



الجامعة الإسلامية العالمية ماليزيا  
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA  
بِوَسْطَةِ رُسُلِنَا إِسْلَامًا رَافِعًا رَجَائِنَا مُلْقِيَةً

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA		
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## Acknowledgement

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

First of all I would like to express my thankfulness to Allah s.w.t as He is the One who had gave me strength and hope to complete this research study till the end. I would like to show my gratitude to Bro. Ramzi b. Mohd Hussin and Bro.Zainul Mukrim for giving me advices and guidance along the process. I also would like to thanks all the lecturers, my colleagues and friends for always lending a helping hand when I need them the most. Last but not least a special thanks to my parents and my family, as they are my inspiration to go through the rough and hard times in completing this subject.

## Abstract

*Landscape in the educational facilities can create many activities as a tool for students to learn. Outdoor spaces can create an alternative in order to make fun learning environment. So that, the incorporation between pupils, school curriculum and their outdoor environment are important to create a fun learning environment in school. The landscape in school can make the students learning environment more fun with the beautiful garden and plants planting. It can create quiet and scenic environments that can peaceful of mind to the students. Besides that it can stimulate minds with character of plant species and make them able to learn with environment. The important things is the landscape design in school must reflect the culture of students so that it can create a good environment for students to develop theirs learning process.*

# CHAPTER 1

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## **1.0 Introduction**

The first building, which most children use and come to know intimately, is their school. Their judgment of design and materials will begin to form here, as will their attitudes to stewardship of land and landscapes.

A large part of the pupil's early education derives from the influence of the buildings, the grounds and the whole philosophy of the school and its organizations. In secondary school too, grounds can be a valuable resource for subject teaching and a context for the full development of the pupils as a person.

(Building Bulletin 71, 1990).

Education is important in our life, as it has become part of human culture. However, educational center or facilities seem as forms of functional of the buildings, less at their landscape or natural surrounding. The relationship between outdoors and indoor spaces are indeed vital in order to create diversity in ways or method of teaching and educating. Educational facilities cannot only concentrate on the buildings but also the outdoor spaces to make students have more fun in learning. Landscape in the educational facilities can create many activities as a tool for students to learn. By creating functional and beautiful landscape it can generate mind and body of the students to be more active in learning process.

The design of the school must reflect the culture of the students to make the design functional for the schools people. The landscape for educational facilities will more emphasize on creating integration between outdoor and indoor spaces. Outdoors spaces in the school are not only for the planting of the plant species but it is the core for the active activities for students and school.

Landscape in the educational facilities is not only for the beautification but have to be widely seen as an alternative way in creating diversity learning and

teaching process. Many activities can be creating by designing the functional landscape for the educational purposes. So, landscape for the educational facilities have to provide interaction between outdoor and indoor spaces to make students active and happy to be in school.

Outdoor spaces can create an alternative in order to make fun learning environment. It includes pathways, play structure areas, gardens, sandy spaces, aquatic areas, wooded areas and covered pavilions or porches. All of these elements can stimulate minds of the children to make them more fun when they in school.

## 1.2 Introduction to Smart School

**Smart school** can be defined as a learning institution that has been properly planned of their teaching-learning practices on order to prepare children for the information and communication technologies era. With the objective to develop students physically, mentally, emotionally and spiritually balanced small school is a new image of the educational in our country. (Smart School Project Team, 1997)

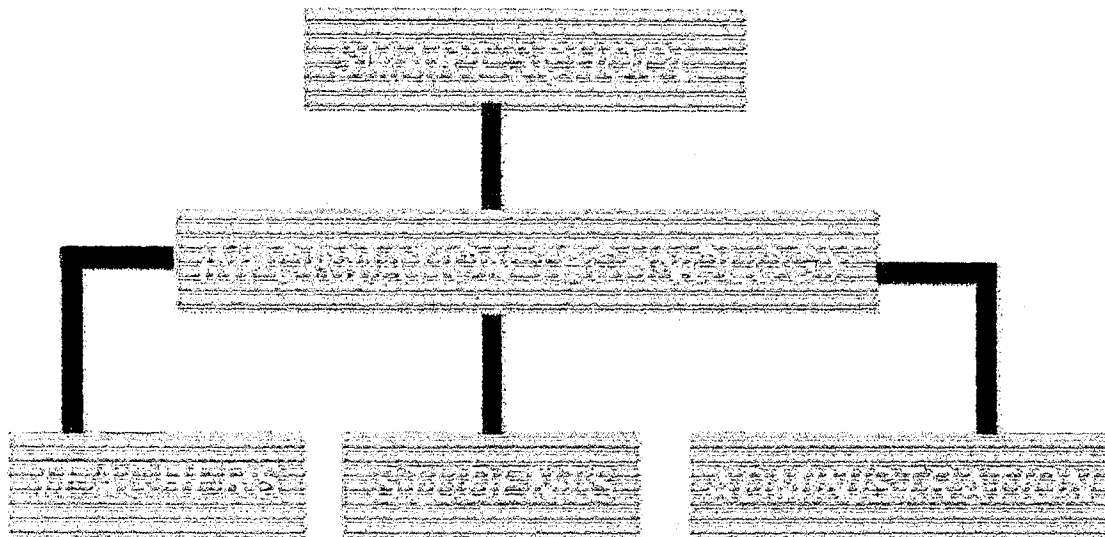


Table 1.0: Smart School user

## 1.3 Advantage of Smart School

- Based on the information technologies/ it literacy
- Expert teacher
- Special classroom design
- Have a lot of learning facilities and materials
- Able to communicate with international students through Internet
- Expose to the technologies



