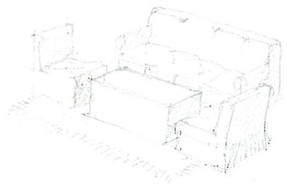
LAMPIRAN

Pendekatan Studi Besaran Ruang

Kelompok Pendukung Kegiatan Utama

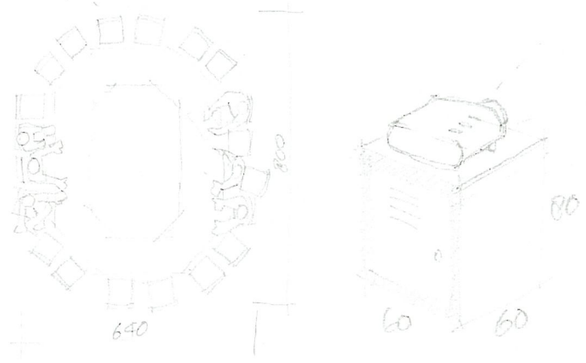
Kelompok Ruang Pengelola

Ruang Tamu



Ruang gerak kapasitas 6 orang
Studi R. Gerak = 6 x 1,25 x 0,875
= 6,54 m^2
1 set meja tamu= 2,50 x 3,00
= 7,50 m^2
1 lemari hias = 1,80 x 0,7
= 1,26 m^2
2 pot hias = 2 x 0,40 x 0,40
= 0,32 m2
Jumlah Luas = 15,62 m^2
FAR 50 % = 7,81 m2
Luas Ruang = 23,43 m^2

Ruang Rapat



Ruang gerak kapasitas 20 orang
1 set meja rapat= 6,40 x 8,00
= 51,2 m^2
1 meja OHP = 0,6 x 0,6
= 0,36 m^2
Jumlah Luas = 51,56 m^2
FAR 30 % = 15,468 m2
Luas Ruang = 67,028 m^2

1 Pengelola Utama

- Direktur Eksekutif
- General Manager
- Sekretaris
- Administrasi Keuangan

Ruang gerak kapasitas 4 orang
Studi R. Gerak = 4 x 1 m2/org
= 4 m^2
3 set meja kerja @ 1,20 x 1,20 x 3
= 4,32 m^2
1 set meja direktur 1,80 x 1,40
= 2,42 m2
2 lemari @ 1,2 x 0,6 x 2
= 1,44 m^2
1 Dispenser = 0,5 x 0,5 x 1
= 0,25 m2
2 lemari arsip = 1,10 x 0,50 x 2
= 1,10 m2
Jumlah Luas = 13,53m^2
FAR 50% = 6,765m^2
Luas Ruang = 20,295 m^2

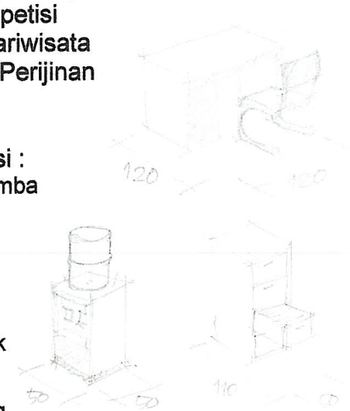
2 Pengelola Hiburan dan Komersial

- Manager Pengelola
- Kabid. Operasional
- Kabid. Teknik
- Kabid. Administrasi
- Sekretaris
- Staff Hiburan dan Komersial :
  - ☑Pemeliharaan Bangunan
  - ☑Keamanan
  - ☑Pertamanan dan Arena Surfing
  - ☑Tata Usaha
  - ☑Personalia
  - ☑Keuangan
  - ☑Mekanikal
  - ☑Elektrikal

Ruang gerak kapasitas 13 orang
Studi R. Gerak = 13 x 1 m2/org
= 13 m^2
13 set meja kerja @ 1,20 x 1,20 x 13
= 18,72 m^2
6 lemari @ 1,2 x 0,6 x 6
= 4,32 m^2
2 Dispenser = 0,5 x 0,5 x 2
= 0,5 m2
5 lemari arsip = 1,10 x 0,50 x 5
= 2,75 m2
Jumlah Luas = 39,29 m^2
FAR 50% = 19,645 m^2
Luas Ruang = 58,935 m^2

