED EXPOSURE DUE TO MINIMAL AZIMUTH
- NO OBSTRUCTIONS TO SOUTH OF INTENDED SITE AREA.



Site Photos

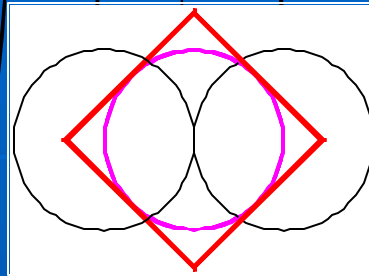
✍ ADJACENT BUILDINGS TO EAST AND SOUTH



✍ LANDSCAPED SITE AREA



Design Parti

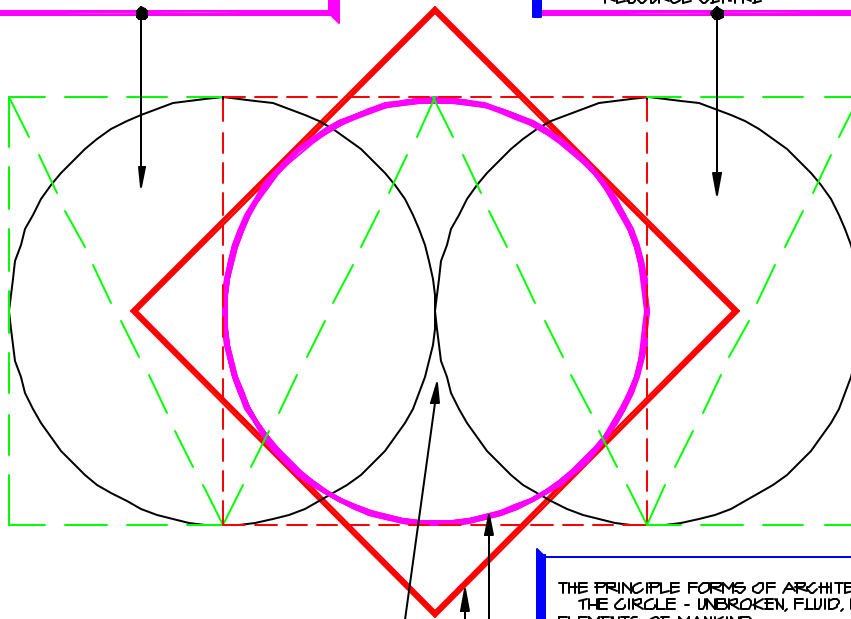


ARCHITECTURAL HUMANITIES

- HISTORY OF WESTERN ARCHITECTURE
- ART IN ARCHITECTURE
- SOCIAL ELEMENTS
- DESIGN ELEMENTS

ARCHITECTURAL TECHNOLOGIES

- BUILDING SCIENCES
- GEODESIC / GEOLOGY
- MATHEMATICS
- RESOURCE CENTRE



THE CORE:

- THE POINT AT WHICH HUMANITIES AND TECHNOLOGIES MEET WITHIN THE DEFINING PRINCIPLES OF ARCHITECTURAL DESIGN.
- THE ARCHITECTURAL DESIGN FOCAL POINT

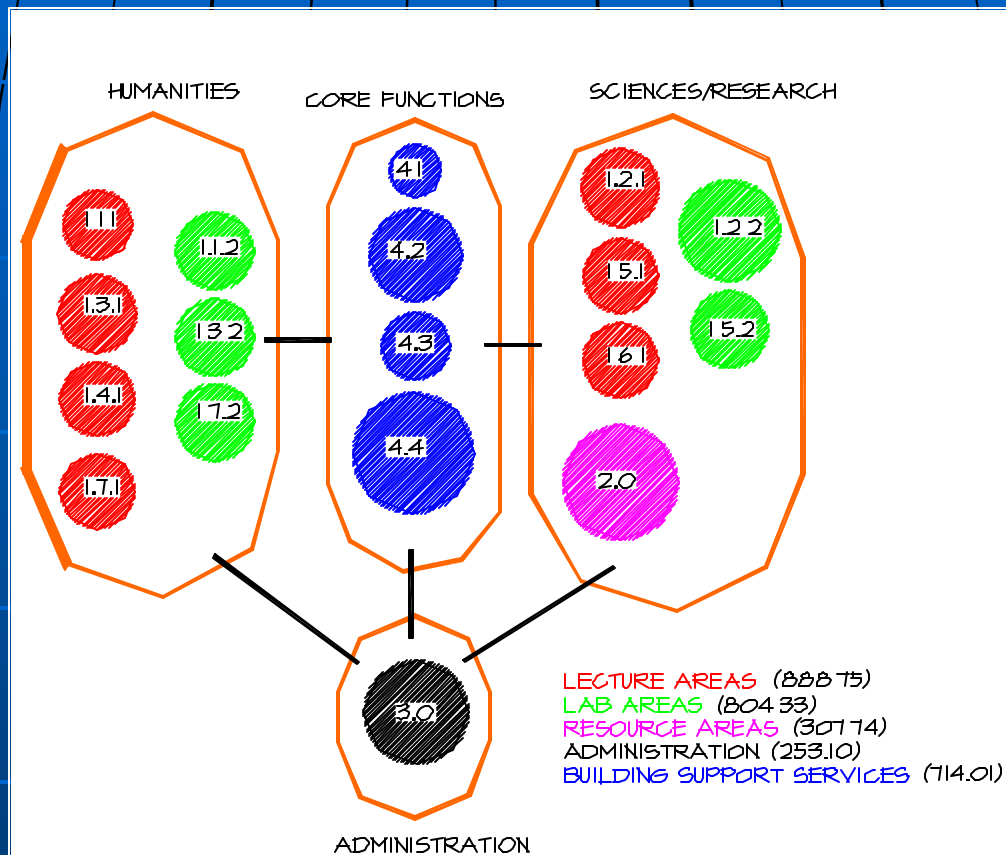
THE PRINCIPLE FORMS OF ARCHITECTURE:

- THE CIRCLE - UNBROKEN, FLUID, PART OF THE PROPORTIONAL ELEMENTS OF MANKIND
- THE SQUARE - REALITY OF CONSTRUCTION, IMPRINT OF HUMANITY ON THE FLUIDITY OF NATURE, PART OF THE PROPORTIONAL ELEMENTS OF MANKIND

THE TWO PRINCIPLES (CIRCLE AND SQUARE) DEFINE THE VITRUVIAN PROPORTIONAL ELEMENTS.

THE ALLIANCE/LINKAGE OF HUMANITIES AND TECHNOLOGIES FALL WITHIN THE GOLDEN MEAN OF PROPORTIONAL GROWTH.

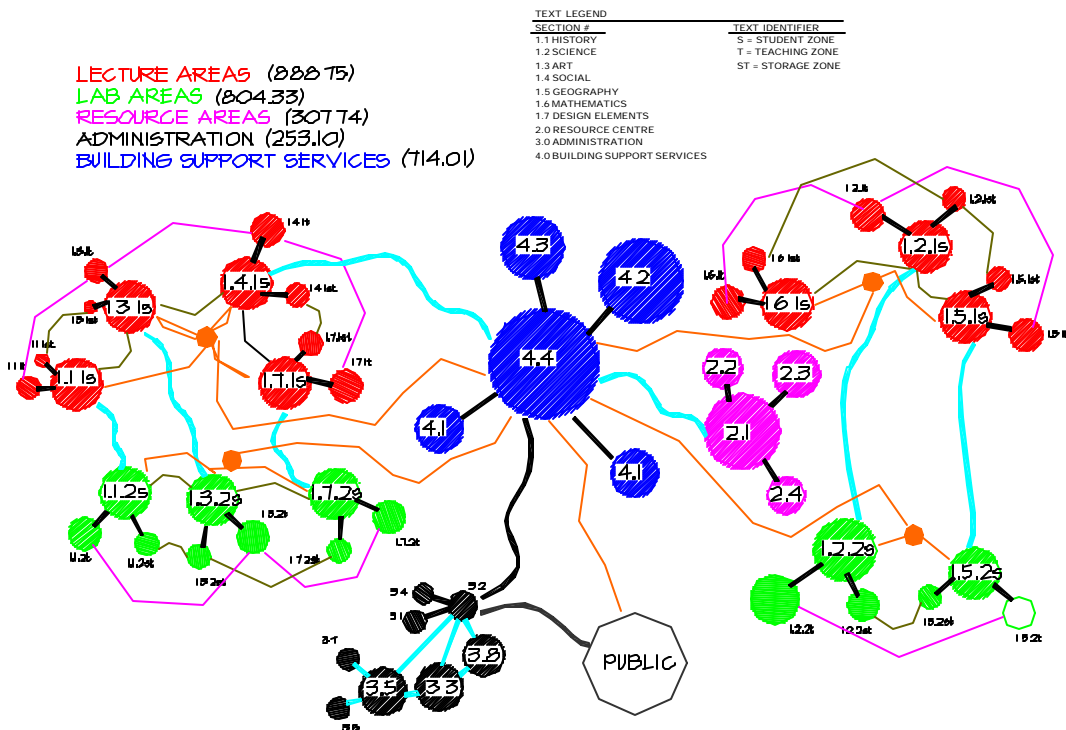
Area Relationships



BLOCK RELATIONSHIPS

DIAGRAM ILLUSTRATES THE BULK RELATIONSHIPS BETWEEN THE NOTED ZONES. AREAS RELATIVE TO THE SPECIFIC CURRICULUM (IE: SCIENCE LECTURE AND SCIENCE LAB RELATED TO THE SCIENCE OF BUILDINGS CURRICULUM) ARE GROUPED TOGETHER FOR FUNCTIONAL LAYOUT. DIAGRAM ILLUSTRATES THE GROSS FLOOR AREA ALLOCATED TO EACH SPECIFIC ZONE (IE: 1.1.1 = HISTORY LECTURE ZONE ILLUSTRATING THE SUM OF THE STUDENT AREA + TEACHING AREA + STORAGE AREA) OVERALL ZONE RELATIONSHIP ILLUSTRATED BY THE SOLID LINES LINKING EACH GROUP

