A Facility Proposal for

Mount Vernon Sr. High School
Mount Vernon Senior High School

... Architectural Thesis Project for a Proposed Educational Facility.

Client
School Board
Metropolitan School District of Mount Vernon
Mount Vernon, Indiana

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Background

Mount Vernon, Indiana (pop. 8,000), has one school system, the Metropolitan School District of Mount Vernon (M.S.D.M.V.) which serves the southern third of Posey County.

The school system has in the past built a new high school whenever the student population increased to the point of outgrowing the existing high school and then reused the existing high school as the new junior high school. This method of updating the school system's facilities provides the two primary reasons for the current need of a new high school in Mount Vernon.

First, the existing high school has been occupied by 130% of the designed student capacity for the past seven years. This is evident in the existence of six "temporary" classrooms that have been in use at the high school for the last several years.

Secondly, the existing junior high school building is around fifty years old and is at the end of its usable lifetime. Therefore, if a new high school facility is built, the existing high school building could be converted into a new junior high school building.

Due to the fact that the current high school facility can hold not only the junior high school student population, but also one more grade, it has been decided to keep the ninth grade in the current facility and build a high school facility for only three grades (tenth, eleventh, and twelfth grades).

The size of the initial new facility will be based on the current needs of about 260 students per grade or 780 students total. The size of the larger, less flexible spaces such as the auditorium and gymnasium will be based on an eventual student population of 1100, though this is not to be considered an absolute maximum.
Approach

Due to the rapidly changing field of education, a new approach to the design of an educational facility for Mt. Vernon will be tried.

In the past, Mt. Vernon has built high schools based on their school district’s specific educational curriculum and if the educational curriculum changed, it was never so drastic that the facility needed to be changed greatly. This method worked very well, but the existing high school, built in 1960, already needed extra classrooms by 1975 when it was only fifteen years old, and every indication points to a greater speed of change for education in the future.

A facility built today for one specific educational program may be outdated in five to ten years. Therefore, if a school facility is to serve the community for fifty years or more, it should be designed to be able to hold any one of a range of different educational programs or even any possible program at all. This is the type of facility, one that changes with the educational program, that this thesis deals with. In this way, Mount Vernon's new high school will be a facility for the future as well as for now.

The approach of this building's program requirements reflects the above ideas through the manner in which the specific spaces are programmed. Every type of learning relationship between a student and a teacher, another student, a machine, a reference, or any other learning tool is given a space which is defined by its basic requirements. Then these spaces are applied to the specific space requirements of Mount Vernon's new high school with any special requirements for each learning space that are unique to this school also listed. The result of this is that there is a selection of general learning spaces which are fitted to Mount Vernon High School's specific learning space needs. This provides a custom-built facility that has the capacity of being re-customized as the school's educational program changes.
Building Type Analysis
Research

An educational facility is a very complex and demanding building type to design. It requires a working knowledge of a very wide range of other building types: physical education center, theatre, library, restaurant/cafeteria, office design, music studios, industrial shops, and lecture rooms. The application of these building types in scale and character to learning and the integration of them into a place for learning is what school design is all about.

The key to a good design is the creation of a place for learning. The original learning place was the real world which consisted of two parts: nature (a farm) and man's built environment (the city). Both parts stimulated learning through variety of scale, color, texture, form, material, sound, etcetera.

The one room schoolhouse (a city in a world of farms) provided this variety of stimuli. It was a model of flexibility, open planning, and individual instruction and experience because of its small size and house-like construction.

As schools grew in the early 1900's they began to acquire larger parts such as the library, the gymnasium, and the auditorium. The school became a larger city with more variety.

Soon the school began to lose its original qualities and assume an authoritarian look. Then, even that amount of variety was taken away in order to achieve a democratic and 'equal' look and the school became a long, low, modern box.

Today, the school as a city must be re-created and integrated with nature, re-capturing the qualities of the initial learning space, the world.