3 Pengelola Bidang Kompetisi

- Manager Bidang Kompetisi
- Kabid Promosi dan Pariwisata
- Kabid Keuangan dan Perijinan
- Kabid Kesehatan
- Kabid Teknik
- Staff Bidang Kompetisi :
  - ☑Kepala Pengawas Lomba
  - ☑Petugas Pengawas
  - ☑Perijinan
  - ☑Keuangan
  - ☑Pariwisata
  - ☑Promosi
  - ☑Dokter dan Paramedik



Ruang gerak kapasitas 12 orang
Studi R. Gerak = 12 x 1 m2/org
= 12 m^2
12 set meja kerja @ 1,20 x 1,20 x 12
= 17,28 m^2
6 lemari @ 1,2 x 0,6 x 6
= 4,32 m^2
2 Dispenser = 0,5 x 0,5 x 2
= 0,5 m2
5 lemari arsip = 1,10 x 0,50 x 5
= 2,75 m2
Jumlah Luas = 36,85 m^2
FAR 50% = 18,425 m^2
Luas Ruang = 55,275 m^2

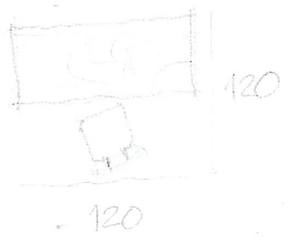
4 Pengelola Bidang Pendidikan

- Manager Bidang Pendidikan
- Administrasi Keuangan
- Staff Pengajar Teori
- Staff Pengajar Praktek Lapangan

Ruang gerak kapasitas 6 orang
Studi R. Gerak = 6 x 1 m2/org
= 6 m^2
6 set meja kerja @ 1,20 x 1,20 x 6
= 8,64 m^2
4 lemari @ 1,2 x 0,6 x 4
= 2,88 m^2
1 Dispenser = 0,5 x 0,5
= 0,25 m2
2 lemari arsip = 1,10 x 0,50 x 2
= 1,10 m2
Jumlah Luas = 18,87 m^2
FAR 50% = 9,435 m^2
Luas Ruang = 28,305 m^2

LAMPIRAN

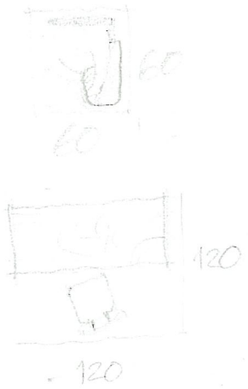
Ruang Juri



Ruang gerak kapasitas 10 orang

Studi R. Gerak	= 10 x 1 m2/org = 10 m^2
10 set meja	@ 1,20 x 1,20 x 10 = 14,4 m^2
1 Dispenser	= 0,5 x 0,5 = 0,25 m2
Jumlah Luas	= 14,65 m^2
FAR 30%	= 4,395 m^2
Luas Ruang	= 19,045m^2

Pers Room

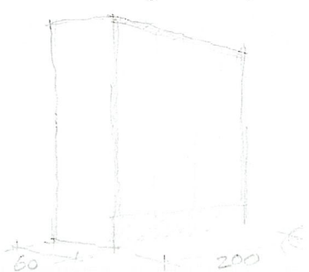


Ruang gerak kapasitas 25 orang

Studi R. Gerak	= 25 x 1 m2/org = 25 m^2
25 set kursi lengan	@ 0,60 x 0,60 x 25 = 9 m^2
5 set meja	@ 1,20 x 1,20 = 7,2 m^2
Jumlah Luas	= 41,2 m^2
FAR 30%	= 12,36 m^2
Luas Ruang	= 53,56 m^2

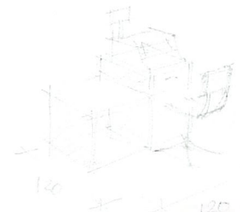
Memorabilia

Studi ruang gerak = 15 x 1 m2/org
= 15 m^2
2 lemari display = 2 x (0,60 x 0,60)
= 0,72 m^2
1 lemari = 2,00 x 0,60
= 1,2 m^2
5 base surfboard = 3,14 x r^2 x 5
= 3,14 x 1,00^2 x 5
= 15,7 m2
Jumlah Luas = 32,62 m^2
FAR 50 % = 9,786 m^2
Luas Ruang = 42,406 m^2