Functional Relationships



FUNCTIONAL RELATIONSHIPS: STUDY #1

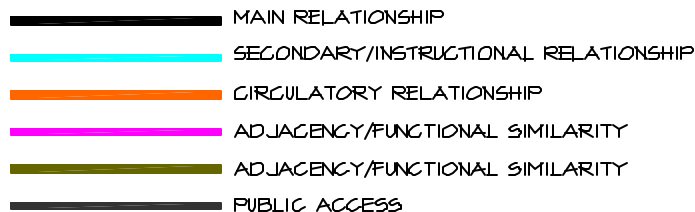
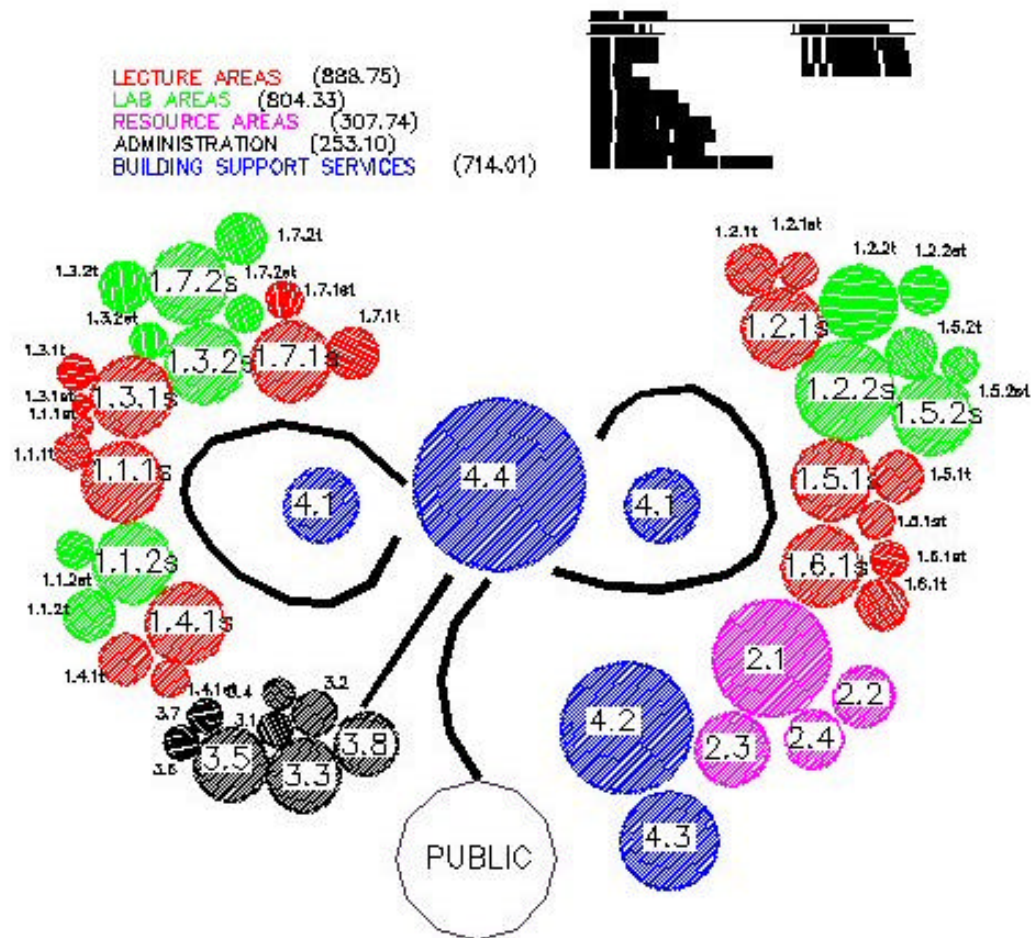


DIAGRAM ILLUSTRATES THE BREAKDOWN OF FUNCTIONAL RELATIONSHIPS BETWEEN ALL NOTED ZONES OF THE PROGRAM. EACH CURRICULUM AREA IS ITEMIZED RELATIVE TO STUDENT ZONES, TEACHING ZONES AND STORAGE ZONES. BULK AREAS SUCH AS RESOURCE CENTRE AND ADMINISTRATION ARE ITEMIZED RELATIVE TO THE INDIVIDUAL ROOMS. ALL ITEMS ARE REFERENCED AS PER THEIR CATEGORY NUMBER OF THE CURRICULUM PROGRAM AND THE AREA SPREADSHEET SUMMARY AND BREAKDOWNS. FUNCTIONAL LINKS ARE ILLUSTRATED BY THE VARIOUS LINES BETWEEN EACH ZONE. THE PRIORITY OF THE RELATIONSHIP IS INDICATED BY THE LINE COLOUR AND TYPE. DIAGRAM IS USED TO ESTABLISH THE FUNCTIONAL RELATIONSHIP BETWEEN THE PRIMARY AND SECONDARY AREAS OF THE FACILITY.

Functional Relationships



FUNCTIONAL RELATIONSHIPS: STUDY #5

DIAGRAM ILLUSTRATES THE ASSEMBLY OF FUNCTIONAL RELATIONSHIPS BETWEEN ALL NOTED ZONES OF THE PROGRAM.

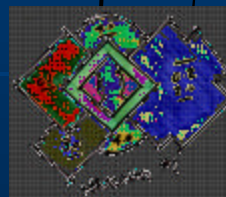
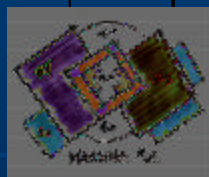
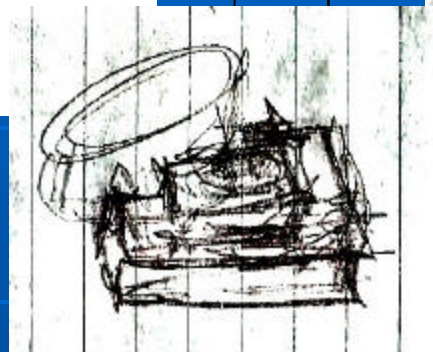
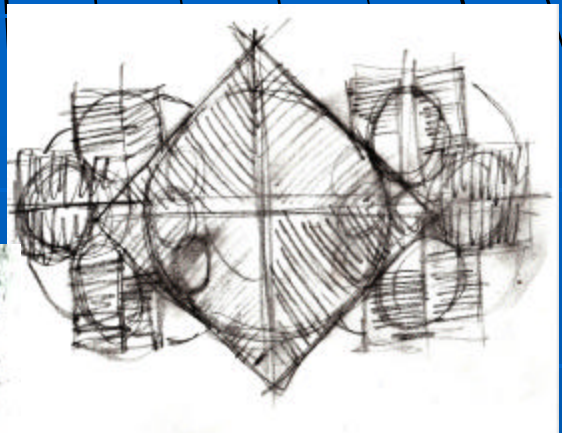
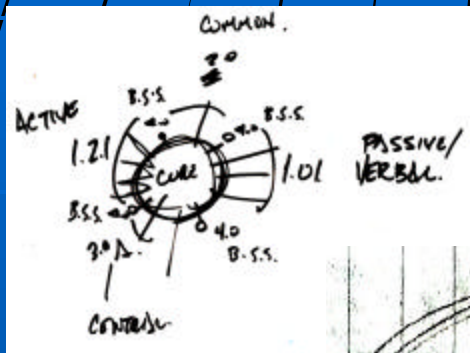
EACH CURRICULUM AREA IS ITEMIZED RELATIVE TO STUDENT ZONES, TEACHING ZONES AND STORAGE ZONES. BULK AREAS SUCH AS RESOURCE CENTRE AND ADMINISTRATION ARE ITEMIZED RELATIVE TO THE INDIVIDUAL ROOMS.

ALL ITEMS ARE REFERENCED AS PER THEIR CATEGORY NUMBER OF THE CURRICULUM PROGRAM AND THE AREA SPREADSHEET SUMMARY AND BREAKDOWNS.

ADJACENCY IS ILLUSTRATED BY THE LOCATION/ASSEMBLY OF EACH ZONE.

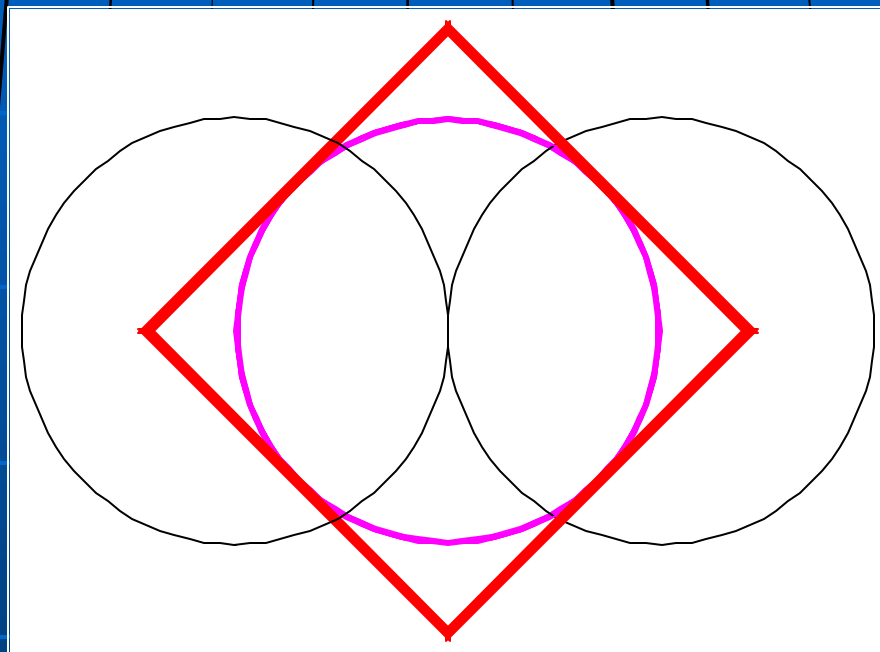
DIAGRAM IS USED TO ESTABLISH THE FUNCTIONAL LOCATION RELATIONSHIP BETWEEN THE PRIMARY AND SECONDARY AREAS OF THE FACILITY.

Early Sketches



Design Solution

- ✍ Design solution completed to link directly into curriculum basics.



