

Image : Josh Eckels



JAY PRITZKER PAVILION, MILLENNIUM PARK

A series of criss-crossing HSS pipes cover 95,000 square feet of lawn area which accommodates 11,000 concertgoers. The trellis also supports speakers for the sound system, providing optimal sound to the edges and rear of the Great Lawn. The trellis defines the Great Lawn, making a sheltered space as Chicago's skyline frames the park.

Image : Eric Merrill



Views of overhead trellis - Jay Pritzker Pavilion
Millennium Park - Chicago, Illinois
Architect : Gehry Partners, 1999-2004

COMPARISON OF SCALE

A comparison is useful to get the sense of how vast and undefined current parking lots are today.

The average Wal-mart supercenter is 200,000 square feet. Currently, Wal-mart requests parking at the ratio of 1 space per 200 square feet. This equates to approximately 1,000 parking spaces for the typical supercenter. Thus the parking lot requires a surface area 1.5 times as large as the building footprint, or 6.88 acres.

The Great Lawn equals 95,000 square feet, or 2.18 acres. This would accommodate approximately 300 parking spaces with the required vehicular circulation - not even a third of the parking requested for a supercenter.





Images : Kyocera Solar, Inc.



Kyocera Solar Grove Installation
San Diego, California
Architect: Tucker Sadler, 2005

SOLAR COLLECTION

Photovoltaics convert sunlight directly into electricity for immediate use or for storage in batteries for later use. PV panels are highly modular creating a flexible system that can grow or shrink with ease. They are reliable and have a 20-25 year lifespan.

Scale : In Virginia, a solar collection surface area the size of a single parking space can provide the power to light thirty parking spaces overnight. A solar canopy could also power LEDs in the parking surface.

OPPORTUNITY

PV modules require a physical support structure. The support structure could have three levels of functionality: supporting the PV modules, providing shade for vehicles, and directing pedestrian movement.





Kyocera Solar Grove Installation
San Diego, California - 2005
Architect: Tucker Sadler

This level of infrastructural investment encourages multi-functionality, not just at the canopy level but also at the pedestrian level.





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Berkeley Plantation - Charles City County, Virginia

ORDER

Current parking lot design does not display principles of axis or hierarchy.

Where did we park the car?

Which entrance did we use?

Was it aisle 4 or 5?

Where are the aisle numbers?

The management of many parking areas responds to the difficulties of wayfinding with bigger and bolder signage. Current parking lots are laid out according to surrounding street intersections and traffic interchanges, and not in relationship to the building or its entrance.

Order provides an underlying "rightness" to a space. Order tells a person that they are in the correct place. It also provides the framework by which surprise and delight can occur.





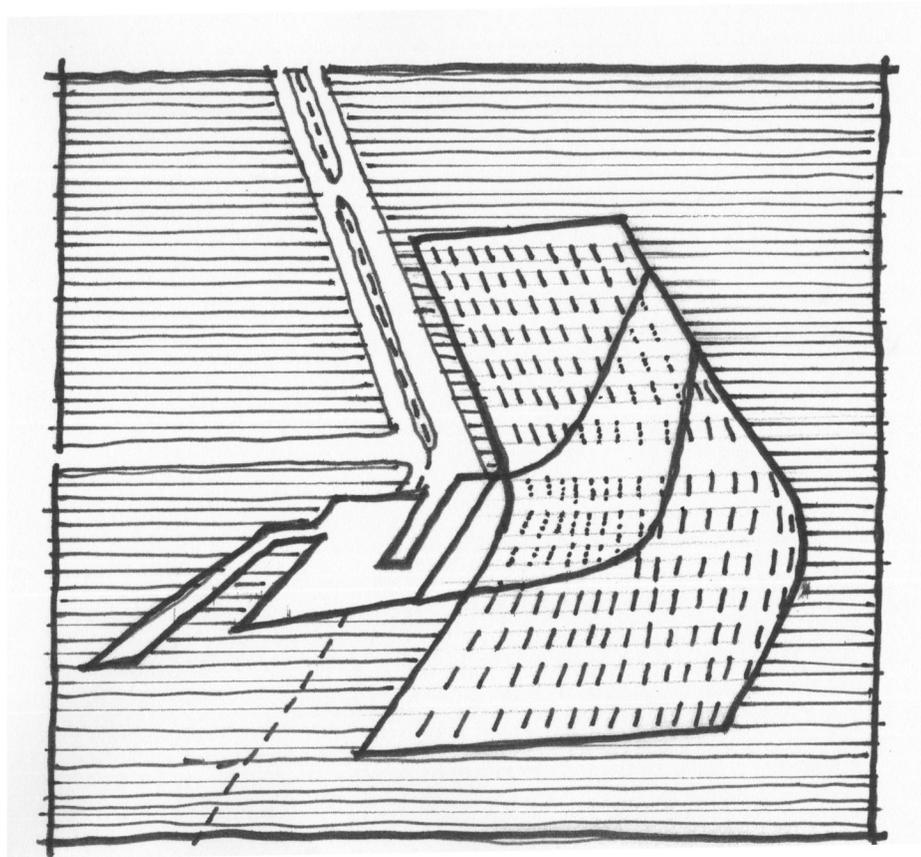
Double-striping, River Ridge Mall
Lynchburg, Virginia