## **1.4 Curriculum for smart school**

### **1.41 Secondary school**

-Curriculum will be implemented for form 1 and form 4 for the 4 subjects;

bahasa melayu

English language

Mathematics

Science

-Based on KBSM (The integrated Curriculum for secondary schools)

### **1.42 Primary school**

-Based on the KBSR

-Malay Language, Mathematic, Science, religious studies, English, Kajian Tempatan

## **1.5 Characteristic of smart school curriculum**

- Designed to help students achieve overall and balanced development
- Integration of knowledge, skills values and correct use of language across the curriculum
- Intended learning outcomes explicitly stated for different levels of abilities, ensuring all students gain equal access to quality learning, and allowing for self-paced learning across grades
- Multidisciplinary, thematic and continuous across learning areas
- Integration of knowledge, skills and attitudes suitable for the information age

## **1.6 Problem and challenges to be addressed in Smart School**

- **Students are passive**
- **Parents are not involved**
- **Teachers are doing too much non-teaching tasks**
- **Students need to be trained for the information age**
- **School is an ‘island’**
- **Exam-oriented**
- **Non-collaborative**
- **Learning not fun**
- **Learning is not for the real world**
- **Lack of variety in the teaching materials and methods**
- **Limited thinking skills**

## 1.7 Co-curriculum for smart school

- Community services activities
- Cultural activities
- Religious activities
- Uniformed body activities
- Subject-related activities
- Social activities
- Recreational activities
- Sport and games

## 1.8 Teaching learning materials

Students who are strongly:	Think:	Love	Need
Linguistic	In words	Reading, writing, telling stories, playing words games	Books, tapes, writing tools, paper, diaries, dialogues, discussion, debate, stories
Logical-mathematical	By reasoning	Experimenting, questioning, figuring out logical puzzles, calculating	Things to explore and think about, science materials, manipulative, trips to the science museum

Spatial	In images and pictures	Designing, drawing, visualizing, doodling	Art, building blocks, video, movies, slides, imagination games, mazes, puzzles, illustrated books
Bodily-kinesthetic	Through somatic sensations	Dancing, running, jumping, building, touching, gesturing	Role play, drama, movement, things to build, sports and physical games, tactile experiences
Musical	Via rhythms and melodies	Singing, whistling, humming, tapping feet and hands, listening	Sing along sessions, music playing, musical instruments
Interpersonal	By bouncing ideas off other people	Leading, organizing, relating, manipulating, mediating	Friends, group games, social gatherings, community events, clubs
Intrapersonal	Deeply inside of themselves	Setting goals, mediating, dreaming, being quiet, planning	Time alone- self paced projects, choices

Table 1.0: teaching –learning materials in smart school

With the good strategy of learning teaching materials Smart School will become the new approach in the development of education in this country. Smart School can produce good students with the good IT and technologies skill for the future country development and it also can been seen that educational in our country are develop very well in to make sure that students are prepared with the globalization world.

## **2.0 Brief**

### **2.2 Aims:**

- To proposed a landscape that integrate outdoor and indoor spaces as a tool of learning and safety environment for the school citizens

### **2.3 Objective:**

- To make an alternative in the learning process
- To make a scenic and harmonies environment in the school
- To make open spaces more functional for student's activities
- To provide diversity learning tools for teachers

### **2.4 Issues:**

The design of the school must reflect the culture of the students to make the design functional for the schools people. The issues for the design are how to integrate between students, curriculum and outdoor environment to make the learning process more fun. Many students do not like to be at the school because their school are boring and the learning process also not versatile to attract them to come to the school. Landscape for the educational facilities is not only for the beautification but have to be widely see as an alternative way in creating a diversity learning and teaching process through the outdoor classroom.

Another issues in school are safety. Safety issues in school are very abroad. School designs have to be well planning for the safety purpose such as traffic consideration, crime, safety access and pedestrian. Students in school area have to be well care so that their parents not worried about them. They can play and learn without any worried about their safety and that can make their learning process more

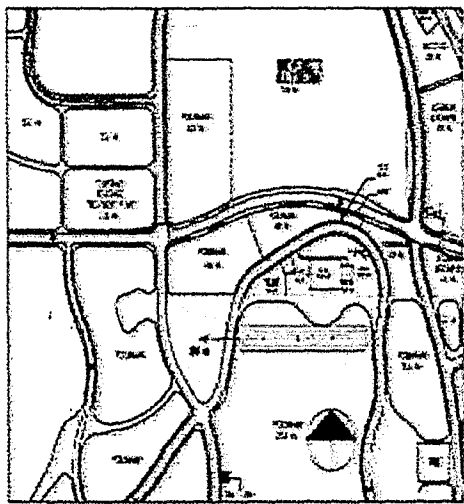
# CHAPTER 2

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fun. Schools have to be well planning to create a good environment for students to learn and develop their lifestyle.

