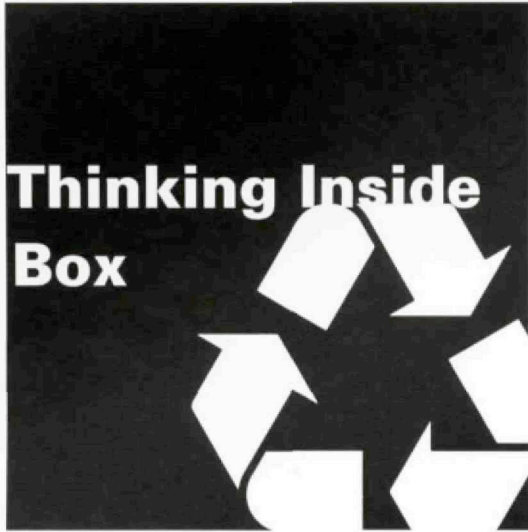


Courtesy Carlo Pozzo and W.O. Neuhoff Associates



Thinking Inside the Box



Adaptive reuse takes on the big open spaces

BY CHRISTOF SPIELER

IT WOULD HAVE BEEN EASY for the Texas Medical Center to justify buying the old Nabisco bakery at the corner of Almeda and Holcombe simply for the land it occupies. Hemmed in by Hermann Park and deed-restricted neighborhoods, the fast-growing Medical Center needs all the room it can find.

And the Nabisco plant offered a big lot. But it also offered something else: an extraordinary building, one designed around the process of baking. At one end was the mixing area, where flour was delivered and mixed. At the other end was the loading docks, where the baked goods were placed onto trucks for delivery. These areas were recent additions, and were built in typically utilitarian warehouse fashion. But in between was something entirely different: a bakeshop with mammoth skylights, through which copious amounts of northern light flooded tall, expansive spaces. The floors were wood block, dusty but intact. Polished, they could look like a basketball court.

Originally, the Medical Center intended to use the building for storage and telecom equipment, investing minimal funds in the building and holding the lot for future use. But the more they looked, the clearer it became that the old bakery had a wealth of untapped potential. A study by Planning Design Research Corporation, a Houston architectural firm, raised the possibility of carving the space up into offices, and so in search of a remodeling scheme the Medical Center began interviewing architects. Among those interviewed was Bill Neuhaus, principal of W.O. Neuhaus Associates, who presented a plan to convert the one-time factory into not just office space, but first-class office space. "When I first said what it would cost, they were aghast," Neuhaus recalls. But the economics were actually better for conversion to office space than for leaving the building as a warehouse. The Medical Center would be leasing room in the Nabisco plant to its member institutions, and it could charge considerably higher rent for office space than for storage space.

It didn't take long for the Medical Center to become convinced that the office approach was the right one to take with the Nabisco building. In doing so, they joined what has become something of a trend in Houston.

Though Houston is known as a city with a culture of demolition, not preservation, the reuse of buildings has become a visible part of its development over the

past decade. The reinvention of the Rice Hotel, long a downtown eyesore, into upscale apartments and restaurants convincingly demonstrated the possibilities present in vacant historic buildings, and as a result, Houston's older districts have seen a wave of similar projects.

But not all adaptive reuse projects involve historic buildings. Consider a building off Interstate 45 in the Woodlands, for example. When its original tenant, a K-Mart, was driven out by a nearby Wal-Mart, half the space was taken over by a crafts store. From the outside, the other half also looks like just one more big-box store, but inside is something different: a corporate call center. The retail floor of the old K-Mart is filled with cubicles, the warehouse area is training rooms, and the garden center is a cafeteria.



Courtesy Carlos Pava and W.O. Neuhaus Associates

A recipe for change: Under a scheme proposed by W.O. Neuhaus Associates, the former Nabisco plant at the corner of Holcombe and Almeda will be transformed from a provider of cookies into a provider of high-end office space. The computer rendering far left shows plans for how the factory will be partitioned; the photograph center shows the former bakeshop, emptied of its ovens; and the rendering above shows that same space, following renovation.