ORDER

The most basic order of the current parking lot consists of the four inch wide paint striping which delineates the typical 9 feet by 18 feet parking space. Single-striping continues the mono-texture of the asphalt; however, double-striping introduces a directionality to the markings.

Walking among these double lines which seemingly stretch to infinity, the usual blandness of this asphalt stretch began to exhibit a grandeur and a control to the vastness. The directional lines could be further developed with vertical elements.





Terminus Hoenheim North - Strasbourg, France
Architect : Zaha Hadid, 1999-2001

LINE-STRIPING

Zaha Hadid developed this directionality at an urban tram station and car park for 700 cars in France. The lines are also marked by slender vertical light poles.





This is a landscaped median per current zoning ordinances. Although it inserts a linear green element, it does not include a sidewalk or other pedestrian facilities. The shopper still must transverse the parking lot in the realm of the automobile.



Handicapped accessible spaces receive a preferred location along a landscaped median. Diagonal stripes delineate a pedestrian circulation zone albeit one conflicting with traffic.

LANDSCAPED MEDIANS

Currently, many zoning ordinances require parking lots over a certain square footage to have additional planted areas in the form of medians, peninsulas or islands. This requirement is frequently written as:

Parking Lots.

The following minimum amounts of landscaping must be provided in and around parking lots (plantings required for street edge and perimeter planting areas may not be counted in meeting this requirement):

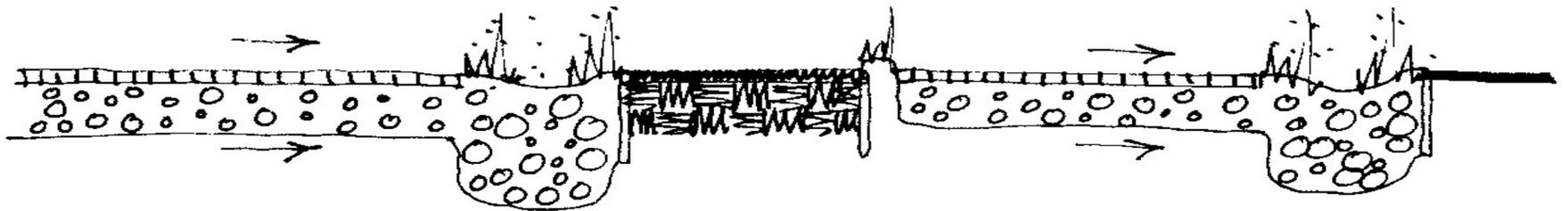
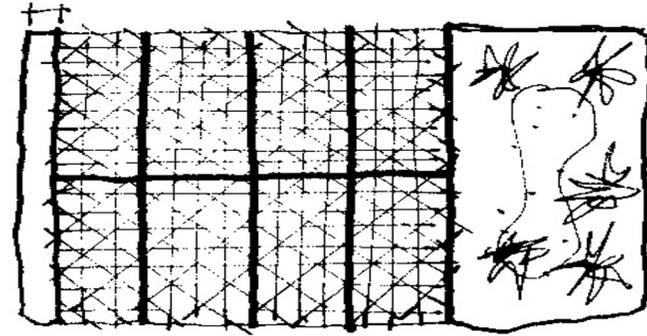
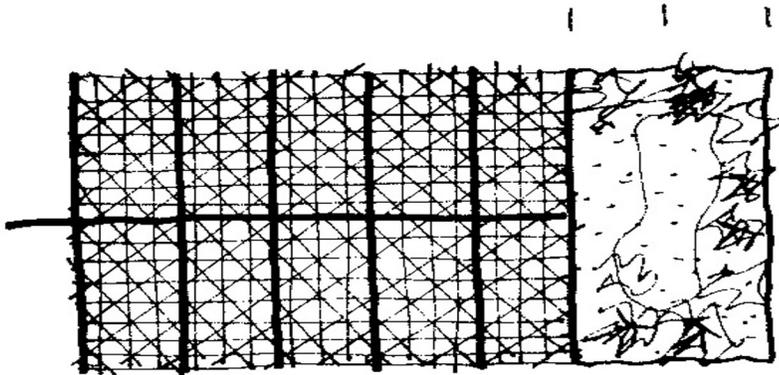
- 10 percent of parking lots with less than 500 spaces shall be landscaped,*
- 8 percent of parking lots with less than, or 1,000, spaces shall be landscaped, and*
- 5 percent of parking lots with more than 1,000 spaces shall be landscaped.*