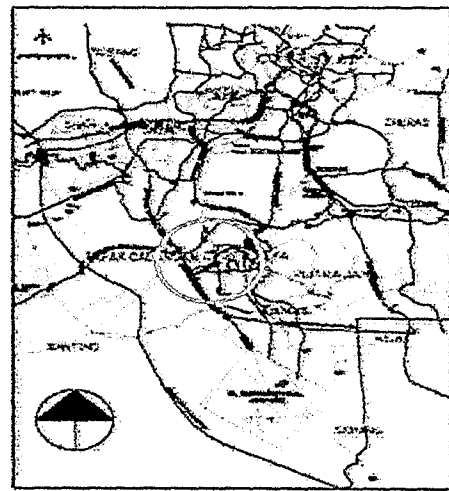
## 2.5 Background of the site:

Cyberjaya Smart School Complex located at the Cyberjaya flagship Zone, Phase 2 in the middle of the housing areas that will become an attraction for the surrounding community. It is about 45 minute drive from Kuala Lumpur and about 30 minutes from the Kuala Lumpur International Airport. The locations of the school are strategic and located in the middle of the housing area will make students easy to go to the school. The school complex includes the primary and secondary school that can cater around 1050 students for the primary school and 1260 students for secondary school and it is about 15 acres. The facilities that have been provided are complete with canteen and integration court, surau and football field that have to be share together to maximize the use of the site.



**LOCATION PLAN**

Figure 2.0: location plan



**KEY PLAN**

Figure 2.1: key plan



## 2.6 The users/ clients

The client of the project is the Ministry of Education Malaysia.



### KEMENTERIAN PENDIDIKAN MALAYSIA

MINISTRY OF EDUCATION  
MALAYSIA  
KUALA LUMPUR

# CHAPTER 3

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### **3.0 Site Inventory / Analysis / Synthesis**

Site analysis has been done in order to identify the problems and the suitability of the site. Basically the site does not have many problems because of the good condition of the landform and strategic location for the designing of school. It has many potential to create an outdoor learning environment at this area. Located on the datum make the area have good view besides the borrowed landscape from the hill and oil palm estate make that as a skyline of this area. Although the area is quit hot in the afternoon it can be solve by planting trees and the magnificent shadow form the buildings itself make the area shaded. It is potential for the students and teachers to done their activities in the outdoor spaces. The site analysis for this project area s followed:

#### **3.01 Microclimate**

#### **3.02 Views and sensory**

#### **3.03 Solid and void**

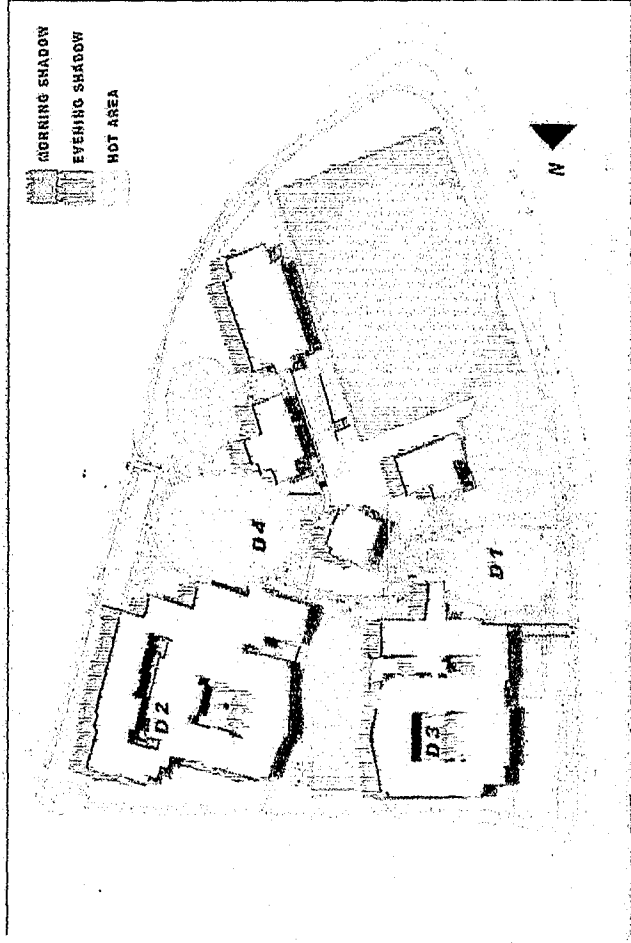
#### **3.03 Vehicular circulation**

#### **3.04 Pedestrian circulation**

#### **3.05 Landform and topography**

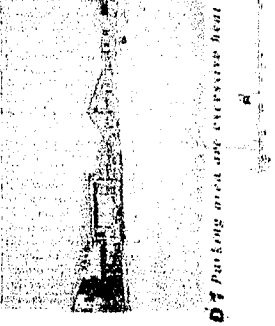
3.01 Microclimate

**MICROCLIMATE**



**POTENTIAL**

GEOMETRIC FORM OF BUILDING CREATE A MICROCLIMATE TO THE SITE  
 QUIET BREEZY IN AFTERNOON AND EVENING  
 BECAUSE LOCATED ON THE HIGH AREA  
 BUILDINGS SHADOW CREATE A MICROCLIMATE AT COURTYARD SUITABLE FOR ACTIVITIES  
 SPACES BETWEEN BUILDINGS HAVE A GOOD MICROCLIMATE POTENTIAL FOR GATHERING AND SITTING AREA