The roof of the Nabisco plant. Looming in the near distance are the buildings of the Texas Medical Center.

Clearly, there is no nostalgia at work here. The only reasons to make a K-Mart a call center are pragmatic. An existing building — particularly one not in high demand, such as an older store shell in an overbuilt area — costs less than a new one. A user won't pay as much for a structure that has to be adapted to their needs as they will for one built from scratch for those needs. Often, the cost differential is enough to easily cover the required alterations.

Even if money isn't tight, time often is. Hewitt Associates, the benefits management firm that occupies the K-Mart, today has a new corporate campus with shiny offices, lakes, and green lawns. Though they had the money to build from scratch, they didn't have the time it takes to design and construct a major

A side section of one plan for the HCC Southwest Campus, seen above, shows how the designers attempted to create the atmosphere of a "main street" inside. The proposed skylights were eliminated due to budget considerations.



Changing face: The Incredible Universe façade as it looked in its retail days, above, and as it looks now, right, as the entrance to HCC Southwest's West Loop campus.



facility. "They had to have something they could get into quickly," architect Suzanne Simpson of Gensler, the firm that designed the conversion of the retail space into a corporate campus, says. "From an operational standpoint it made a lot of sense."

The K-Mart is part of a pattern much wider spread and bigger than Houston's downtown revival. All around the city, fairly young buildings are entering second lives. One developer is trying to convert the Spectrum movie theater near the Galleria into lofts; a strip mall at I-45 and the Beltway has been turned into a telecom hub; Town and Country Mall, its retail tenants trickling away, is leasing storefronts to model railroad clubs.

It's clear that adaptive reuse has moved far beyond its origins in historic preservation. Call it the second wave of reuse. Call it pragmatic reuse. Odds are, it's here to stay.

Not all spaces, of course, are alike. Some spaces convert easily. Take, for example, the former Southmore Hospital, which the City of Pasadena is currently considering converting into its city hall. A thin slab with windows, the one-time hospital could be easily mistaken for a 1970s government office building. The real key to its resurrection, though, is in the hospital's massive mechanical systems. Designed to deal with the demands of a medical facility, those systems — plumbing, electrical circuits, and air conditioning equipment — have considerable capacity, much more

than what's required for offices. Medical equipment is heavy, too, which means that the floors will easily be able to support offices.

That situation, though, is rare. Warehouses and retail centers — the spaces most often being considered for pragmatic reuse — require less cooling, plumbing, and electricity than do offices. There are fewer shoppers per square foot in a store at midday than there are employees in a cubicle layout, and the shoppers aren't equipped with computers that, in an office, emit heat. At the very least, converting a store into offices requires beefing up the air conditioning, running new wiring (all the way from the utilities in the street, perhaps), and tearing up floor slabs to run pipes to new restrooms. Additional cooling capacity also means new mechanical units, and whether they're added on the roof or on a mezzanine, their weight probably requires strengthening parts of a building's basic structure.

Putting more people in a building also means finding a way to get them out during a fire. The big, rectangular floor plates of warehouse and "big box" stores mean many people are far from any exterior wall, never mind from one with a door. Somehow, corridors must be made wide enough to fit a lot of panicked people and laid out logically enough to funnel them all to an exit. Besides the code related egress problems, the big floor plates also lead to problems with orientation, lighting, and definition of space. At its worst, a K-Mart filled with cubicles would be dreary, easy to get lost in,

and anonymous: a warehouse for people.

A similar identity problem reoccurs on the outside. The modern city is full of not-so-subtle coding that identifies a building's use. A supermarket or "big box" retailer is a windowless box with a vertical form that contains signage and the front door; a warehouse is a windowless box with a few windows in one corner or along the front; an office building is a box full of windows. So how does a superstore become an office building without adding a lot of expensive new windows?