- ✍ Intended for use as an instructional spaces as well as teaching “tool”, facilitating curriculum delivery by containing elements used in instruction.

Educator Requirements

2.1 General Discussion

- ✧ Provide areas to sit
- ✧ Provide areas for groups (pod stations)
- ✧ Supervision is required to all areas
- ✧ Group sizes of 3-5 students
- ✧ Maximum class size = 28 students
- ✧ Allow flexibility for change
- ✧ Student transition is the biggest point of loss in flow
- ✧ Transition must be quick and simple



2.2 The Instructional Process

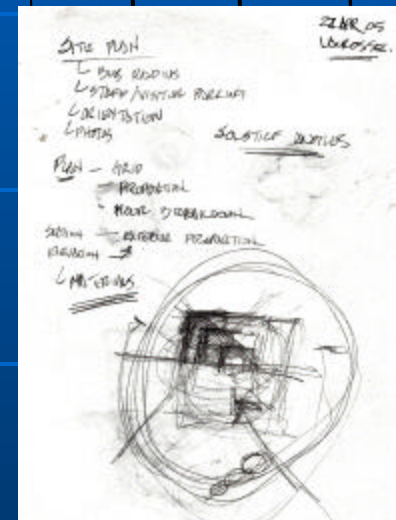
- ✧ Allow for one primary and one secondary instructor
- ✧ Lessons come as mini-presentations (small steps)
- ✧ Allow for flexibility in the teaching process
- ✧ General lecture tables should convert to drawing stations (partner desks)
- ✧ Teacher's station may be a distinct pod (command central)

2.3 Spatial Breakdown

- ✧ Space to provide for a combination of Lecture and lab
- ✧ Use of visual imagery is crucial (see Star Lab Technology)
- ✧ Visual imagery enhanced through panoramic view
- ✧ No hidden corners

2.4 Student Stations

- ✧ Pod areas to include tables and storage
- ✧ Pods should be identical for student usage
- ✧ Pods may serve as retreat areas (pit or booth)
- ✧ Shapes can be used in pods
- ✧ Movable pods? (rotation)
- ✧ Allow pods for distinct curriculum sections
- ✧ Pod zones should be comfortable to provide for both work environment and social setting



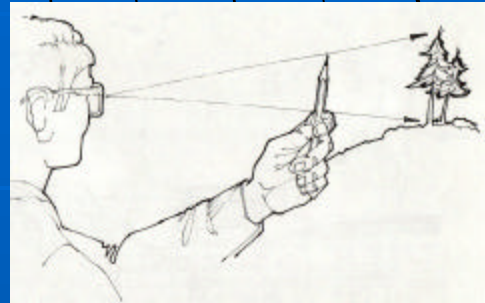
Educator Requirements

2.5 Acoustics

- ✍ Good acoustics throughout the space
- ✍ Allow flexibility for sound

2.6 Lighting

- ✍ Natural light is essential
- ✍ Maintain a connection to the exterior
- ✍ Use windows, skylights
- ✍ Ensure darkening capabilities
- ✍ Provide ability to control lighting (natural and artificial)
- ✍ Allow lighting to alter the affect

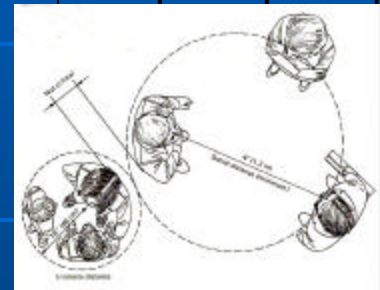


2.7 Storage

- ✍ Allow storage throughout at each pod
- ✍ Storage in each area keeps the flow of students moving
- ✍ Allow for general storage

2.8 Technology

- ✍ Allow for data systems installations
- ✍ Technology zone: self-contained in a distinct zone in the space
- ✍ Allow for a total of 6 computer units (max);
- ✍ Computer units to be slightly removed/isolated
- ✍ Maintain supervision to computer zone



2.9 Exterior Access

- ✍ Exterior space is an asset in teaching and working
- ✍ Exterior spaces is used to establish a level of trust and fosters independence in the students

2.10 Display Areas

- ✍ Display areas may be used as a reference point
- ✍ Reference for building as a whole
- ✍ Reference for the individual class
- ✍ Display areas should only be viewed temporarily to minimize potential copying to easily complete a task

2.11 Additional Items

- ✍ Allow wet/dry, clean-up zones
- ✍ Keep the interior colours neutral
- ✍ Allow for colour personalization by the students



Instructional Area

The Instructional Area Concept uses basic architectural forms. These forms are found in the planning of the space and may be used in the instructional aspects of the curriculum.

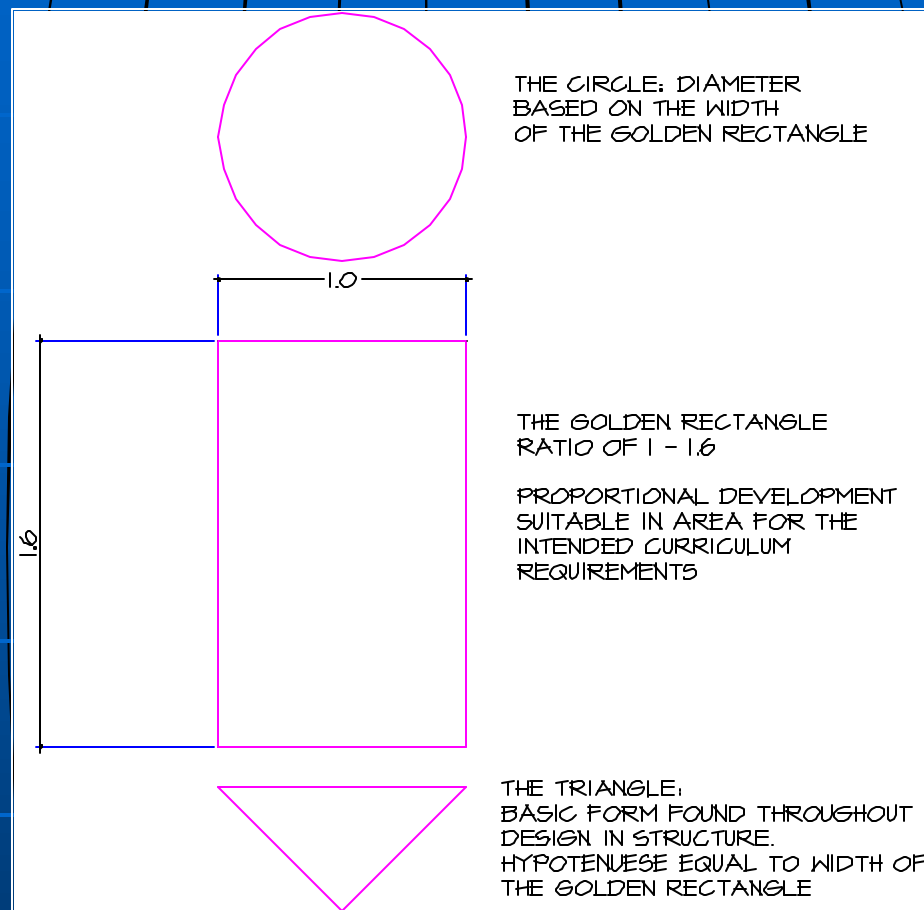
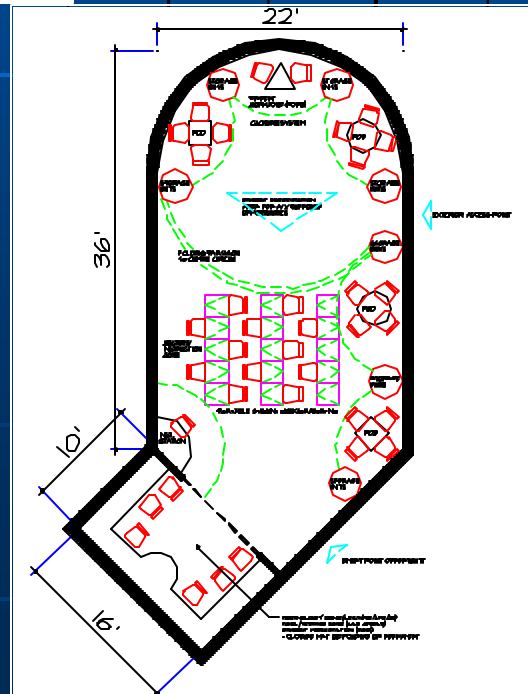
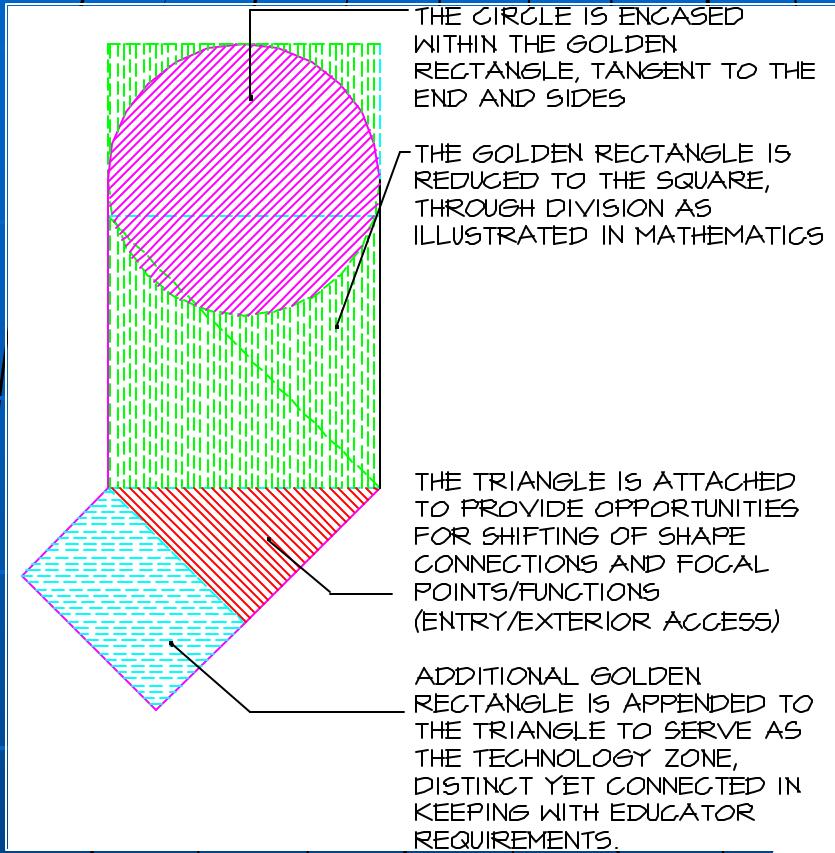


Figure 1: CONCEPT GEOMETRY

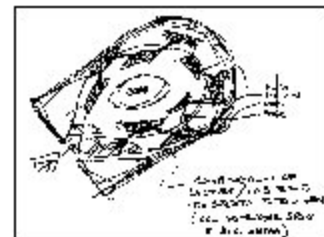
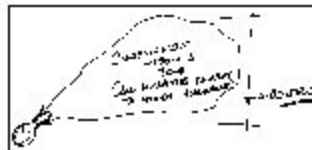
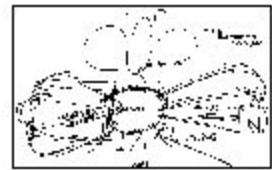
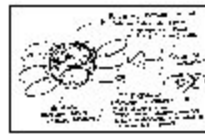
The Instruction Areas may be applied in concert with additional support zones to create an independent facility as is proposed in the thesis outline, or applied as individual instructional zones attached to existing facilities.