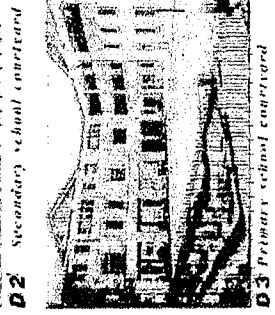


**CONSTRAINT**

LACKING OF SHELTER AND TREES PLANTING MAKE THE AREA HOT VERY HOT IN THE AFTERNOON ESPECIALLY AT THE PARKING AREA NOT SUITABLE TO DO ACTIVITIES IN THE AFTERNOON BECAUSE OF THE HOT CONDITION  
 FIELD AREA FOR RECREATIONAL ACTIVITIES IS EXCESSIVE HEAT UNSUITABLE FOR STUDENT'S ACTIVITIES  
 PARKING AREA ALSO EXCESSIVE HEAT AND NO PLANES TO PROVIDE SHADED AREA

**SYNTHESIS**

PLANTS LARGE GROWN TREES LIKE SAMANEA SAMAN, ETC TO CREATE SHADED AREA AND REDUCE THE HEAT  
 PROVIDE SHELTER SUCH AS GAZEBO, TRELIS AND ETC  
 WATER ELEMENT CAN CREATE A SENSE OF COOLNESS TO THE SITE  
 SHADED AREA CAN CREATE MANY ACTIVITIES FOR THE STUDENT'S  
 PLANTS TREES AT FIELD TO REDUCE THE HEAT



**SHADOW AT THE SITE**

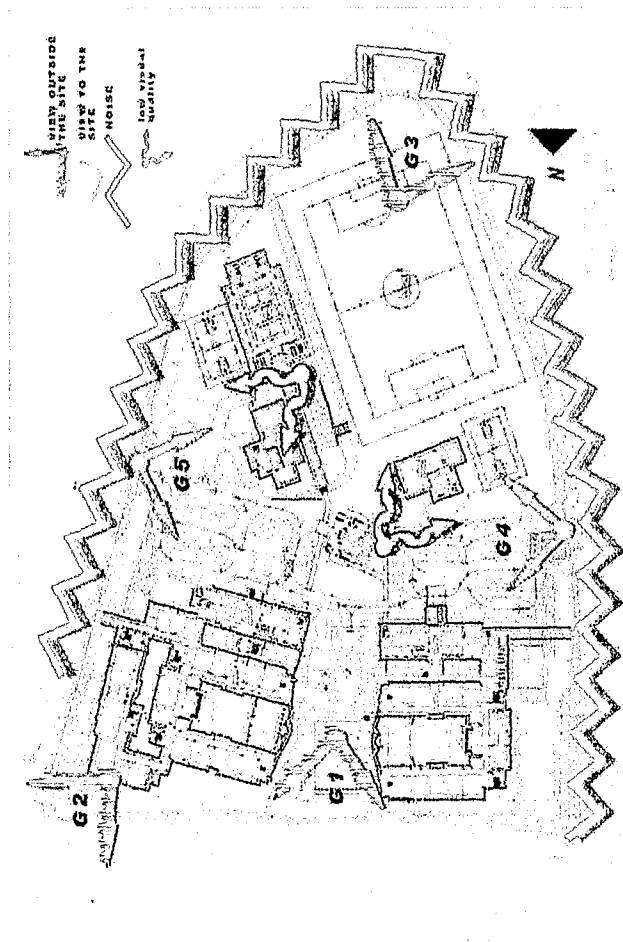
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 PERUMAHAN 10, KAWASAN PERUMAHAN  
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**SITE INVENTORY SITE ANALYSIS SYNTHESIS**