Unfortunately, to create a "learning city" costs initially almost double as much as building the monolithic, modern box, but, fortunately, the overall cost can be proven to be the same, if not less. A school facilities cost is only about 5 to 15% of the total cost of educating a child. Therefore, even if the facility costs nothing, the savings effect to the taxpayer is negligible. Conversely, a better quality facility only costs a negligible amount more to the taxpayer. Also, a better quality facility can be less costly to maintain making the lifetime cost lower than an initially cheaper facility. Finally, the benefits to our society of having better educated people is incalculable.
Analysis

In order to better understand the high school as a particular building type, an analysis was undertaken of three existing high school facilities.

Each example was chosen because it had a particular major design characteristic: Columbus East High School for its division of large lecture halls, open classrooms, and small seminar rooms; Mariemont High School for its modular classroom units; and Scuola Media for its unique siting and European design.

Each example has been represented by its particular conceptual organization and a graphic analysis presented on its relationship of spaces, organization of circulation paths, overall composition of plan, type of structural organization, facade rhythms and patterns, and placement on the site. Written comments on the building's scale and proportion, and image are included and some of the building's unique features have been pointed out.
Concept/Parti

Plan: dumbbell organization

Physical education \[ \rightarrow \] classrooms \[ \rightarrow \] lecture halls \[ \rightarrow \] auditorium/performance

3 level section of classrooms:
- Seminar rooms \[ \square \] 3rd floor
- Open classrooms \[ \square \] 2nd floor
- Large lecture \[ \square \] 1st floor

Space Relationships

3rd floor - Seminar

2nd floor - Academic

1st floor - Social/Large lecture halls
Circulation

- horizontal circulation
- vertical circulation

3rd Floor

- single loaded spinal circulation
- meandering circulation combines with open classrooms

2nd Floor

1st Floor

- strong spinal circulation with entry and lobby nodes

Entry and Enclosure

- moderate sense of entry
- no sense of entry
- good sense of entry
- sense of egress
Plan Composition

Major Spaces Footprint
- fairly well balanced composition
- dynamism
- small focus
- tension

Building Footprint

Structural Order

conventional structural grids

transition bay for vocational wing

Circulation spine defined by structural grid shift

missing column due to large lecture hall

collision of grids
Three Dimensional Patterns and Rhythms

LARGER VOLUMES
BROKEN W/WINDOW
REPEITION

STRONG PATTERN
ELEMENT

COLUMN MATCHED TO
VERTICAL GRID

PROGRESS TO SMALLER
REPETITION/MODULE AS
FAÇADE ASCENDS—
HEAVY ON BOTTOM;
LIGHT ON TOP.

SAME MODULE BUT BROKEN
DOWN

NICE PLAY OF
FAÇADE
USING SAME
LANGUAGE

STRONG COLUMN ELEMENT
WORKS W/ WINDOWS

REPEITION/RHYTHM
ENDS VERTICITY
OF FAÇADE—GOOD!
Siting

Scale and Proportion
--Building and plazas are scaled to a large site; huge scale; vast
--Proportion is low lying; long; reads as basically one unit
--Inside: large scale on first floor (social); Finally! human scale on second floor (academic)

Unique Features
--Student Commons Area on first floor.
--Semi-open academic area on second floor.
--Spinal circulation.
--Brick "H" triumphal arch.
--Vast concrete desert plaza in front of gymnasium and pool.

Images
--First impressions are that the building is a factory due to its large scale/non-humanizing elements and low, long profile; cold.
--First level inside still has that cold image, though, to a lesser degree; almost a research facility (corporate) feeling.
--Second level is where the school image prevails.
--Other images: Large behemoth; Beached built whale; Serious facility; Cold.
Concept/Parti

Plan: module clusters

Space Relationships
**Circulation**

- horizontal circulation
- vertical circulation

2nd Floor
- undefined circulation within modules

1st Floor
- meandering spinal circulation
Plan Composition

Structural Order

Note: liberal use of grid. Not much order. Possibly follows philosophy of open plan?
Entry and Enclosure

Entries at recesses in clusters; good.
Secondary Entry (students)

Main Entry (public)

Note: many entries allow good connection with site.