Kelompok Kegiatan Komersial

Kasir



Studi ruang gerak = 2 x 1 m2/org
= 2 m2
1 set meja kasir = 1,20 x 1,20
= 1,44 m2
Jumlah Luas = 3,44 m2
FAR 30 % = 1,032 m2
Luas Ruang = 4,472 m2

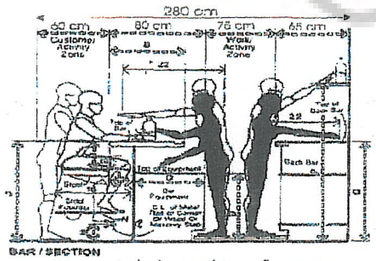
Cafe dan Resto

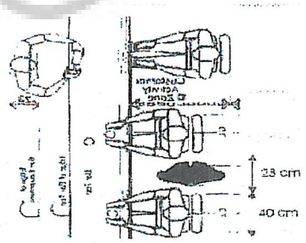
Ruang gerak :

20 meja makan 4 kursi @ 1,8 x 1,8x 20
= 72 m^2
FAR 40 % = 28,8
Luas Ruang = 100,8 m^2

Bar

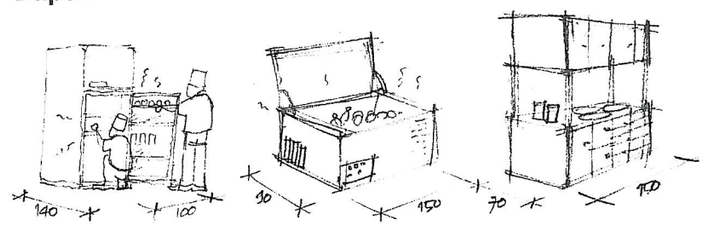
Bar untuk kapasitas 8 orang
Ruang gerak :
Panjang Bar = (8 x 0,4) + (7 x 0,23)
= 4,81 m2
Jumlah Luas = panjang x lebar
= 4,81 x 2,8
= 13,44 m2
FAR 50 % = 6,72
Luas Ruang = 20,16 m2





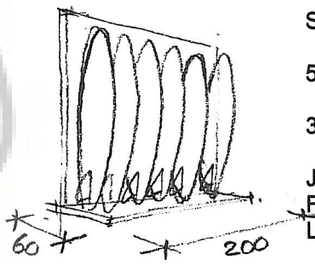
Bar untuk kapasitas 8 orang

Dapur

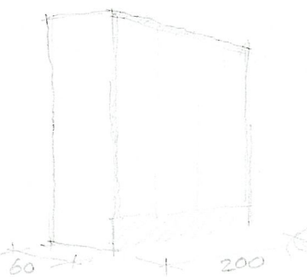


Studi ruang gerak = 15 x 1 m2/org
= 15 m2
1 meja persiapan = 1,5 x 2
= 3
2 lemari pendingin @ 1,40 x 1,00 x 2
= 2,80
4 kompor @ 0,6 x 1,5 x 4
= 3,60
2 lemari @ 0,70 x 1,50 x 2
= 2,10
Jumlah Luas = 26,5 m2
FAR 50% = 13,25 m2
Luas Ruang = 39,75 m^2

Merchandise Shop



Studi ruang gerak = 30 x 1 m2/org
= 30 m2
5 tempat pajang = 2,00 x 0,60 x 5
= 6 m2
3 rak surfboard @2,00 x 0,60 x 3
= 3,6 m2
Jumlah Luas = 39,6 m2
FAR 50% = 19,8 m2
Luas Ruang = 59,4 m^2



LAMPIRAN

Sistem Pengolahan Air Kotor pada Arena Surfing

Proses pengolahan dilakukan dalam 4 tahap, yaitu :