PROPOSED LANDSCAPE DEVELOPMENT FOR SMART SCHOOL COMPLEX, CYBERJAYA FLAGSHIP ZONE (PHASE 2), CYBERJAYA

3.02 View and Sensory

**VIEWS & SENSORIES**



**CONSTRAINT**

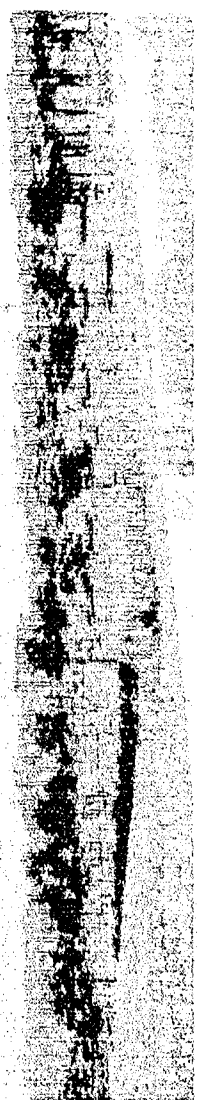
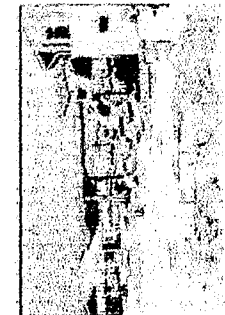
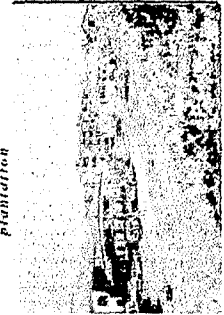
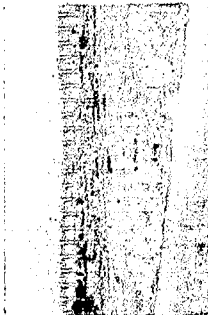
UNPLEASANT VIEW TOWARDS DUMPING AREA AND WASTE DISPOSAL NOISE COME FROM THE MAIN ROADS DISTURB THE OUTDOOR USER CONCENTRATION  
NO LANDMARK TO CREATE A FOCAL VIEW FROM THE SITE TO THE OUTSIDE VIEW  
NO TREES PLANTING TO FRAME THE GOOD VIEW

**SYNTHESIS**

USE HIGH TRESS AND STRAIGHT TRUNKS LIKE DYREA COSTULATA TO FRAME THE GOOD VIEW  
CREATE MANY ACTIVITIES AT THE GOOD VIEW POINT BECAUSE CAN REFRESH STUDENTS MIND'S  
COLORFUL TREES AND SHRUBS CAN ENHANCE THE VIEW FROM CLASSROOM TO THE OUTSIDE AREA  
UNPLEASANT VIEW NEED TO BE BUFFER THROUGH SHRUBS AND TREES PLANTING

**POTENTIAL**

GOOD VIEW SURROUNDED THE SITE OIL PALM ESTATE AT THE NORTH CREATE A GREENERY VIEW TO THE SITE  
GOOD SKYLINE CAN BECOME BORROWED LANDSCAPE TO THE SITE  
BEAUTIFUL VIEW AT SPORT AREA CAN ENHANCE THE ACTIVITIES BY PROVIDING GOOD SURROUNDING ENVIRONMENT TO THE USER  
GOOD VIEW TO THE ARCHITECTURAL FORM OF THE SCHOOL BUILDINGS



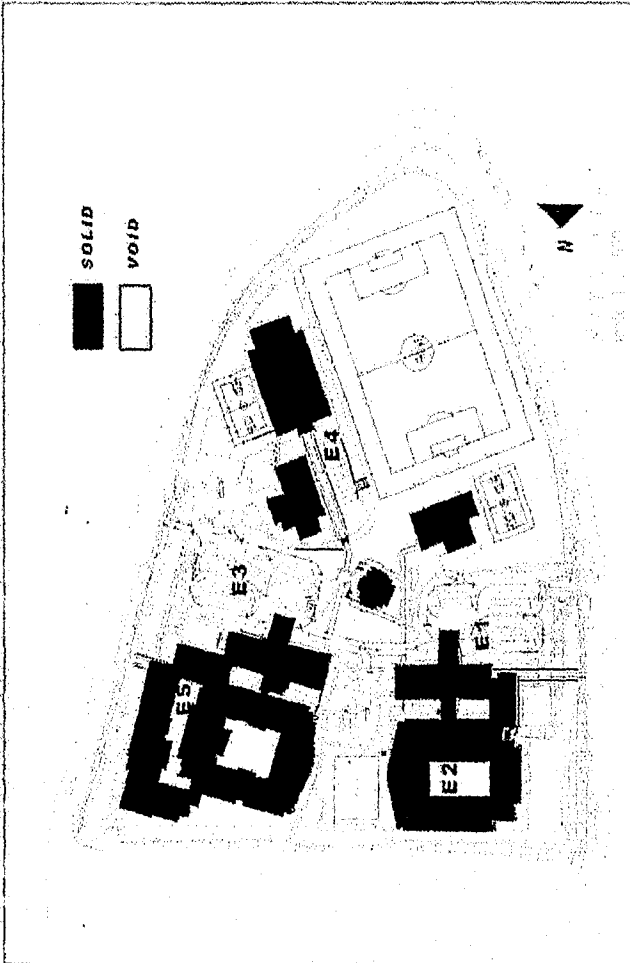
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KAWASAN PERKAMPUNAN BERKUALITAS  
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**SITE INVENTORY SITE ANALYSIS SYNTHESIS**