These challenges can be daunting, but there are architectural opportunities along with the challenges. In a typical office building, there's 12 feet or so of space between each floor, or between the final floor and the roof, with two to three feet of that space given over to the area that holds the ducts, lights, and wiring. That's tight for both the people and the mechanical systems, but every inch of height costs more money in structure and finishes. In a typical big box, the roof is 20 feet off the ground — bought and paid for.

Big boxes are also more generous in plan than the typical office building. An office tower is usually built around a central core containing elevators and mechanical space, leaving a 35- to 40-foot-wide ring of space around the perimeter of the building. A big box, by contrast, has columns 40 feet or more apart in each direction and no preexisting interior obstructions.

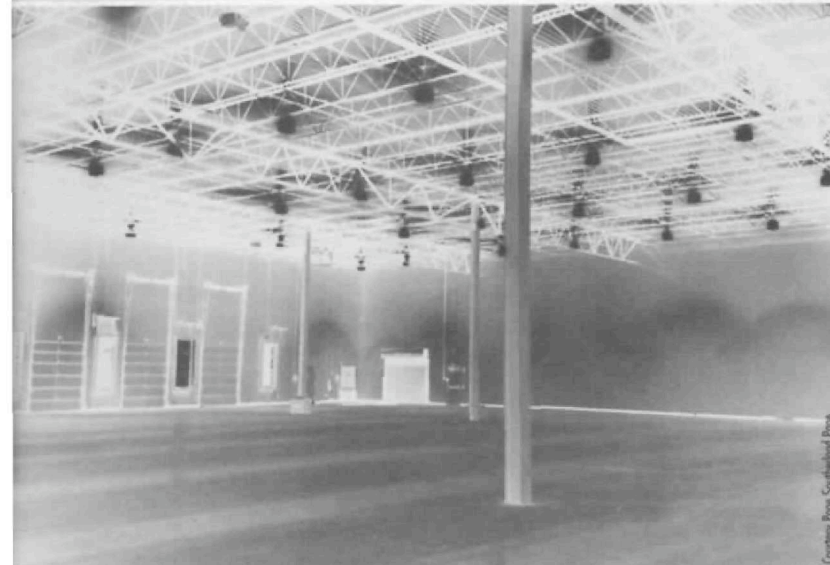
A good example of the freedom and restrictions inherent in adapting an existing shell to a new use is the Houston

Community College Southwest's West Loop center, near the intersection of I-59 and Loop 610 West. Since its beginnings, when it used high schools after hours, the Houston Community College System has been adapting space to its needs. Over the years, it has put classroom facilities in several shopping centers. Then in the mid-'90s, the owner of a Galleria-area office building that HCCS had been using for one of its classroom facilities wanted to move non-office uses out of the building, and HCCS was left looking for new space for its students.

What it found was a West Loop building constructed for the now-defunct electronics retailer Incredible Universe. The building, on a large lot with ample parking accessible directly from the 610 frontage road, was vacant, and it suited HCCS's purposes well. "It was one of the rare instances where everything fit — it was a good location, close to the replaced location, with high visibility, and lots of parking," HCCS's Winston Dahse says.

The shell was huge — 71,000 square feet — and the construction budget modest. "They asked us, 'How much can we do with X dollars,'" Lynn Sealy of architects Page Southerland Page recalls. The college had neither the need nor the money to build out the entire space. The impression one gets walking in the front door is of a full building, but behind the walls of the classrooms is an abundance of empty space that still looks like it did when HCCS purchased the building.

To allow the initial build-out to be expanded into the rest of the building



Making Main Street happen: Page Southerland Page took an empty box, above, and developed it into a campus thoroughfare, right.

later, the architects designed a hierarchical circulation system. “It has to be very simple so people can rush in and out — a clean, clear designation of circulation,” says Page Southerland Page designer Arturo Chavez. “So we dissected a large layout into primary, secondary, and tertiary circulation systems like a small town.”