Siting

Tertiary Entry (from fields)

Trees soften entries

Outdoor areas created around building

Trees used to contain fields

Football & Track Competition Fields

NORTH
Scale and Proportion

-- The building is scaled to fit the site and people; not quite intimate, but still relating to human scale and the surrounding forest.
-- There are some areas that are more intimate such as the main entry and the secondary entry.
-- The fact that the building is halfway buried in the sloped site reduces the apparent size of it.
-- The hexagonal geometry breaks up the building mass and scale.
-- The modules are proportioned well so that one space does not dominate, but the main spaces are readily perceived due to their slightly larger size (auditorium) or their square shape (gymnasium and pool).

Unique Features

-- The hexagonal modules.
-- High integration with the site.
-- Two story library.
-- Balcony in gymnasium.
-- No fly tower in auditorium.
-- Open classroom concept.

Images

-- Human scale; Inviting; almost like joined houses.
-- Oddly shaped modules; interesting.
-- Pleasant place to learn; non-rigid.
-- Organization is a bit awkward.
-- Why did the architect go back to rectilinear shapes for the pool and gymnasium?
Concept/Parti

Plan: double orientation

Space Relationships
Circulation

- horizontal circulation
- vertical circulation

1st Floor
- main avenue
- large amount of circulation

2nd Floor
- spinal circulation
- no inside connection to gymnasium

little interior/exterior definition
Plan Composition

- Long lift elements
- Well balanced
- Short main element
- Modularized
- Good transition
- Base

Structural Order

- Very ordered, yet flexible
- Relationship to N/S/W/S
- Correlation between gymnasium & support structure (lockers, etc.)
- Relationship to access, road
Three Dimensional Patterns and Rhythms

Modular Rhythm

Rhythm in Round Windows & Round Planters

Horizontal Rhythm

Vertical Rhythm

Like a Portico

Modular Windows

Stair Rhythm
Siting

Scale and Proportion

--- Scale is slightly monumental, especially in front portico on gymnasium.
--- Classroom 'houses' relate well in size to gymnasium.
--- The modularity of the design reduces the overall scale of the whole building and gives it a human scale, yet leaves the whole perceivable so that one realizes that this is an important building.

Unique Features

--- Modularity.
--- Large amount of semi-exterior circulation.
--- Outdoor auditorium.

Images

--- Important building.
--- Concrete walls give building stability but is cold; the proportion and modularity help tone this feeling down.
--- Circulation gives impression of easy access and activity; inviting; strong connection to site.
Site Data

--The site is located at the northeast corner of the city of Mt. Vernon, Indiana, just outside of the city corporation limits.

--The site is at a transition point between the city's grid which is oriented to point slightly northwest (18.5° NNW) and the county's grid which is oriented towards due north.

--The site is bordered on the north by a railroad which is raised on an earth mound 14 ft. above the site and has a ditch running between it and the site.

--The site is bordered on the east by a farmer's cornfield.

--The site is bordered on the south by an improved widened alley which has garages, sheds, and backyards facing it.

--The site is bordered on the west by a school baseball field and 1960's one and two story single family houses.

--The main access road to the site is Harriet Street which runs along the west side.

--Sewer, water, and gas utilities run underground along the west and south sides of the site and all electric power and telephone are overhead along the same sides.

--Being a previous cornfield, the site has only a few trees and bushes along the north, south, and west property lines.

--It is a very level site (maximum elevation difference is 3 ft.) and has soil consisting of a clay and loam mixture which allows only moderate percolation. Due to both of these characteristics it drains very slowly without the use of drain tiles.