A minimum of one tree per ten parking spaces is required. The ends of parking rows must have six-foot wide planting islands with a minimum of two shade trees and eight shrubs.

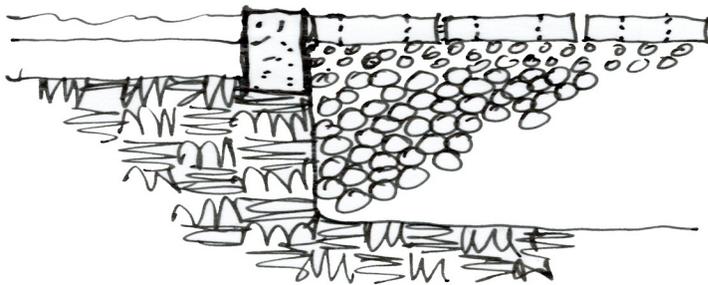
Parking lots with more than 100 spaces must provide landscaped medians between every fourth parking row with at least one shade tree and eight shrubs for every thirty lineal feet of median. Projects with more than 500 parking spaces may submit parking plans which demonstrate that the visual impacts of the parking lots are minimized as an alternative to these requirements.

Typically, these areas are six to ten feet wide, and are built up with a concrete curb for protection, which actually limits run-off collection. This scattered pattern creates a "green" effect, but with no significant shading or place-making influence. Many recent studies have demonstrated that the temperature rise around these isolated landscaped medians has a negative effect on plant growth, which contributes to the meager appearance.





Back to back parking spaces could have permeable pavers over infiltration bed sloping to larger infiltration area at end of the bays. Staying on an inefficient parking module, successive traffic cross-links can interrupt infiltration/parking areas.



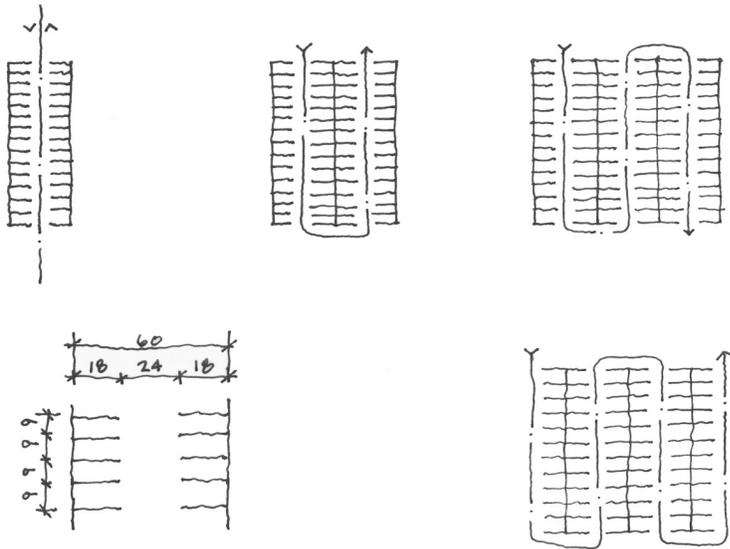
Interface between permeable pavers over infiltration bed and asphalt paving in traffic lane

STORMWATER SOLUTIONS

Recently, rising stormwater concerns and management costs have started to transform these landscape areas into bio-remediation areas. These areas have significant plant material and are ten to twenty feet wide, are typically much wider than a landscaped median. Whether built up with curbing or depressed as a swale, pedestrian facilities are rarely required to be associated with these landscaped areas.