These areas have been conceptually developed to multi-function for use as lecture, lab or working areas relative to the curriculum instruction.

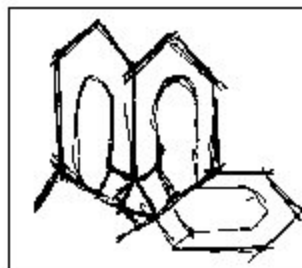
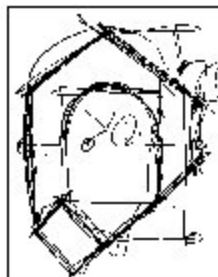
Instructional Area



Instructional Assembly Sketches

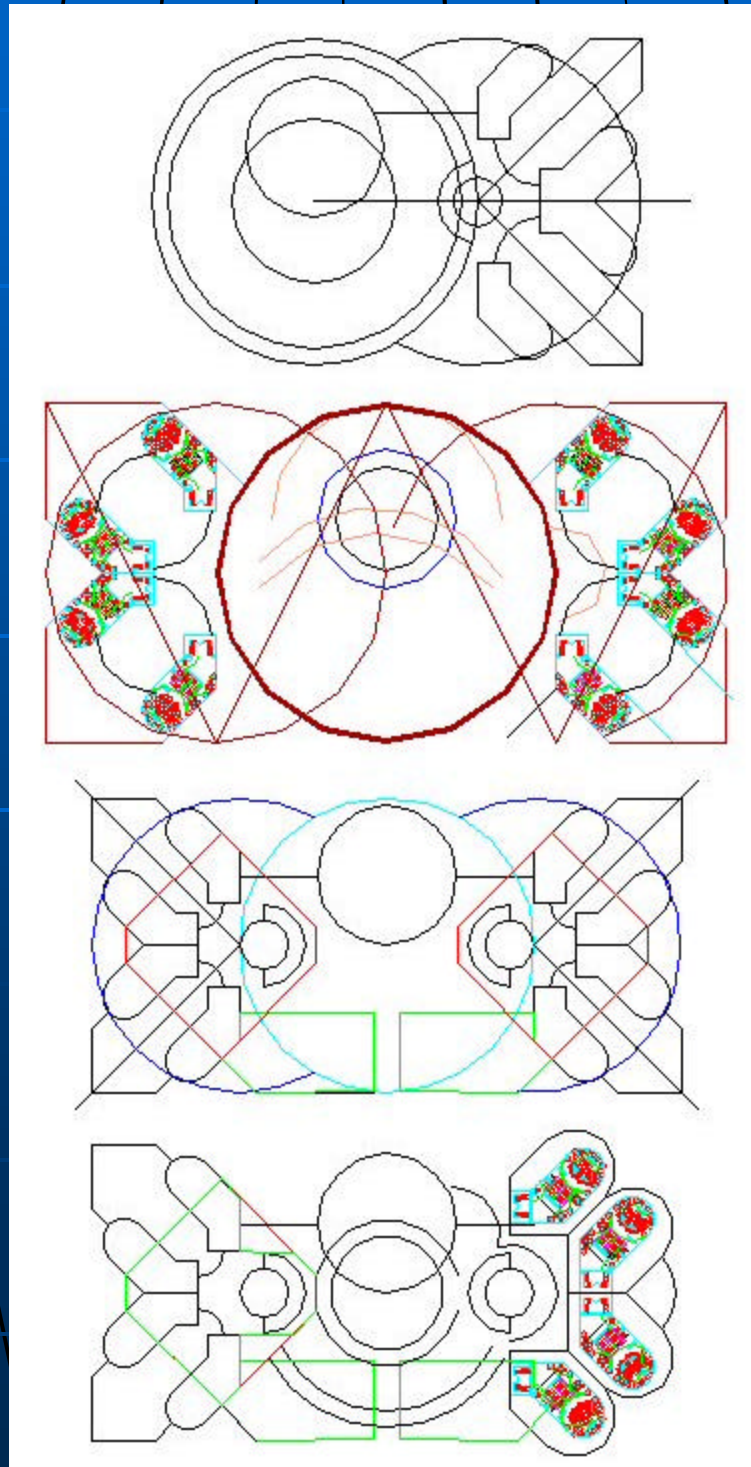


EACH SECTION MUST BE SERVED BY THE SAME SPACE;
 EACH SPACE WILL SERVE A DIFFERENT CROSS-
 SECTIONALITY OF AN OVERALL MECHANISM.