--The soil is corrosive to steel, but not to concrete and has moderate to low bearing capacity.
Site Plan

scale: approx. 1"=600'
Site Analysis

Climate

Degree Days:
average degree days -- 4360/yr.
degree day range -- Sept. thru May
(max. in January -- 939)

Precipitation:
annual precipitation = 42"/yr.
July precipitation = 3"
Jan. precipitation = 4" (12" of snow)

Temperature:
average annual temperature = 55°F
average Jan. temperature = 33°F
average July temperature = 79°F
Views and Context

- Elevated railroad tracks (14' o' high)
- Looking at railroad hill.
- Cornfield
- Looking at houses
- Residential houses from mid 1900's
- To Heiges Elementary
- Competition baseball field
- To Junior High
- Main View opposite
- Important view on hill
- Looking at two schools on hill
- Residential houses from around 1920's
Access

- Access possible from west border
- Access possible thru easement

Site Size Relationships

- Football Field
- Required Parking Area
- Required Building Area
<table>
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<tr>
<th>General Spaces</th>
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<tr>
<td>Informal Areas...............approx. 30,000 sq. ft.</td>
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<tr>
<td>Lobby..........................6,000</td>
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<tr>
<td>Concession Stands (2@150)...........300</td>
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<tr>
<td>Men's Restroom....................500</td>
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<tr>
<td>Women's Restroom...................500</td>
<td></td>
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<tr>
<td>Box Office.......................100</td>
<td></td>
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<tr>
<td>Coat Room........................500</td>
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<tr>
<th>Library Center</th>
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<tr>
<td>Library (110 seats)...............2,750 sq. ft.</td>
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<tr>
<td>Librarians' Offices (2@150).......300</td>
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<tr>
<td>Audio-Visual Room (300) and Storage (450).......750</td>
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<tr>
<td>Periodicals Room..................400</td>
<td></td>
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<tr>
<td>Work Room........................250</td>
<td></td>
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<tr>
<td>Meeting Rooms (2@200).............600</td>
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<th>Administration</th>
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<tr>
<td>Administration Office.............1,000 sq. ft.</td>
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<tr>
<td>Vault............................75</td>
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<tr>
<td>Paper/Equipment Storage..........200</td>
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<tr>
<td>Principal's Office...............250</td>
<td></td>
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<tr>
<td>Vice Principals' Offices (2@200)........400</td>
<td></td>
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<tr>
<td>Discipline Room..................200</td>
<td></td>
</tr>
<tr>
<td>Teacher's Lounge/Large Conference Room.....600</td>
<td></td>
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<tr>
<td>Small Conference Room............200</td>
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</table>

| Guidance Offices (3@150).........450 sq. ft. |
| Guidance Secretary Area..........200           |
| Guidance Library................200           |
| Health Office & Waiting.........450           |
| Exam Room........................200           |
| Bed Area..........................250           |
| Athletic Office..................300           |
| Textbook Storage................600           |
| Student Bookstore...............200           |

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<thead>
<tr>
<th>Physical Education/Recreation</th>
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<tr>
<td>Main Gymnasium w/ bleachers......(3200 seating cap.)...30,000 sq. ft.</td>
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<tr>
<td>Secondary Gymnasium (2@500)......11,200</td>
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<tr>
<td>Boys' Locker Room...............1,000</td>
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<tr>
<td>Girls' Locker Room...............1,000</td>
<td></td>
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<tr>
<td>Team Locker Rooms (4@1000)..............&lt;, 00</td>
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<tr>
<td>Team Equipment Storage:</td>
<td></td>
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<tr>
<td>Football.........................600</td>
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<tr>
<td>Other (4@10C)....................400</td>
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</tr>
<tr>
<td>Phys. Ed. Offices (2@200)........406</td>
<td></td>
</tr>
<tr>
<td>Coaches' Offices (4@200).........300</td>
<td></td>
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<tr>
<td>Laundry Area.....................700</td>
<td></td>
</tr>
<tr>
<td>Weight Room......................200</td>
<td></td>
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<tr>
<td>Pool w/ gallery (250 seating cap.)...9,000</td>
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<tr>
<td>Pool Locker Rooms (2@1000).......2,000</td>
<td></td>
</tr>
<tr>
<td>Pool Equipment Storage..........2,000</td>
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<tr>
<td>Pool Mechanical Room............400</td>
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</tbody>
</table>
Performance Area