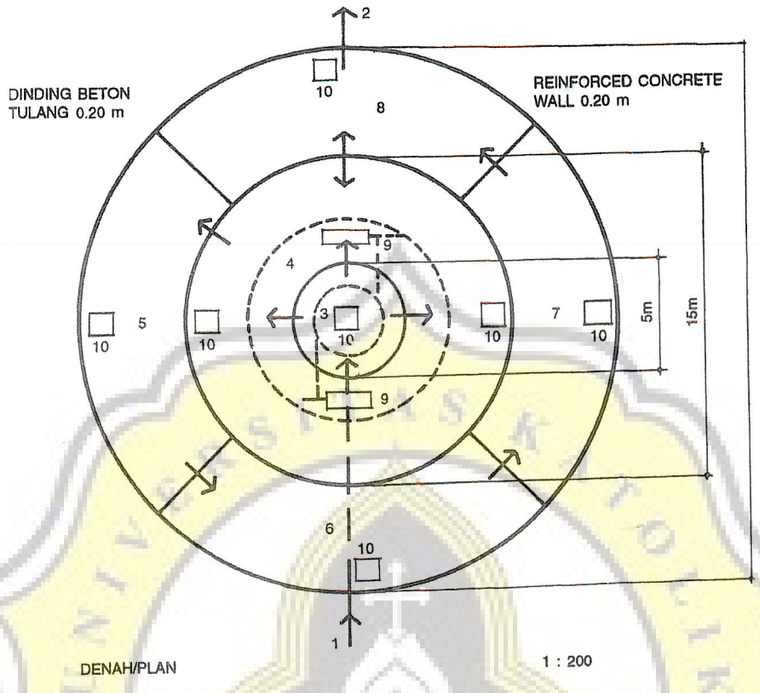
1. **Tahap pengolahan awal**
   Berupa penyaringan terhadap benda benda kasar dan terdiri dari unit saringan kasar dan pengendapan pasir
2. **Tahap pengolahan pertama**
   Berupa pengurangan benda benda atau partikel partikel padat dan terdiri dari unit pengendapan
3. **Tahap pengolahan kedua**
   Berupa penguraian bahan bahan organik dalam air buangan, dengan bantuan mikro organisme, oxygen dan/atau berupa pemisahan bahan kimia yang tidak dikehendaki dengan mengikat bahan tersebut dengan bahan kimia lain agar terbentuk 'FLOK' yang dapat mengendap. Unit pengolahan terdiri dari unit biologi dan unit kimia dan unit pengendapan pengendapan
4. **Tahap pengendapan lumpur**
   - Penstabilan endapan lumpur dari unit pengendapan yang terjadi dari unit pencerna dan pengering. Air buangan secara partial terdiri dari cairan dan padatan sedangkan air buangan secara fisik, kimia dan bakteriologi mengandung senyawa organik senyawa P, senyawa K dan bakteri (patogen dan tidak patogen).
   - Mendasarkan atas prosesnya, maka dalam pengolahan air buangan dikenal 3 proses, yaitu :

   ➲ Proses Fisik
   Berupa pemisahan antara cairan dan padatan dengan cara pengendapan dan penyaringan. Contoh Unit saringan, pengendapan pasir, pengendapan 1 dan 2

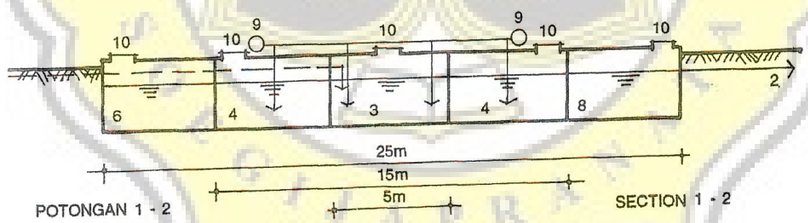
   ➲ Proses Biologi
   Berupa penguraian senyawa organik komplek menjadi bentuk sederhana dengan bantuan aktivitas mikro organisme dengan cara Aerasi dan penambahan lumpur aktif bila diperlukan

   ➲ Proses Kimia
   Berupa pengikatan unsur unsur kimia yang tidak dikehendaki dan tidak dapat terpisah dalam proses fisik, dengan cara : Membunuh bahan kimia sebagai koagulan, contoh : Unit koagulasi dan Flokulasi

   ➲ Proses Kimia / Biologi
   Berupa membunuh bakteri patogen dengan membubuhkan desinfektan. Contoh : Chlorinasi
   Mendasarkan atas hasilnya, dikenal pengolahan air buangan lengkap dan tidak lengkap. Pada pengolahan air buangan lengkap, hasil olahannya telah aman sedangkan pada pengolahan tidak lengkap hasil olahannya belum terlalu aman.