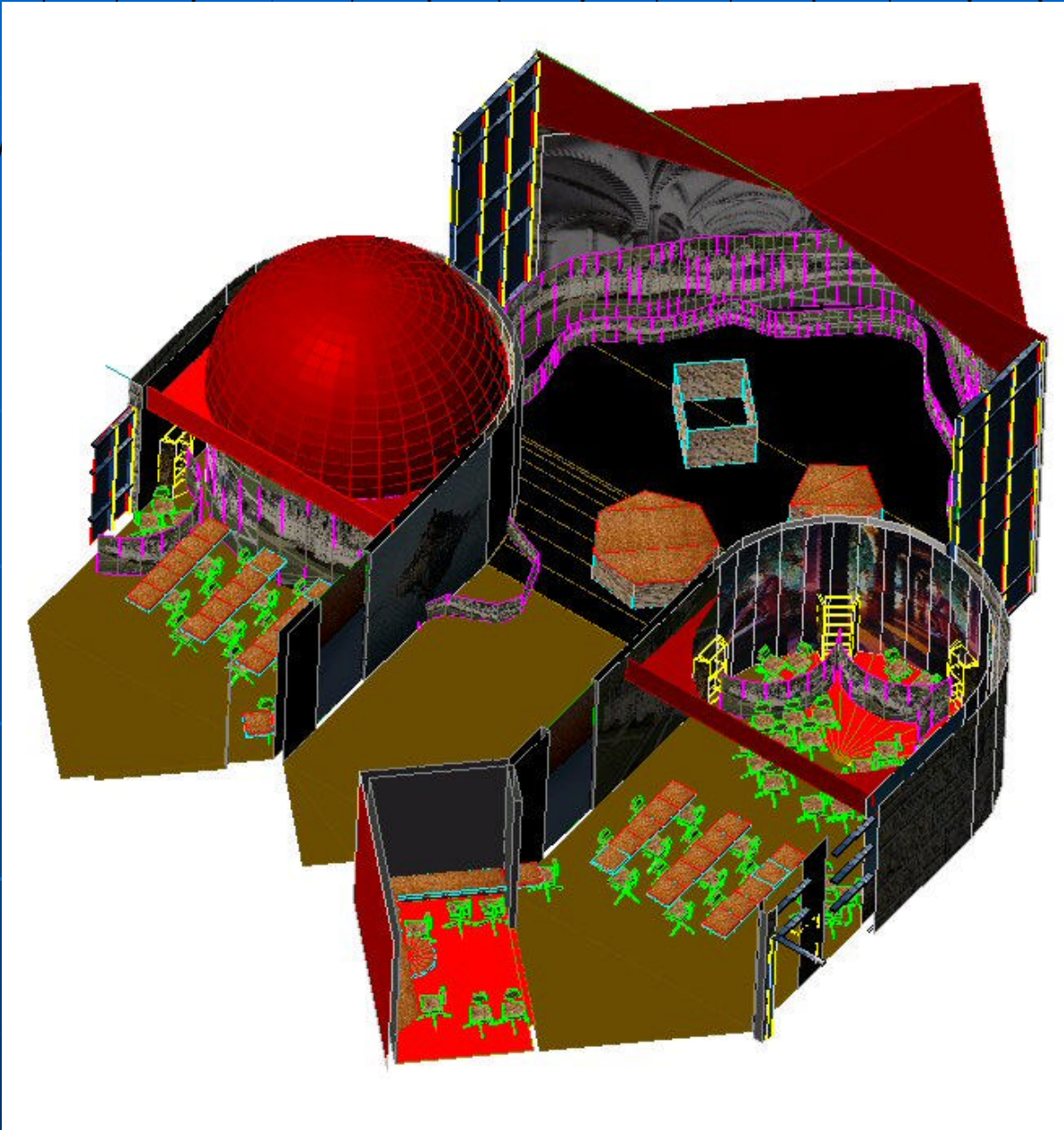


Instructional Assembly Sketches

Instructional Assembly Sketches



Instructional Area

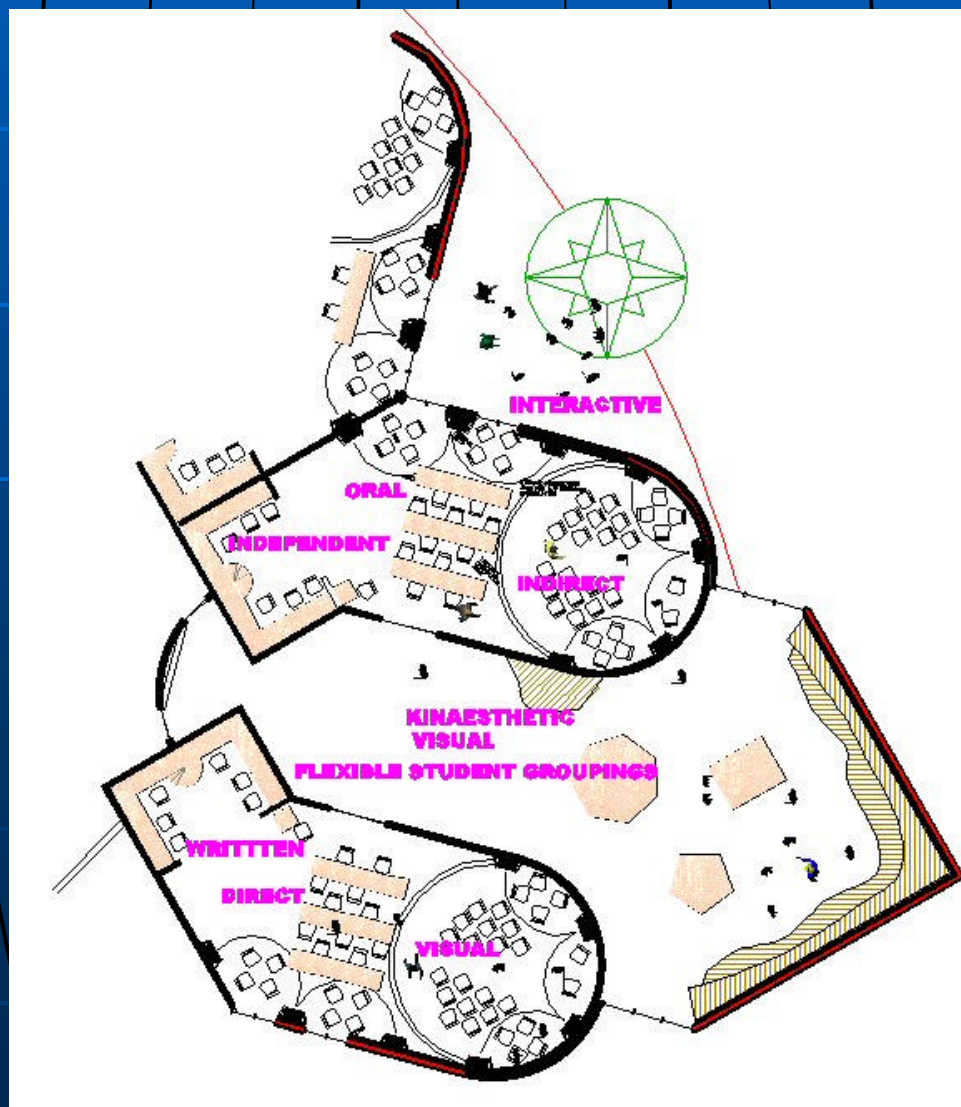


**ISOMETRIC VIEW OF DUAL TEACHING ZONES GROUPED TO
COMMON LAB ZONE.**

Curriculum Applications

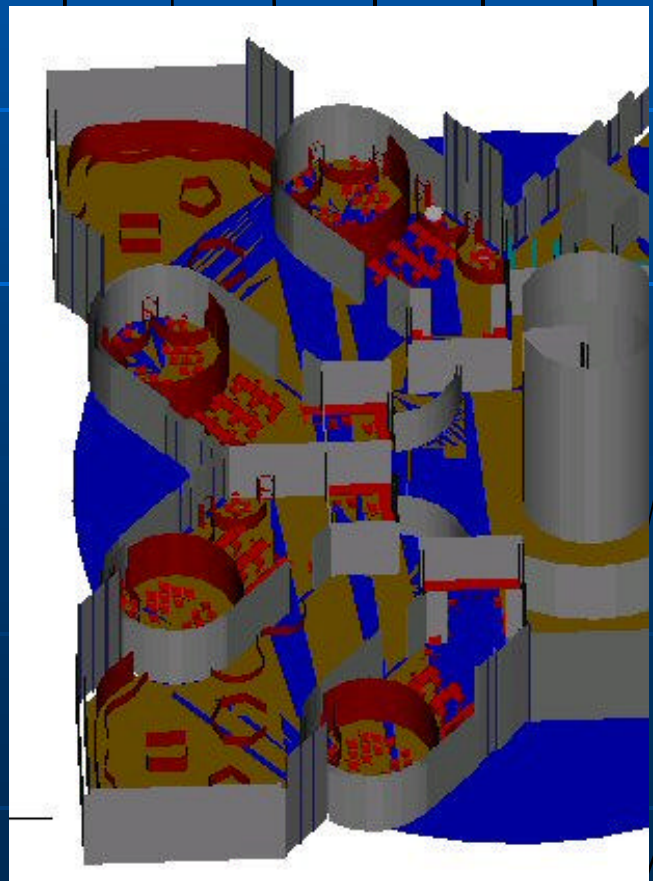
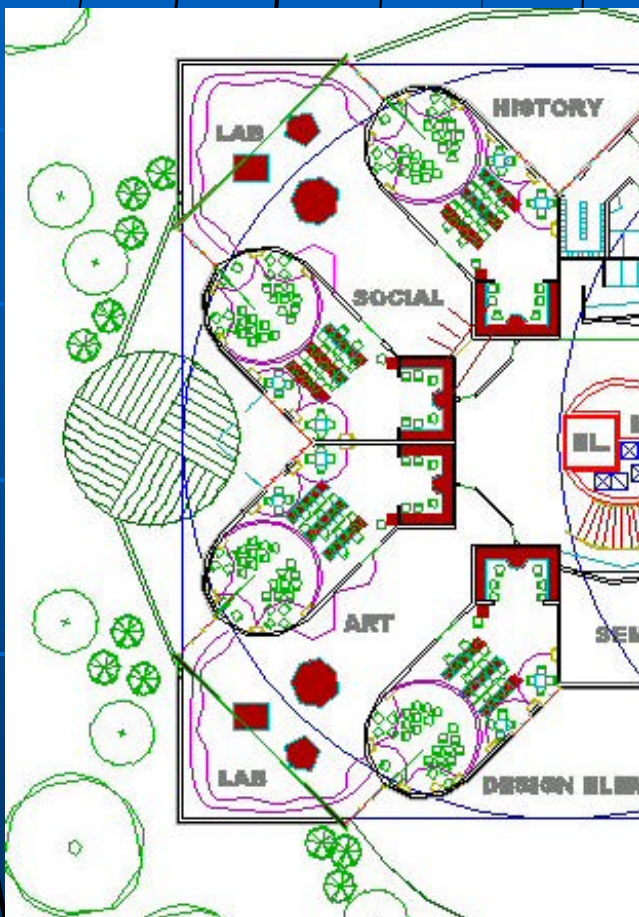
EDUCATIONAL PODS:

- ✧ Instructional area planned for each curriculum section as per programme requirements and educator input.
- ✧ lab areas combined with like sections to make better use of equipment and functions.
- ✧ the combination of instructional and lab areas create an environment for experiential learning to respond to curriculum requirements related to:
- ✧ Instructional Strategy: Direct, Indirect, Independent, Interactive
- ✧ Student Activities: Oral, Visual, Kinesthetic, Written
- ✧ Student Environment: classroom, lecture, audio/visual, flexible



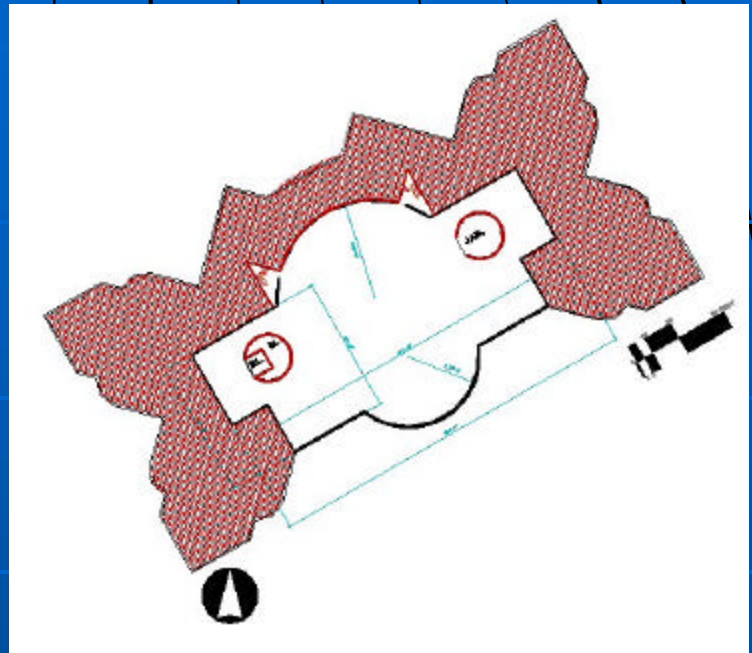
Instructional Pods

- ✍ EACH INSTRUCTIONAL POD CONSISTS OF TWO “TEACHING ZONES” LINKED TO A COMMON LAB AREA.
- ✍ PLANNING SUCCESSFULLY REDUCES THE OVERALL AREA USE AND MULTI-FUNCTIONS LABS FOR CONTINUAL USE.