Theatre (1200 seating cap.)... 8,400 sq. ft.
Stage.................. 2,500
Dressing Rooms (3@80)....... 240
Large Dressing Room......... 200
Prop Storage................ 200
Costume Storage............. 100
Projection Booth............. 200

Band Studio (125 cap.)...... 2,500
Band Office................ 200
Instrument Storage.......... 350
Choir Studio (100 cap.)..... 1,500
Choir Office................ 200
Music Library................ 200
Uniform Storage............. 400
Practice Rooms (6@70)....... 420
Large Practice............... 300

Special Education.......... 1,000 sq. ft.
Department Offices/Storage  2,100
(7@300)

Science Labs (3@1200)...... 3,600
Greenhouse.................. 200
Computer Terminal Room...... 600

Typing Lab.................. 1,200
Business Labs (3@50)........ 2,850

Clothing Lab................. 1,600
Living Lab................... 1,000
Foods Lab.................... 1,500

Vocational Classrooms

Metal Shop................... 3,700 sq. ft.
Wood Shop.................... 800
Auto Shop.................... 1,200
Print Shop.................... 5,000
Electrical Shop.............. 5,000
Agriculture Shop............ 1,200
Shop Office.................. 300
General Lecture Classroom... 300
Graphic Arts Studio.......... 1,200
Blueprint Machine Room...... 200
Dark Room/Light Room........ 300

Art Studios (2@1250)........ 7,500
Ceramics Area................ 200
Print Area.................... 200
Art Supply Storage........... 200

Dining Area

Cafeteria
(500 seating cap.)...... 6,000 sq. ft.
Kitchen & Dishwashing...... 3,000
Teachers' Lunch Room....... 400
Dietician's/Chef's Office... 100

Academic Classrooms

Lecture Classrooms
(15@900)............ 13,500 sq. ft.
Seminar Classrooms (8@400) 3,200
Mechanical Area

Boiler Room ............ 2,000 sq. ft.
Electrical Vault .......... 100
Boiler Room Shop ........ 300
Office .................... 150
Showers, Lockers & Toilet .. 150

Unassigned Areas

Circulation .......... 20.0% of gross sq. ft.
Restrooms ............. 1.5%
Janitor Rooms ........ 0.5%
Unassigned Storage . 0.5%
Mechanical Spaces .... 5.5%
Walls, Partitions, Structure .... 7.0%

Subtotal ........... 35.0% of gross sq. ft.

SUBTOTALS

General Spaces .......... 7,900 sq. ft.
   (Informal Areas ........ 30,000)*
   Library Center ........ 5,050
   Administration ........ 5,775
   Physical Education .... 53,600
   Performance Area ..... 18,060
   Dining Area .......... 9,500
   Academic Classrooms .... 29,500
   Vocational Classrooms .... 20,100
   Mechanical Area .......... 2,700

Assigned Areas (65.0%) .... 152,185 sq. ft.

TOTALS

Assigned Areas (65.0%) .... 152,185 sq. ft.
Unassigned Areas (35.0%) .... 81,945
Informal Areas ............ 30,000

GROSS AREA .............. 264,130 sq. ft.

Outdoor Areas

Parking (500 cars)
Competition Football Field & Track Facilities
Multiple-use Football/Baseball/Soccer Practice Fields (qty. 2)
Competition Tennis Courts (qty. 2)
Band Marching Field
Ampitheatre (200 seats)
Agriculture Plot (½ acre)
Biology Garden (½ acre)
Sculpture Garden (2,500 sq. ft.)
Outdoor Eating Area (50-100 seats)
Outdoor Reading Area near Library Center
Space Relationship Diagrams

Conceptual Division of Spaces

- Service
- Quiet Spaces (library, study corners, classrooms, seminar rooms, lecture halls)
- Informal Areas (cafeteria, circulation, lobbies, locker areas, social areas)
- Noisy Public Spaces (gymnasium, pool, theatre)
- Noisy Spaces (performance, shops, kitchen, mechanical room, art rooms)
- Main Entry

- Quiet Public Space (administration)
General Area Requirements According to Numbers of Students.