PROPOSED LANDSCAPE DEVELOPMENT FOR SMART SCHOOL COMPLEX, CYBERJAYA FLAGSHIP ZONE (PHASE 2), CYBERJAYA

3.03 Solid and Void

SOLID AND VOID



CONSTRAINT

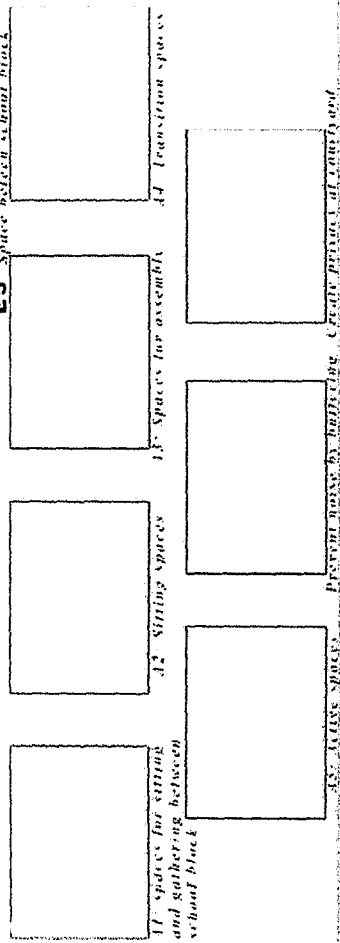
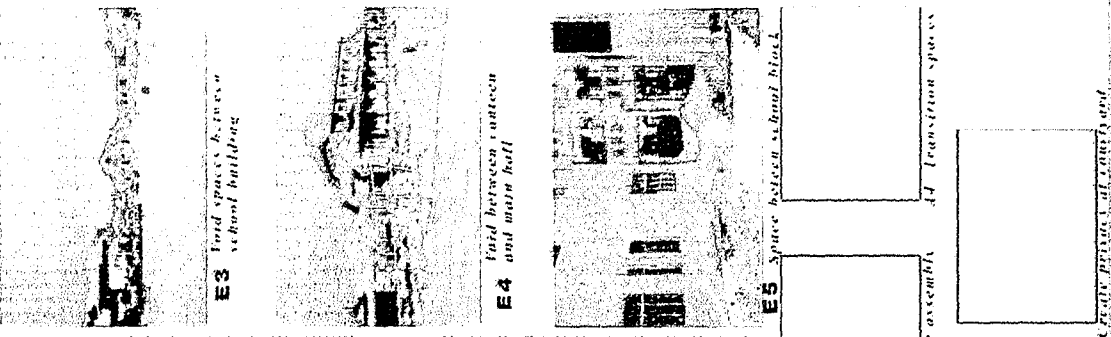
LIMITED ACTIVITIES CAN BE DONE AT VOID SPACES BECAUSE OF THE SMALL SPACES  
 NOT MANY USERS CAN USE THE SPACE TO AVOID CRAM  
 NOISE FROM THE USER OF VOID SPACES CAN DISTURB CLASSROOM USER CONCENTRATION  
 NOT MANY VOID THAT CAN BE ENCLOSURE BETWEEN THE SCHOOL BUILDING

SYNTHESIS

PROVIDE SITTING AREA FOR STUDENTS TO INTERACT AND RELAX AT THE SPACES BETWEEN THE BUILDING AND ENCLOSURE TREES PLANTING AND SHRUBS ARE NEEDED TO BUFFER THE HUMAN NOISE AT THE VOID  
 FULLY UTILIZE THE VOID TO CREATE SPACES FOR STUDENT'S ACTIVITIES SUCH AS GATHERING, ASSEMBLY AND OUTDOOR LEARNING  
 PLANTS COLORFUL TREES, SHRUBS AND FRAGRANCE PLANTING TO ENHANCE THE AREA

POTENTIAL

FORM OF BUILDING AND ORIENTATION  
 CREATE VOID SPACES TO THE SITE  
 VOID SPACES BOUNDARY BY SOLID CREATE ENCLOSURE OF SPACES THAT CAN BE A COURTYARD TO THE BUILDING  
 VERTICAL AND HORIZONTAL PLANE CREATE A ENCLOSURE FOR STUDENTS ACTIVITIES  
 GOOD FACADE OF BUILDING MAKE THE AREA POTENTIAL TO CREATE AN IDENTITY FOR THE SITE  
 THE BUILDINGS OF THE SCHOOL COMPLEX HAVE 4 STOREY CREATE HIGH VERTICAL PLANE FOR BORDER THE SPACES



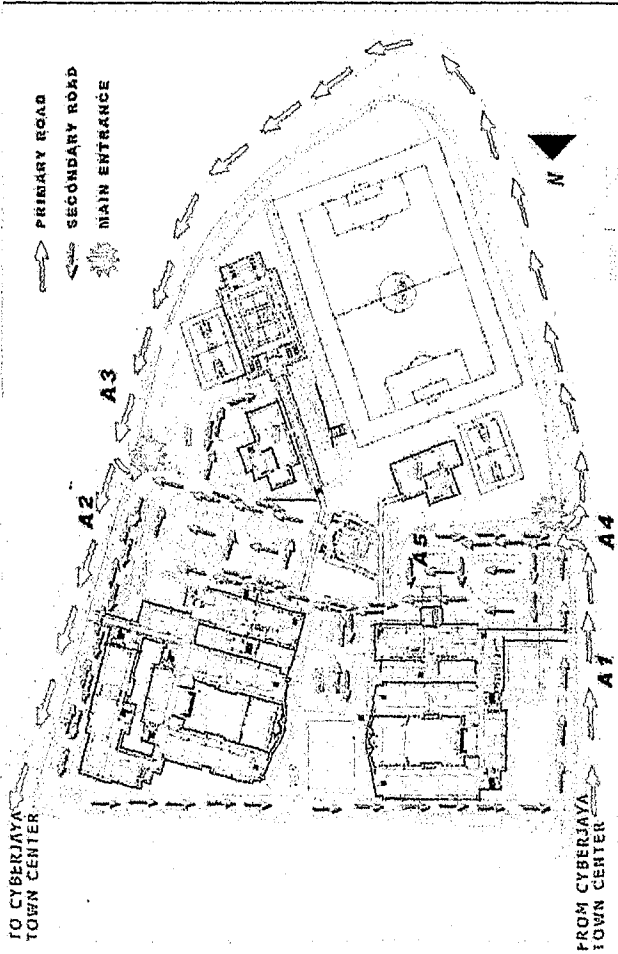
PROPOSED LANDSCAPE DEVELOPMENT FOR SMART SCHOOL COMPLEX, CYBERJAYA FLAGSHIP ZONE (PHASE 2), CYBERJAYA