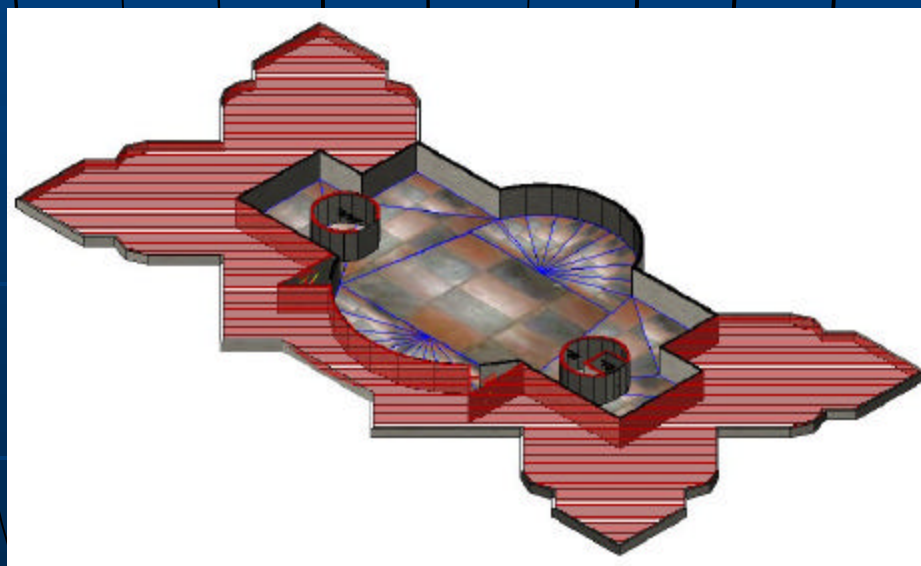


Lower Level

- ✍ Maintenance / Service
- ✍ Ventilation rooms
- ✍ Boiler room
- ✍ Storage area
- ✍ Equipment area
- ✍ Staff workshop



- ✍ Crawlspace located under Instructional pods and Administration/Staff areas.
- ✍ Full basement located beneath centre of facility.

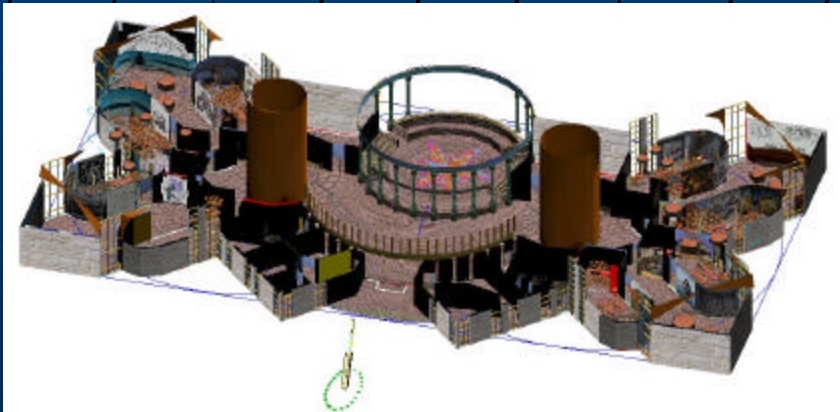


Main Level

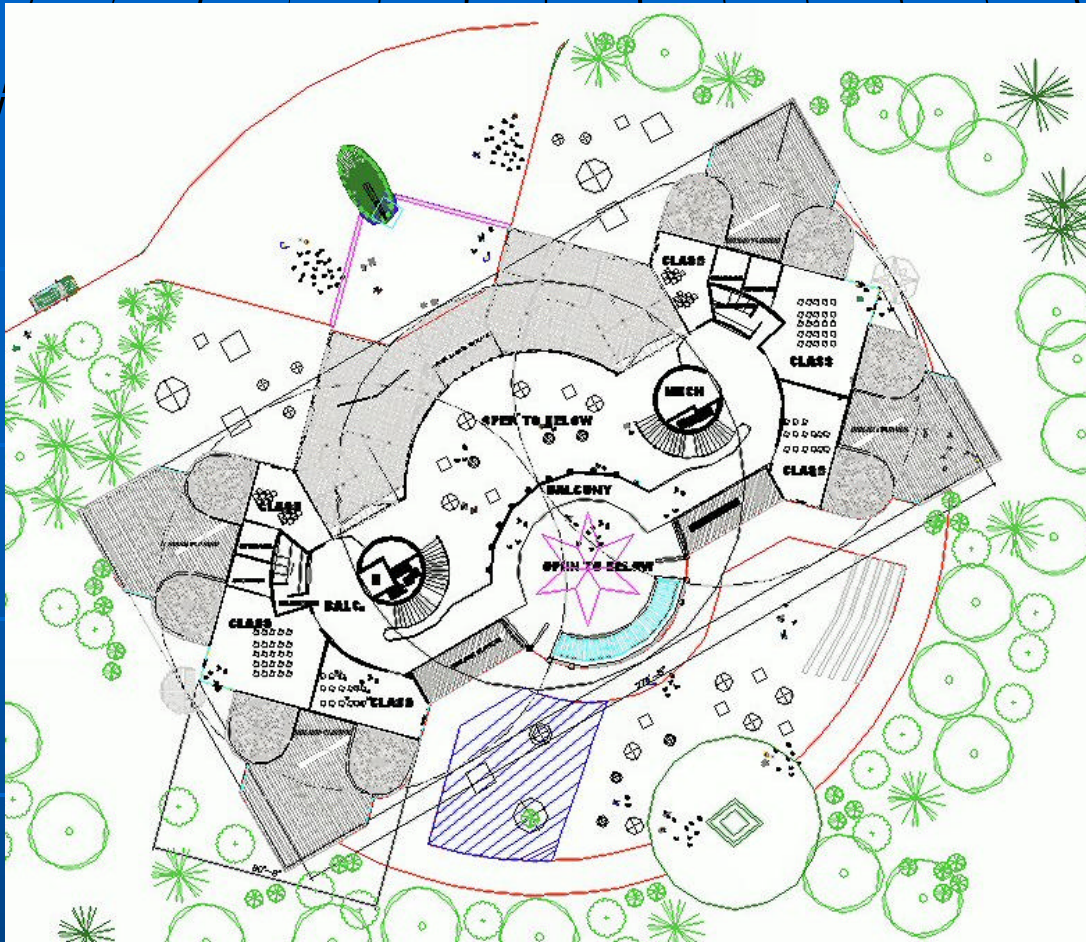


Main functional level containing:

- ✂ Instructional Pods
- ✂ Student Commons (Gallery)
- ✂ Forum (Social) space
- ✂ Administration
- ✂ Staff Areas
- ✂ Resource Area
- ✂ Public/Student Amenities

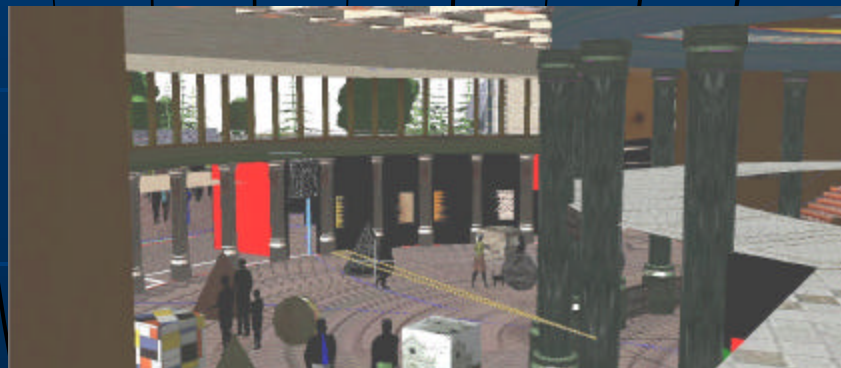


Second Level



Upper level containing:

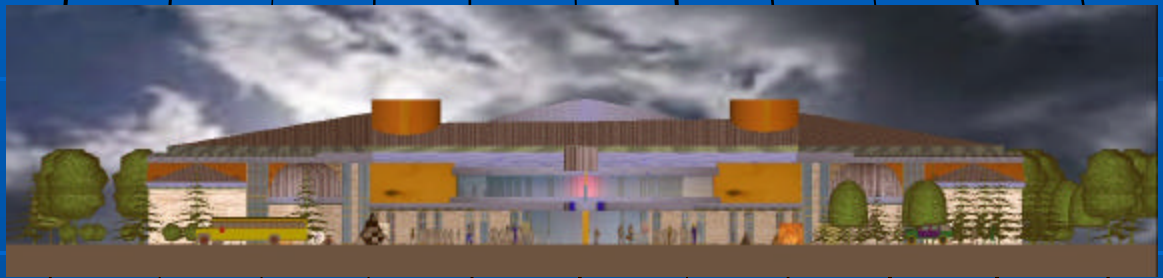
- Instructional (Classroom) spaces for staff and student use.
- Washrooms (maintaining student flow on one level)
- Balcony overlooking Gallery and Forum areas (social study and views)



Elevations

- ✍ Elevations designed to reflect design elements through:
- ✍ Varied use of materials/finishes
- ✍ Proportional relationships of trims/elements within each mass.
- ✍ Massing relationships between building elements