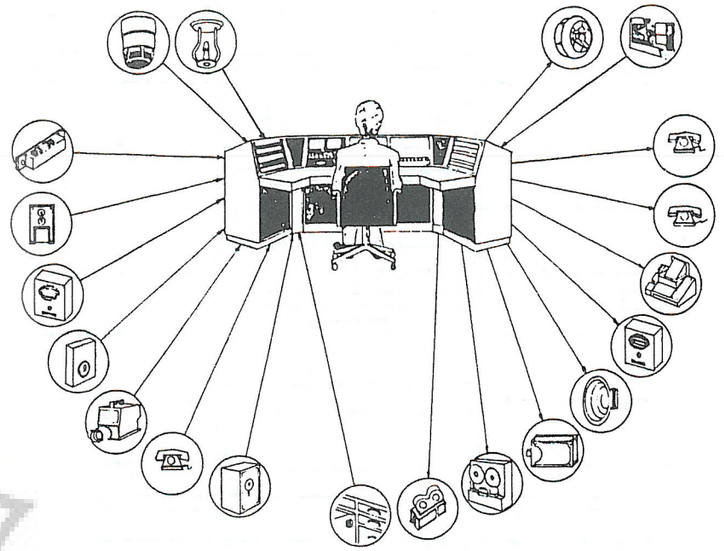
Gbr. 01 – Denah pengolah air limbah / Waste processing plant (1472 m2)



Gbr. 02 – Potongan pengolah air limbah / Waste processing plant

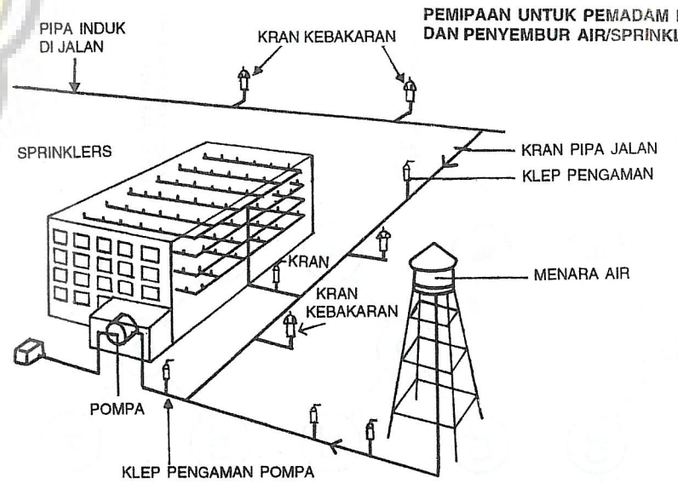
1. Air kotor masuk / waste water inflow
2. Air bersih keluar / clean processed water outflow
3. jamban air kotor, kotoran padat / waste water, solid waste pool
4. Jamban penghancur airation / airation chamber
5,6. Jamban pengendap / settling chamber
7. Jamban pengendap + karbon aktif penghilang bau.
   Settling chamber + active carbon odor elimination
8. Jamban klorinasi pemati kuman / chlorination chamber
9. Kompresor penyembur udara penghancur kotoran padat
   Airation compressors for solid waste blending
10. Lubang masuk jamban / hatch