DESIGNED BY ARCHITECTURE  
 ARCHITECTURE  
 ARCHITECTURE  
 ARCHITECTURE

SITE INVENTORY SITE ANALYSIS SYNTHESIS

3.04 Vehicular Circulation

**VEHICULAR CIRCULATION**



**POTENTIAL**

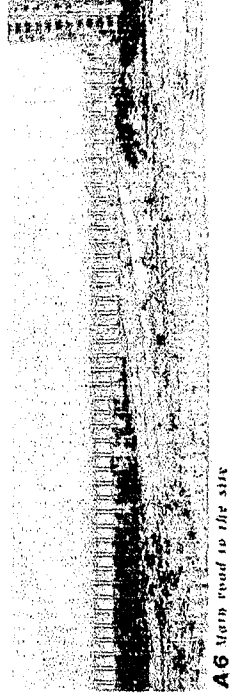
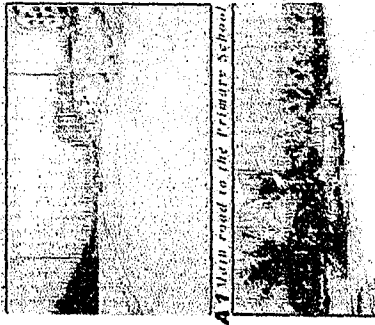
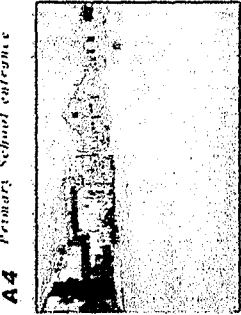
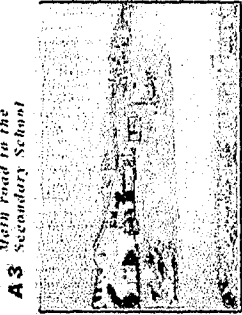
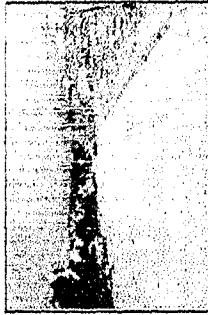
THE SITE IS ACCESSIBLE BY THE VEHICLE FROM MAIN ROAD  
 DROP-OFF ZONE ARE SEPARATE FROM THE MAIN ROAD, GOOD FOR THE STUDENTS SAFETY  
 GOOD TRAFFICS CONSIDERATION TO PREVENT TRAFFIC CONGESTION BY PROVIDING DIFFERENT ACCESS FOR THE SECONDARY AND PRIMARY SCHOOL  
 PARKING AREA LOCATED ADJACENT TO THE SCHOOL BUILDING EASY FOR THE USER TO

**CONSTRAINT**

NO SECONDARY GATE FOR SERVICES VEHICLES AND FIRE BRIDGED  
 NO BICYCLE LANE FOR CYCLIST STUDENTS BEEN PROVIDED  
 NO SEPARATION BETWEEN FIRE ACCESS AND REGULAR VEHICLES ROAD  
 CROSS-ZEBRA NOT BEEN PROVIDED FOR STUDENTS TO CROSS THE ROAD

**SYNTHESIS**

PROVIDE SECONDARY GATE FOR SERVICES VEHICLES  
 PROVIDE BICYCLE LANE FOR STUDENTS SAFETY  
 SEPARATE THE FIRE ACCESS ROAD WITH THE MAIN ROAD  
 PLANT STREET PLANTING TO CREATE A SENSE OF DIRECTION TO THE USER  
 PROVIDE CROSS-ZEBRA FOR STUDENTS TO CROSS THE MAIN ROAD