NORTH



EAST



SOUTH



WEST



Cross-Sections

East-West Axis

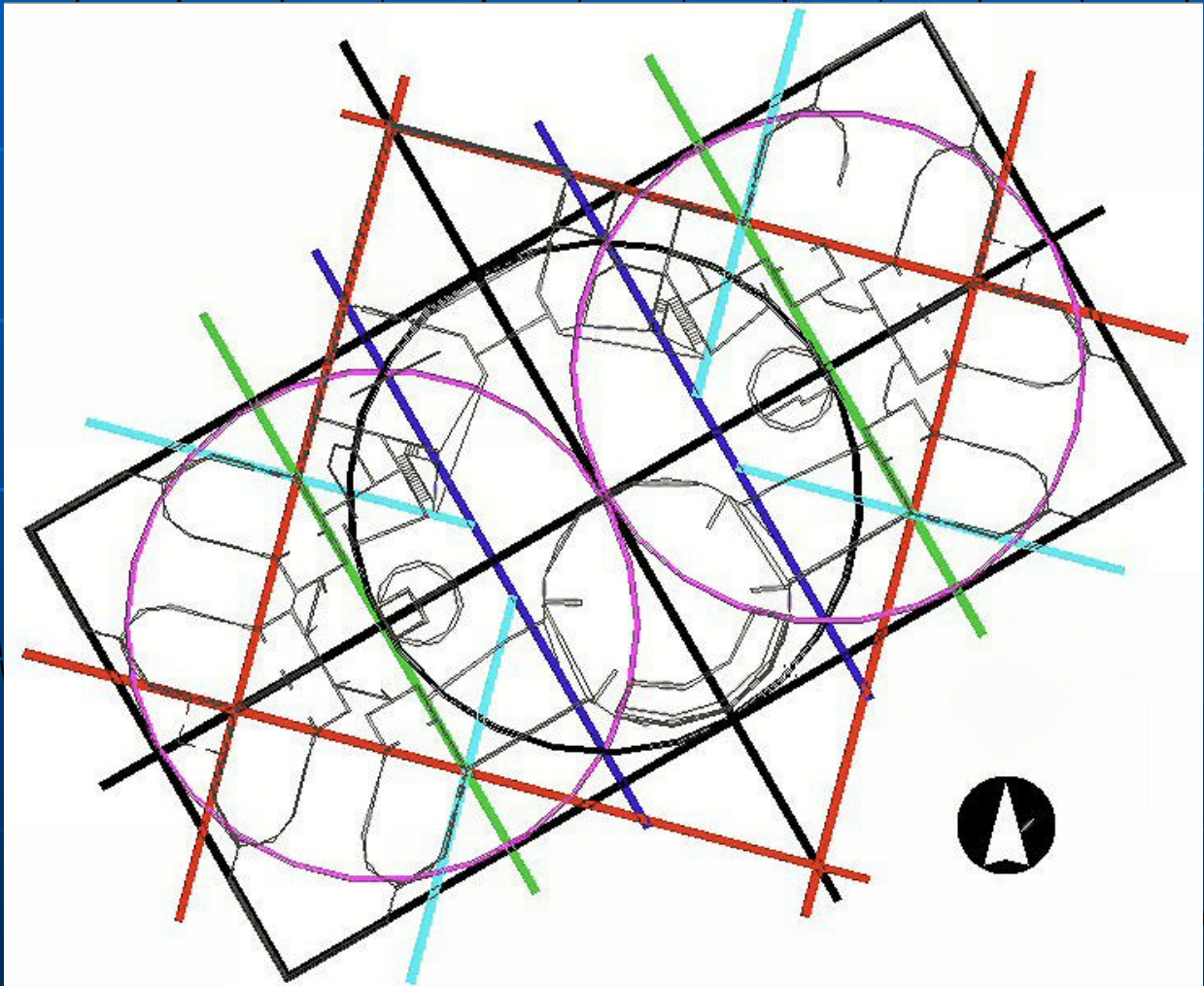


North-South Axis

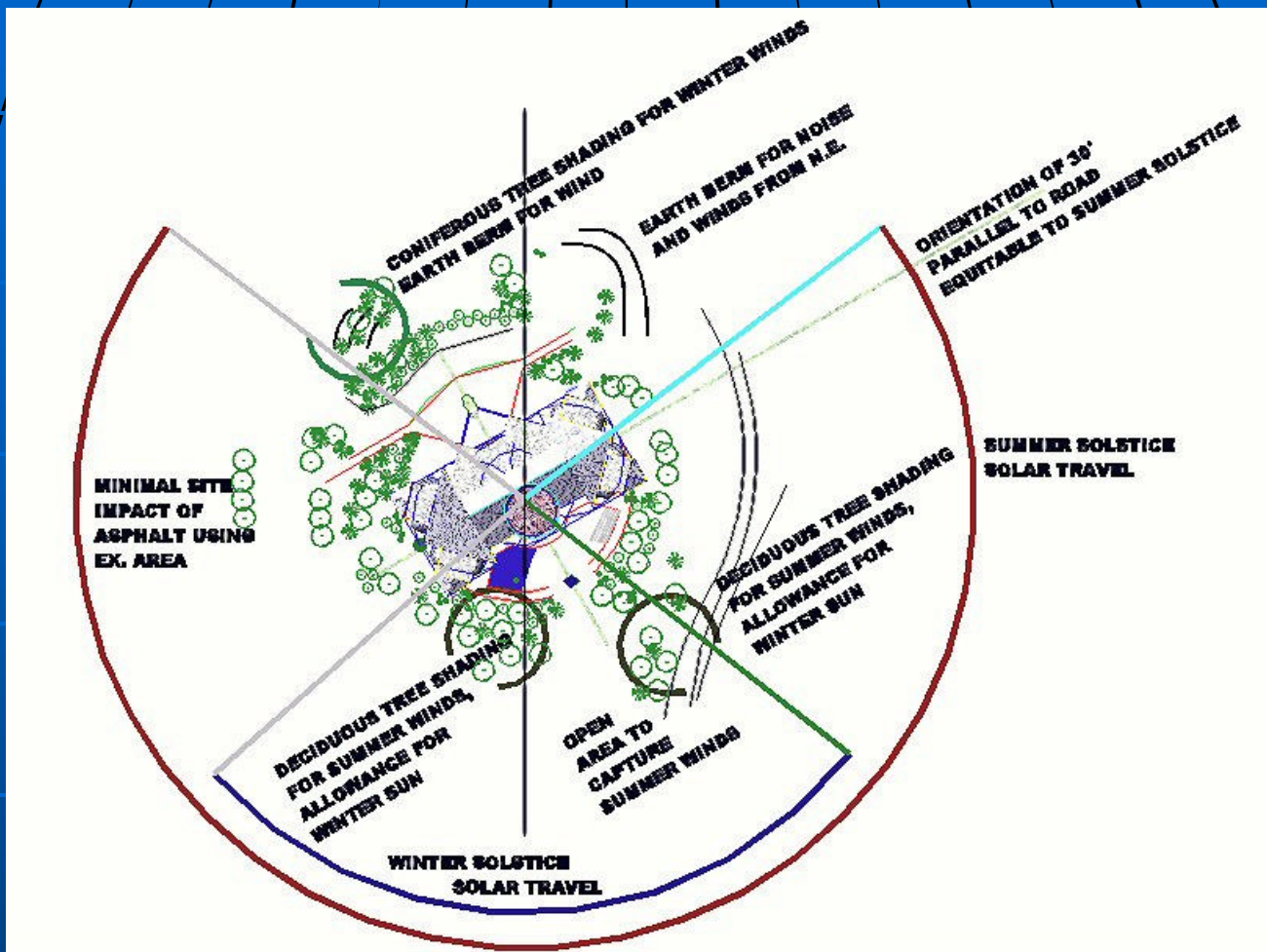


Geometry

- ✍ Design Geometry reflects the initial Parti through the circle and rotated square typology.
- ✍ Structure geometry designed from “inside-out” through initial development of instructional pods to linkages through to assembly.
- ✍ Study of geometry to be applied through Mathematics Section, as well as History, Structure, Design Elements and Art.



Site Development



- ✧ Site development locates design concept on north half of available area, in accordance with Geography principles.
- ✧ Orientation is aligned with entrance road (north), in keeping with Summer Solstice sunrise azimuth.
- ✧ Southern orientation aligns for cooling winds while north-west winds are blocked through use of berms and landscaping.
- ✧ Exterior site development allows for instruction to occur.

Site Plan

Minimal disruption of existing site area

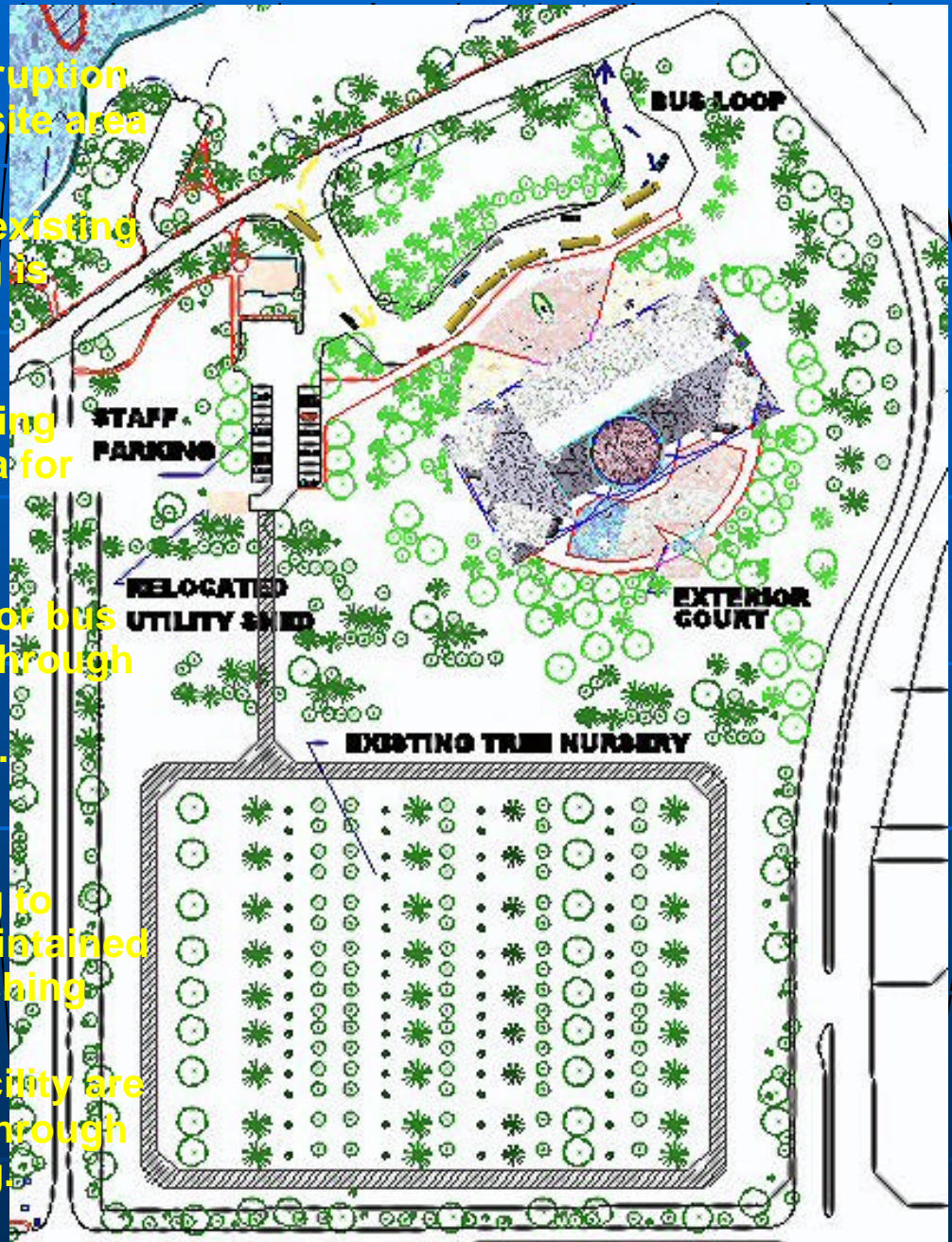
Majority of existing landscaping is retained.