Sistem Keamanan Bangunan



Gbr. 03 – Pusat pengontrolan keamanan bangunan yang terpusat pada satu ruang

Sistem Penanganan Bahaya Kebakaran

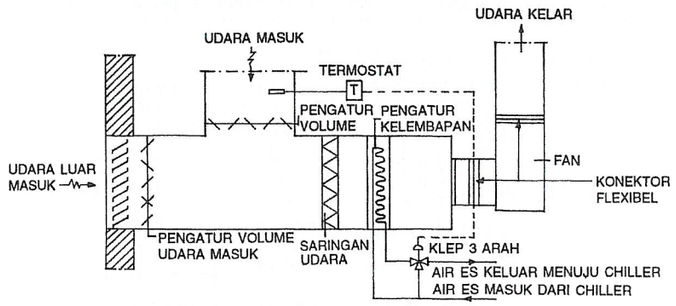


Gbr. 04 – Pemipaan untuk penanganan bahaya kebakaran dan sprinkler

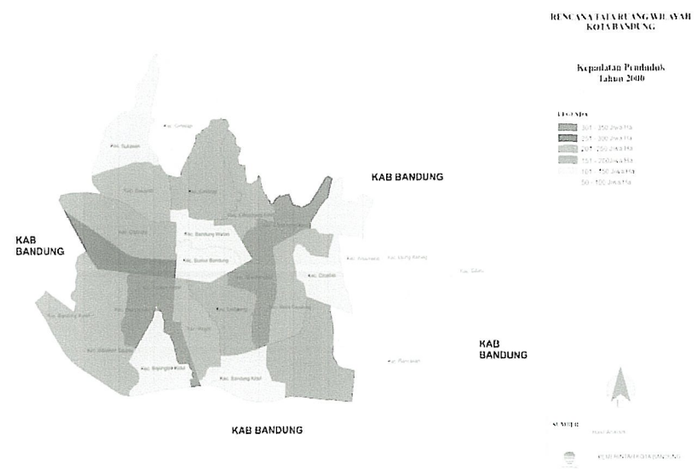
LAMPIRAN

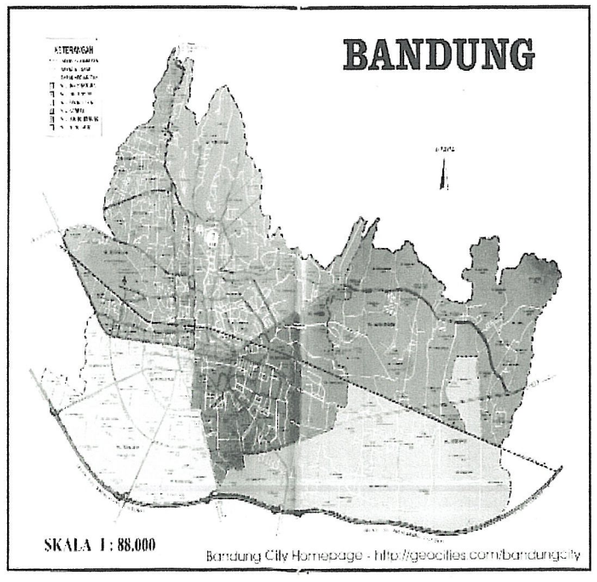
Sistem Penghawaan Buatan

SKEMA PENGATUR UDARA (AIR HANDLING UNIT)



Gbr. 05 – Skema pengatur udara (AHU)





Surfboard Anatomy

Surfboards have several different parts with specific names, which are always helpful to know.

1) The top of the board is called the deck. Obviously, this is the part that you wax (which acts as an adhesive and helps you stay on the board; it gives you more control and stability) and stand on while you surf.
2) Down the center of the board (except in epoxy boards) is a wood line that stretches the length of the board. This is called the stringer. The main function of a stringer is to provide a sense of balance and symmetry when the board is being constructed. The stringer has little to not affect on your surfing, it's just fun to know.
3) The front end of the board is called the nose. The shape of the nose varies from board to board, as different boards are made for different waves and different people.
4) The back end of the board is called the tail. The shape of the tail also varies from board to board. Some examples of different tail designs include the swallow tail, pin tail, round tail, box tail, etc. The shape of the tail affects the boards' response, speed and maneuverability.
5) The sides of the board are called the rails. The rails are the part of the board that a surfer grips while standing up on a board. Rails vary in thickness and slope, which also affect the board's performance.
6) On the bottom of the board, you can find, most commonly, three fins. On a longboard, it is not unusual to only find one fin, which is specially named a skeg. We don't know why a single fin is called a skeg and why more than are called fins, but it makes no difference when it comes time to using them. Fins provide stability, speed, response, and overall performance. Without fins, surfers would have next to no control over their boards and would spin out of control.
7) Occasionally, on the bottom of a board, there will be several designed indentations. These are called channels. Channels affect the manner in which the board cuts through the water, in turn, affecting response. Most boards do not have channels, but once again it's nice to know what they are.
8) The leash! You know the long rope-like thing that hangs off the back of the board? Strap it to the ankle on your back leg and you won't be swimming after your board at the end of every ride!

.::Breakers Surfing Online::. Rules

Home Directions Requirements Dates & Times Schedule a Lesson Rates Instructors Legal Quick Tips & Fun Facts Breakers Surfing Rules Send Us Feedback Links Message Board Gift Certificates FREE Surf Report Contact Us!

What? There are rules involved here?

Well, not many, but we like to be as organized as possible here at Breakers. We've developed these rules out of neccessity; strictly for your safety. As mentioned on the Legal portion of our site, we ask only a few things of you.

Rule #1: Only enter the water after an instructor gives you the "O.K." Because we don't know of your ocean-going experience, we like to ask you a few questions at the beginning of the lesson just to make sure everybody is doing the right and safe thing.