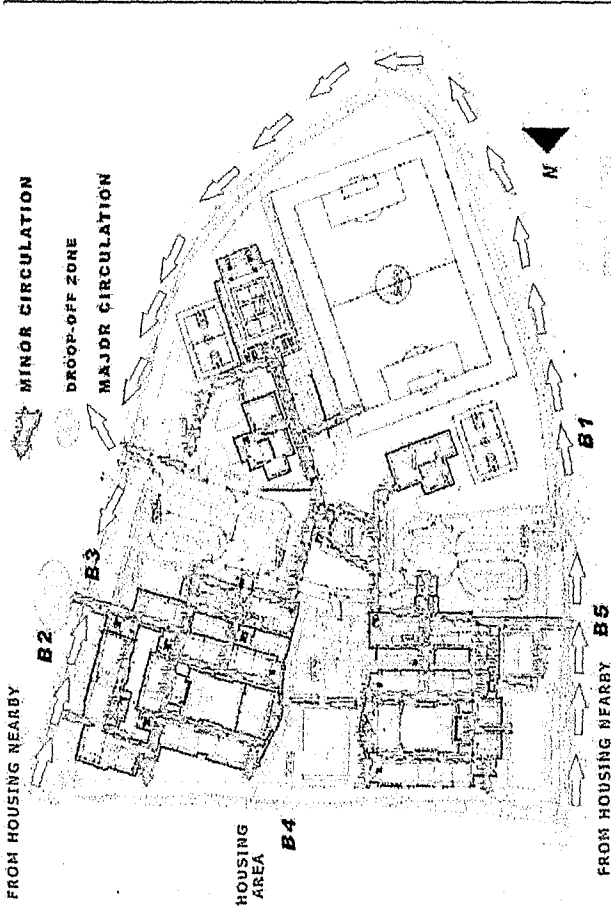
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 INSTITUT TEKNOLOGI  
 SURABAYA

**SITE INVENTORY SITE ANALYSIS SYNTHESIS**

PROPOSED LANDSCAPE DEVELOPMENT FOR SMART SCHOOL COMPLEX, CYBERJAYA FLAGSHIP ZONE (PHASE 2), CYBERJAYA

3.05 Pedestrian Circulation

**PEDESTRIAN CIRCULATION**



**POTENTIAL**

DIRECT ACCESS TO THE CLASSROOM FROM THE DROP-OFF ZONE COVERED WALKWAY FROM ONE BUILDING TO ANOTHER BUILDING CERTAIN AREA HAVE BEEN PROVIDED BY RAMPS AND STAIRS FOR THE USER COMFORTABLE AND ACCESSIBILITY TO THE AREA VEHICLES ENTRANCE AND PEDESTRIAN ENTRANCE ARE SEPARATED AND IT IS GOOD FOR STUDENT'S SAFETY WALKWAYS AT THE PRIMARY SCHOOL ARE WELL PAVING USE INTERLOCKING PAVEMENT - 1.5 M

**CONSTRAINT**

DROP -OFF ZONE TO THE CLASSROOM NOT BEEN PROVIDED BY RAMP FOR DISABLE ACCESSIBILITY SLOPE TOO SHEER AND IT IS DANGEROUS FOR PEDESTRIAN SAFETY NO COVERED WALKWAY FROM PARKING AREA TO SCHOOL BUILDING MAKE USER UNCOMFORTABLE DURING HOT AND RAINY WEATHER PEDESTRIAN WALKWAY AT THE SECONDARY SCHOOL NOT BEEN PAVING DIFFICULT FOR USER TO WALK

**SYNTHESIS**

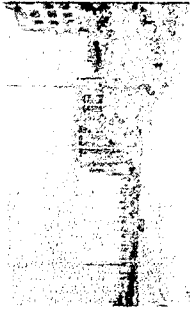
PROVIDE RAMP AND RAILING AT DROP-OFF ZONE TO CLASSROOM RETAINING WALL OR BARRIER HAVE TO BE PROVIDE AT WAITING AREA TO PREVENT EROSION AT SLOPE AREA PROVIDE COVERED WALKWAY FROM PARKING TO BUILDINGS PAVING THE PATHWAY FOR STUDENTS COMFORTABLE TO WALK - USE UNSLIPPERY MATERIALS SUCH AS INTERLOCKING PAVEMENT



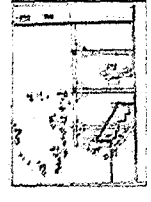
B3 Walkway at Secondary school



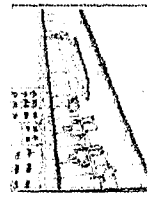
B4 Pedestrian from housing area adjacent to the school



B5 Drop-off zone for students



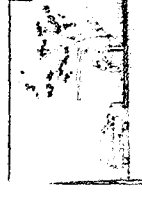
Covered walkway from drop off zone



Low seating wall for waiting area



Bollard to separate the pedestrian



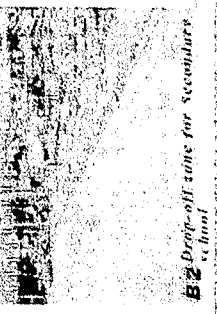
Trellis at the waiting zone



Walkway need to be paving



B1 Pedestrian outside the school and waiting area



B2 Drop-off zone for Secondary school

PROPOSED LANDSCAPE DEVELOPMENT FOR SMART SCHOOL COMPLEX, CYBERJAYA FLAGSHIP ZONE (PHASE 2), CYBERJAYA

SYNTHESIS

PROPOSED LANDSCAPE DEVELOPMENT FOR SMART SCHOOL COMPLEX, CYBERJAYA FLAGSHIP ZONE (PHASE 2), CYBERJAYA