- **1 student (50 ft)**

- **practice room (2-6 students)**
  - meeting room/seminar (2-12 students)
  - **400 ft**

- **classroom area (20-30 students)**
  - **900 ft**

- **large lecture (30-50 students)**
  - **1500 ft**

- **lab (15-22 students)**
  - small shop (15-22 students)
  - art room (15-22 students)
  - **1200 ft**

- **shield (15-22 students)**
  - **2000 ft**
Major Space Relationships

SERVICE

theatre

performance

shops

art rooms

business rooms

home economics labs

science labs

lobby

INFORMAL AREAS
(circulation, display space, locker areas, social areas)

library center

classrooms

cafeteria

seminar rooms

kitchen

FIELDS & COURTS

pool

locker rooms

administration

entrance drive

deivery
Building Criteria

Function

--This facility is primarily for the students and should be an exciting place, full of variety and experiences that stimulate learning both within the formal classroom and the informal social areas.

Interior Flexibility

--The larger spaces (library, theatre, pool, and gymnasium), due to the inflexibility of their size and exterior, should have the capacity to change in interior arrangement and use from day to day.
--The smaller classrooms, shops, and studios which inherently are flexible on the interior should have the capacity to change in size and number from year to year.
--The environmental systems (HVAC, plumbing, acoustics and electricity) should have the capacity to be changed fairly easily without tearing the building's materials.

Power and signal lines should be especially flexible.

Interior Circulation

--There should be open areas with relatively undefined circulation around the large spaces and that should have the capacity to handle large amounts of people.
--The hallways around the classrooms should be wide enough to receive furniture like display cases, water fountains, seating, planting and information boards and kiosks.

Economic Efficiency

--The facility shall be constructed using common and easily workable materials and common construction methods so that local contractors are able to do almost all of the work.
--The facility shall be broken into many parts so that not all of it needs to be operated fully at all times nor each zone operate on the same systems.
--Each part shall operate on the most efficient systems for its size and location within the facility.

Energy Conservation

--The facility should respond to the site's climatic environment and orientation in a passive manner (building orientation, massing, fenestration, materials, major entrances/exits).
--The facility should comply with the government's energy codes and regulations.
--The facility should explore the possibility of using one or various active energy conservation systems, but those systems that have been tested and proven are the only ones that should be con-
sidered.
--These energy considerations are especially applicable to the common spaces.

Special Code Requirements

--Special care should be taken to comply with and exceed, if possible, the state and federal codes concerning fire-rated construction and fire egresses.
--Requirements of the Department of Public Instruction, State of Indiana should be looked into.

Security

--The facility should have many different entrances, all of which must be lockable including one or two main entrances which are also supervisible.
--The facility should be able to be closed off into its different parts for partial use.

Expansion

--The large spaces (library, theatre, pool, gymnasium) should be designed for their maximum expected capacity over the lifetime of the facility.
--The classrooms, shops, and studios should have some planned expansion which is integrated into the design concept so that it doesn't appear to be tacked on.
Exterior Criteria

Parking

--The parking on site should integrate well with the overall concept and not dominate the site.
--It can be broken up or together as a whole.
--The vehicular circulation should not cross any major pedestrian paths, esp. those to the playing fields from the school.
--Any special parking (handicap, administration, faculty, staff) should be easily perceivable whether it is separate or integrated with the other parking.

Access/Egress

--The access and egress of the site should be easily perceived and easy to use.
--All entrances should be able to handle the large peak loads of traffic that occur frequently.
--A maximum amount and ease of bus parking should be provided.