Use of existing parking area for staff.

Allowance for bus entry / exit through designated approaches.

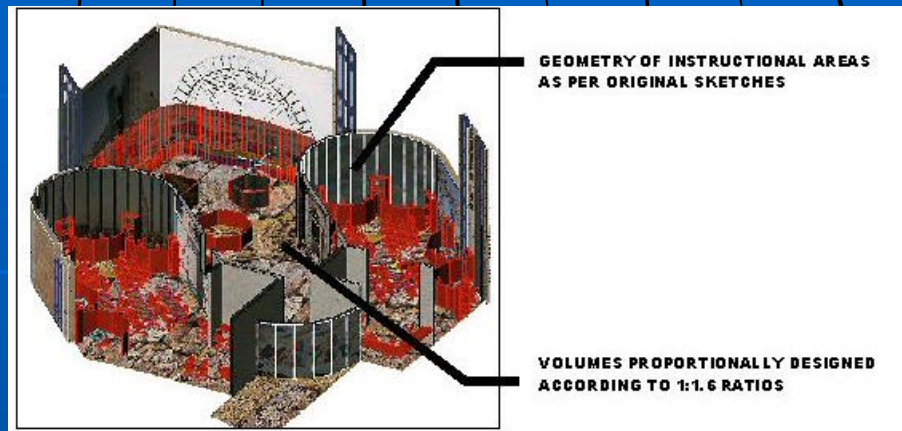
Existing landscaping to south is maintained (use as teaching element)

Views to facility are controlled through landscaping.

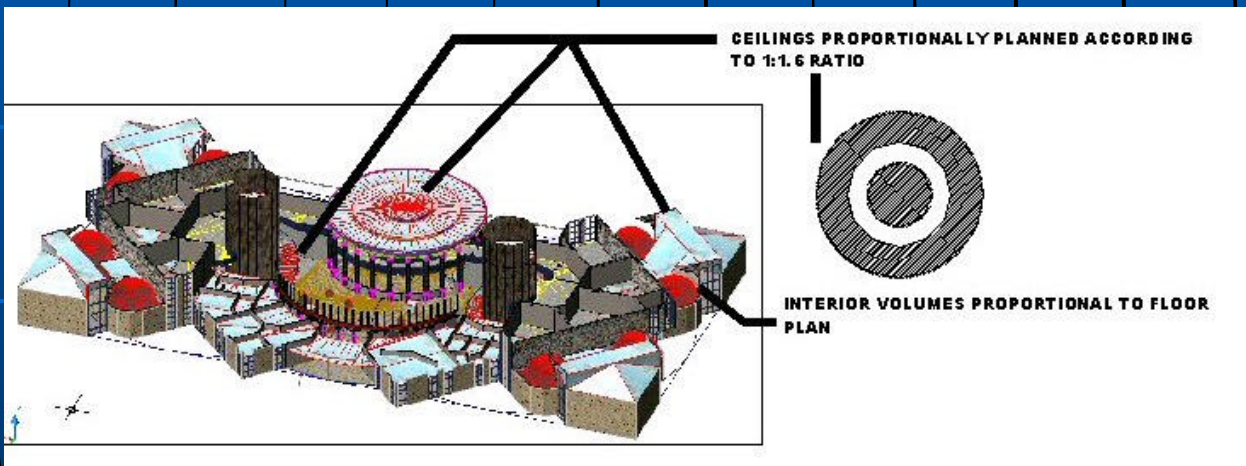


Curriculum Applications

- Facility design incorporates opportunities for curriculum throughout each area.
- Instructional Pods

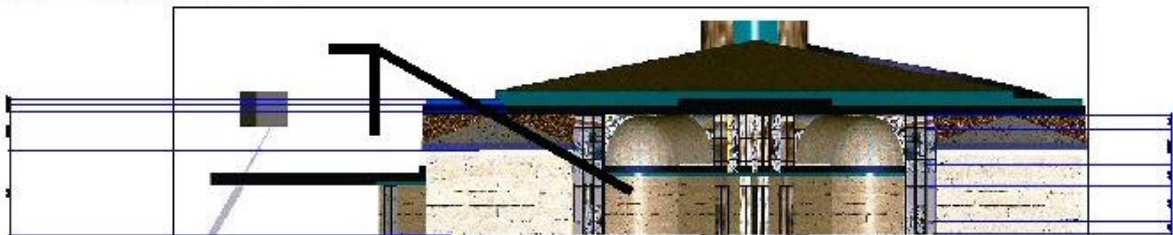


- Interior Development



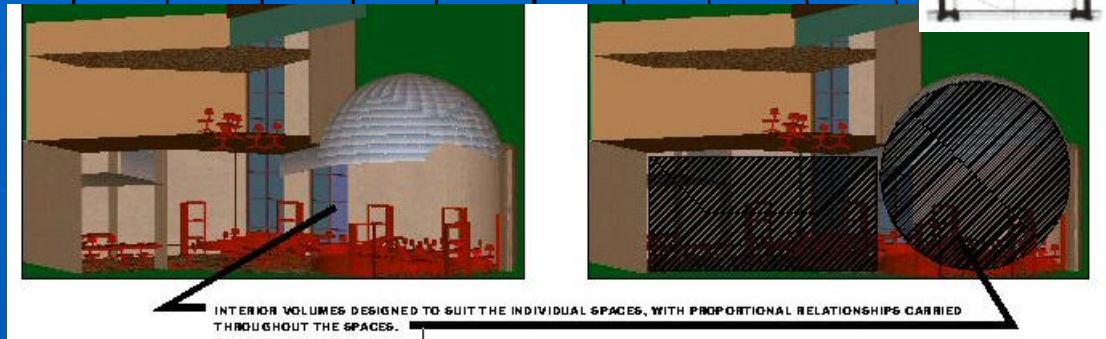
- Exterior Elevations

BREAKDOWN OF FINISH TRIMS AND WALL HEIGHTS PROPORTIONAL ACCORDING TO 1:1.6 RATIOS

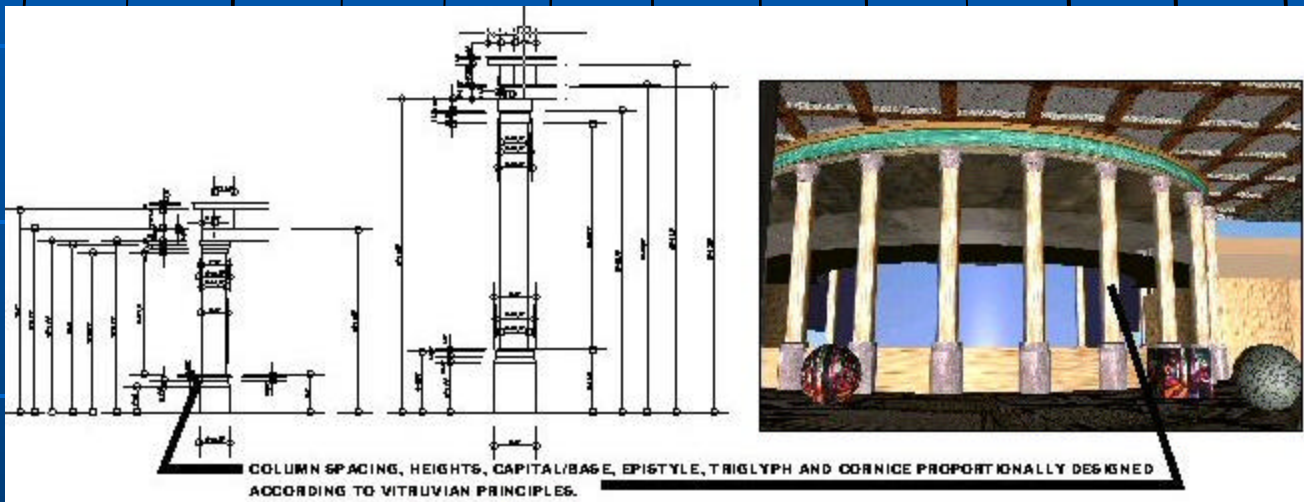


Additional Applications

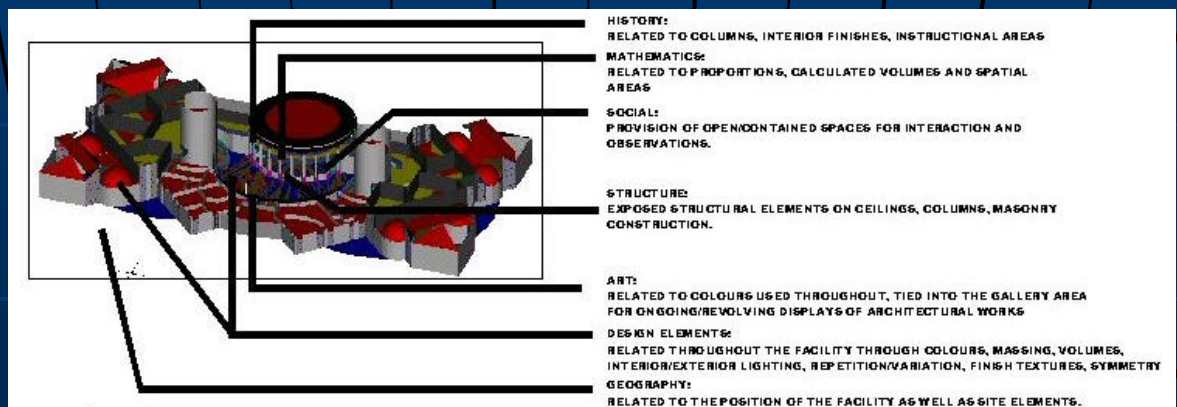
Instructional Pods



Gallery / Forum Columns



Interior Volumes



The Design Concept