This is an opportunity.





Consideration of the efficient parking module reveals opportunities.

Is a module : parking + aisle + parking? Or is it : aisle + parking + aisle?



Marinas have some useful similarities to and instruction for the typical car park. Practically speaking, pedestrian circulation is a must.

FINGERS OF SUPPORT

The currently required landscaped median can be used as a device for developing parking rooms. Such an arrangement of spaces interwoven with strong fingers of support, like the way a boat marina is developed, can dramatically improve wayfinding in a parking lot. Further, these well-defined walking areas and pedestrian paths offer the retailer additional opportunities for display and sales.



ORDER OF INFRASTRUCTURE

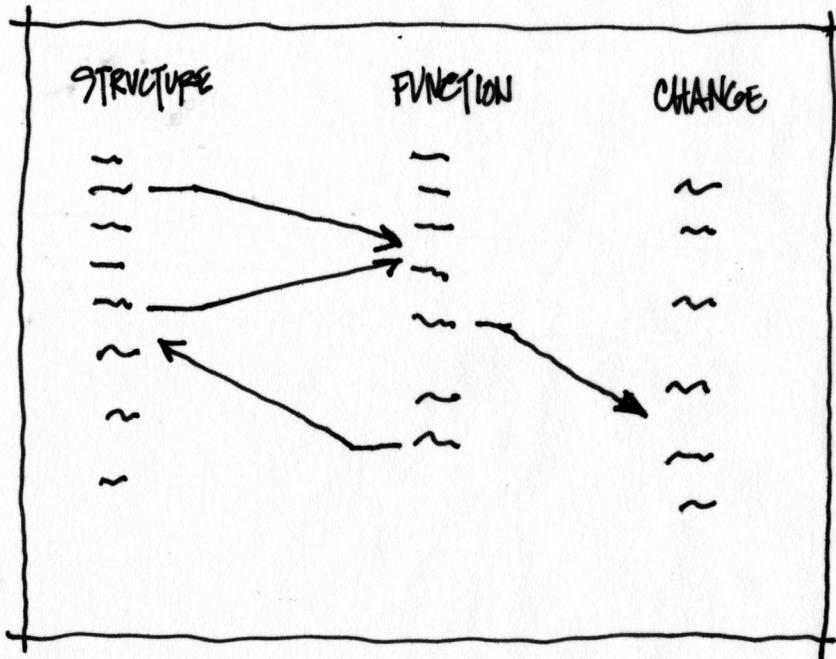
Urban infrastructure is commonly considered to be the network of transportation and utilities provided in a community or region. Although much of this is publicly funded and maintained, portions can be private such as telephone or fiber optic service. Infrastructure also denotes fixed locations of lines or points of service.

For a community to develop a measure of urbanity, reliable public utilities are required, most especially water and sanitary sewer service. Sanitary service operates most effectively and cost-efficiently as a gravity system, although pump stations are used to overcome topographic obstacles. Sanitary service is a major public investment, and therefore plays a significant role in dictating areas of future growth. Placement and extensions of sewer service strongly influences the pattern of development.

The work of Stan Allen indicates that infrastructure can be a design tool for directing and informing the future form of a place. Infrastructure is not a top-down process, but rather one that works from the bottom up. Infrastructure dictates what things must be fixed or more permanent in nature, and what things can be changing or more temporary in nature.

Architecturally, this might be a three-dimensional column grid which specifies where and what can be "clipped" to the structure, or it might be an array of floor outlets which specify where displays can be exhibited. In historic or adaptive reuse projects, infrastructure is thought of in a reductive manner - what is everything that can be removed to reveal the historic "bones" of a building. Once the bones are revealed, how can required additions, or insertions, of space or systems be made elegantly and honestly?

In sustainable terms, an architecture of relatively permanent structural elements combined with a series of "clip-on" envelope panels and additive systems could be developed. Mechanical, plumbing and electrical systems are somewhat disposable as technology increasingly makes such systems more efficient and the system parts themselves wear out and require replacement.



Logistical Activities Zone : Users Manual, Barcelona -1996
Stan Allen, *Points and Lines :Diagrams and Projects for the City*