Service

--The service and vocational classroom accesses should be separate from the main parking if it is possible.
--Trash and receiving areas for the kitchen and boiler room should be hidden.

Playing fields

--The main competition track and field should be highly visible and have easy access from the high school, junior high school, and the parking areas around the high school.
--The practice fields should be adjacent to the main competition field and be multiple use areas for football, baseball, soccer, field hockey, and etc.
--The tennis courts should have easy access from the high school and a parking area and possibly have a double use as handball or racquetball courts.
--The practice fields should be easily accessible at all times by the community.

Landscaping

--All playing fields, courts and parking should have adequate pedestrian pathways as well as entries to the high school.
--The ground texture should be varied as much as possible through the use of paving and vegetation.
--Vegetation and mounding should be used to complement the design concept, to modify scale, to act as buffers and screens, to help in energy design, and to relieve the monotony of the parking areas.
--The placement or possibilities for fountains, water movement, monuments, markers, sculpture, gardens, etc. should be considered to tie exterior elements together.
Concept Development
Initial Ideas

Concept/Parti

"Like a City"

This school must not be composed like a single building with one entrance. Two kinds of monsters.

Authoritarian Look

Democratic Look

This school will be composed like a city with small and big buildings according to their importance.

Space Relationships

--pieces relating as separate "Buildings"

Gymnasium 'coliseum'

Auditorium 'theatre'

Administration 'town hall'

Classroom 'houses'

Library 'courty building'

"Works"
Circulation

→ main large space - 'plaza' and connecting 'streets' and 'courts'.

connecting 'street'

larger spaces around plaza

‘plaza’

classroom 'courts'

Siting

→ extension of surrounding community

→ Entry and Enclosure

- Porticos oriented to community
- Choice:
  - informal 'streets' - open
  - defined 'buildings' - closed
- layered enclosures.

large space enclosure inflexible

large entry facing community

small space enclosure less permanent

walled areas with gates

multiple small entries
Structure
- Order around simplicity and scale.
- Tress: roofs
- Wood: temporary
- Small spaces
- Concrete/masonry: large, permanent spaces

Patterns and Rhythms
- Create variety and hierarchy through similar motifs.

Image
- City community & farm community at once.
- Classrooms, sheds, houses
- Library or administration
- Farmhouse, municipal building
- Commons area; farmyard/plaza

Scale and Proportion
- Importance of spaces within whole.
- Large, simple, important
- Small, complex, detailed

Large public space, classrooms, residential house
The commons area is formed by the butting of the two grids on the site: the city grid and the county grid. The commons area has wings: one for the academic area and one for the vocational area — both oriented on the city grid and piercing the county grid.

The siting is towards the north to provide a "front lawn" for the school that faces the community and to juxtapose the baseball and football fields.
The building has now been flipped and placed at the southern end of the site. This allows a better relationship to the surrounding grid. The larger spaces are on the county grid—the larger grid, and the classroom, scaled to residential scale are on the city grid. A circulation spine defines the transition of grids. A lack of outdoor space within the classroom areas is evident.
Design Development

The gymnasium has been pushed north opening up the Commons Area so that the library can be placed in the center. A north-south circulation axis has developed with a bend at the transition between grids. Triangular classroom courts are formed out of the collision of the two grids. Exterior courts have been integrated in the design. The design is infinitely more complex - almost too complex.
Final Design
Introduction

The idea of learning is experience. This school tries to provide as many different experiences as possible. It accomplishes this through incorporating a wide variety of spaces, materials, color, texture, form and scale.

The school is organized around two concepts — the creation of variety and interest out of juxtapositioning common / standard spaces and the analogy of a "city" which is actually one result of the first idea.
Axonometric

Spaces

1. Commons Area
2. Library Science Tower
3. Library Center
4. Main Gymnasium
5. Secondary Gymnasium
6. Pool
7. Theatre
8. Administration
9. Cafeteria
10. Kitchen
11. Science and Math
12. Humanities and Business
13. Art and Home Ec Studios
14. Vocational Shops
15. Music Studios
16. Classroom Courts
17. Boiler Room
Site Plan

A maximum effort has been taken to integrate the school building into the site.