Rule #2: Always listen for directions given by the instructor. For your benefit, it's always the wise decision to listen for tips and instruction from somebody who is an experienced surfer and knows the hazards and ways of the water.

Rule #3: Try as hard as possible to respect the instructor's judgement. If the instructor's judgement decides that the conditions are too dangerous or unsuitable for surfing, don't sweat it. There's always tomorrow!

Rule #4: Never enter the ocean under the influence of drugs or alcohol. Think of it like drinking and driving. In the ocean, poor judgement and impared physical ability can lead to dangerous situations, such as drowning. And while we've never encountered a participant in such a state, we'd definitely like to keep it that way!

Rule #5: Enjoy yourself! If you ask almost everybody who has ever surfed what they're most passionate about and have the most fun doing, nine times out of ten the answer is surfing. And our love for this sport is something that we want everybody to experience and appreciate. So for Pete's sake, have some fun!

If a participant breaks any of these rules (including #5...joke. Wow...sorry), your instructor reserves the right to discontinue instruction without a refund. So for all it's worth, obey the rules and enjoy the time!

Happy Surfing!

Making Waves

In the ocean, most waves are created by the wind. The rushing air pushes some water molecules together, producing a swell of water -- a **disturbance** in the ocean's surface -- at a particular point. These molecules push on the molecules next to them, which push on the molecules next to them and so on. In this way, the disturbance is passed along the surface of the ocean, while the individual water molecules stay in roughly the same area.

There are a number of ways to replicate this type of wave action. All you need is a basin of water and some means of creating a periodic disturbance. You could use a strong blast of air along the surface, a rotating paddle wheel (like the ones used on steamboats) or an oscillating plunger. Basically, you push on the water at one point and this **energy** travels outward, through the surrounding water. This is the same thing that happens when you drop a rock into a pond.

Man-made Waves

The machinery that creates the ripple effect within the wave pool at Emerald Pointe is very simple. In a pump room below the pool, a high-speed fan blows air into a wide metal pipe, which leads to an exhaust port at the base of the volcano. In the middle of this pipe, there is a butterfly valve, a wide disc with a swiveling metal axis rod. When the rod is swiveled one way, the disc rests horizontally in the pipe, blocking the

air flow. When the rod is swiveled the other way, the disc moves to a vertical position so the air can pass.

A hydraulic piston swivels the rod back and forth at regular intervals, allowing short bursts of pressurized air to flow up to the exhaust port. These air blasts blow on the water at the base of the volcano, generating the flowing ripples.

Click here to watch a video of an air-powered wave generator in action. Making small waves is fairly simple with this sort of system, but it's a lot harder to form large, surfable waves. You would need an absurdly intense blast of air or a large, awfully strong plunger. Such devices would likely be inefficient, cumbersome and dangerous, so they wouldn't make for particularly good water park attractions. Instead, water parks use water-pumping wave systems. In the next couple of sections, we'll see how this sort of wave pool works.

Just Add Water

In the last section, we looked at an extremely simple wave pool. In this design, short bursts of pressurized air apply force to a relatively stable pool of water. This creates little waves, which extend outward along the surface of the water.

A larger wave pool system works differently. Instead of pushing on the water with air or a paddle, the wave machine dumps a huge volume of water into the deep end of the pool. The surge in water travels all the way to beach; the **water level** in the pool balances out again. Since water is fairly heavy, it pushes very hard to find its own level. If you dump more water in, you increase the size and strength of the wave.
There is a lot of powerful equipment involved in this process, but the idea is pretty simple. The wave pool has five basic parts:

- A **water-pumping system**
- A **water-collection reservoir**
- A **series of release valves** at the bottom of the reservoir
- A giant, **slanted swimming pool**
- A **return canal**, leading from the beach area to the pumping system

AGiantSuper-cleanToilet

Robert Bochenski, the maintenance manager at Emerald Pointe, compares the "Thunder Bay" type of wave pool to a giant toilet. The pump system draws water from the return canal into the collection reservoir in the same way that a toilet draws water from the water line into its tank. When the water level in the reservoir is high enough, the system opens up the release valves at the bottom of the reservoir. This is like flushing a toilet: It dumps all of the collected water into the pool, creating the wave.
In this system, the water is constantly **circulating**. It moves from the deep end of the pool, out to the canal, around to the pumping system and back into the deep end of the pool. The return canal is fenced off so swimmers will never be exposed to the pumping mechanism.