The building has been placed at the southern end of the site so that the facility more directly relates to the immediately surrounding community fabric. Travelling north on Harriet Street (the most likely approach) one sees first the Administration Tower (the community's image of the school). The service drives leading into the classroom complex continue the existing street fabric, but with gateposts to define the beginning of the schoolyards.

The north-south circulation spine of the facility leads north to the Track and Field Stadium. The home stands to the east rise up a large earthberrn that visually contains the field, hides the parking lots, and provides overflow lawn seating. The visitor's stands have no earthberrn. The practice fields are placed next to Harriet Street for easy all-time access and become a buffer for the surrounding houses from the stadiums lights and noise.

Areas

a. Track and Field
b. Home Stands
c. Visitors' Stands
d. Practice Fields
e. Stadium Parking
Building Site Plan

f. Entrance Drive

g. Visitor Parking

h. "Learning Park"
(a small city park that is used for education during school)

i. Biology Garden

j. Service Drive for Kitchen

k. Outdoor Eating Area

m. Agriculture Plot

n. Art and Shop Yard

o. Service Drive for Shops and Studios

p. Marching Practice Field

q. Amphitheatre

r. School Parking

s. Two-Level Walkway

t. Tennis Courts
Elevations

The facades of this complex of spaces are the result of a myriad of influences. The primary goal was to create a complex structure out of simple parts. This would achieve an excitement of scale, color, texture, material and form and, yet, keep a sense of unity or "placeness".

The variety within the facades is an intrinsic part of the concept-parti of a "city" with its multitude of "buildings". Three tools were used to unify the design: the repeated use of the rectangular form in all scales, the use of basically two materials--wood and brick, and the repeated use of two motifs--the window sizes and the brick checkerboarding. The latter motif was taken from the plan section of one of the Commons and Cafeteria Area columns. It has been applied to the facades at the scale of the two foot by two foot module that all horizontal and vertical dimensions within the site are based on.
Main Gymnasium
Secondary Gymnasium
Tennis Courts
Library Tower
Pool
Main Entrance
Administration
West Elevation

Music Studios
Theatre
Entrance
Ampitheatre
Main Gymnasium
Secondary Gymnasium
Locker Rooms
North Elevation
Building Sections
Construction Details

In any building the construction detailing is important. In a school building it is doubly important.

In any building the construction detailing is important. In a school building it is doubly important. The detailing provides the sense stimuli that a student notices while walking a school's hallways. The richer and more varied that the construction is, the richer and more varied the student's experience at school will be.

There are three types of construction that are proposed for this facility. They are used according to the type of space that they enclose: Masonry walls and large wood and steel trusses on the relatively inflexible, large, important spaces (Gymnasium, Theatre, Pool, Administration, Library, and Boiler Room); Wood house framing with house trusses on the less permanent, flexible spaces (Classrooms and Shops); and a wood and glass greenhouse structure for the Commons and Greenhouse Areas to achieve a sense of openness.

Building to Ground Joint

- Foundation steps out—appears connected to the ground permanently.
- Foundation is recessed—building above appears impermanent, set on top of base.
- The same on both sides—space flows from in to out.

Gymnasium, Theatre, Pool, Administration, and Boiler Room
Classrooms and Shops
Commons Area
 Commons Area

section of structural bay
Gymnasia, Theatre, Pool, Administration, and Boiler Room

wall section
Classrooms and Shops

section of structural bay
Typical Exterior Door Detail

- Routed & Painted Maroon
- Wired Glass
- Weathered Gray Wood
- Panic Bar
- Kickplate - alternating brushed & polished checked steel

Elevation

Section
Credits

Sonny Palmer, Professor of Architectural Thesis Class*
Art Schaller, Professor of Architectural Thesis Class*
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