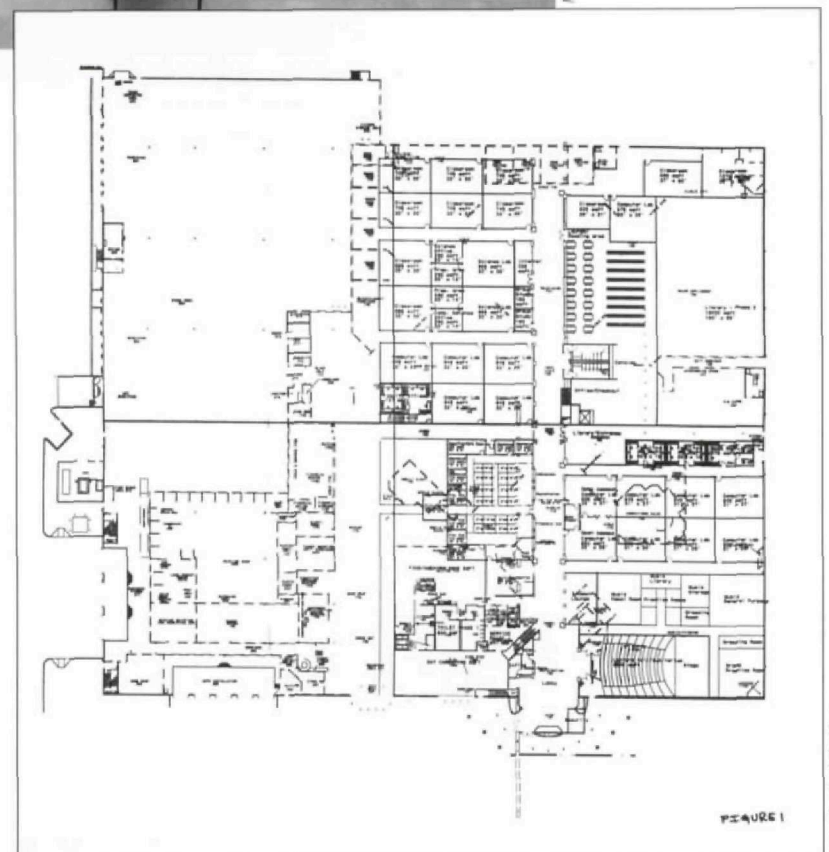
The small town analogy, Chavez says, proved useful in stirring up ideas. The 19-foot-wide “main street” that runs down the center of the building is lined with student services, classrooms, meeting rooms, a gallery, and a library massed to resemble small buildings, with park benches and streetlights in front of their “façades.” While the rooms have ceilings, the corridor is open to the roof above.

This basic design — dividing a large floor plate into “blocks,” with intersecting “streets” in between leading to exits — is a common one for such projects. Gensler used the same idea when drawing up plans to convert a former Randall’s grocery store into a new administration building for the Galena Park Independent School District. The Galena Park building will be bisected by a wide central corridor that curves through the space from the main lobby to a rear fire exit, intersecting secondary corridors at tall pavilions designed to act as gathering places and as landmarks. All the walls will be freestanding, with all but the pavilions ending far below the black-painted roof structure above. The corridors and many offices will have no ceilings, with isolated “clouds” of acoustic tile placed only in areas where they are needed.

In effect, these buildings become indoor landscapes. Instead of looking out at the outside world, they look inward. The occupants trade views and natural light for flexible offices, tall ceilings, and the convenience of consolidating employees in a large floor area with no elevators and no need to venture into the Houston heat. That tradeoff is not new. In many ways, these buildings are like multiplexes, shopping malls, and the downtown tunnels.

Of course, it would be possible to cut windows into walls and skylights into roofs to bring in some light. Page Southerland Page considered doing just that while developing the design for HCCS’s West Loop Center. But the budget got in the way. Lynn Sealy says that early in the process, they were considering making “main street” open to the outside. That concept evolved into a continuous, peaked skylight cut through the building. “That was replaced by isolated skylights,” she says, “which shrunk and then disappeared.”

The tight budgets typical of pragmatic reuse also show up in finishes. The West Loop center, Hewitt, and Galena Park all use inexpensive finishes — concrete or carpet floors, sheetrock walls, off-the-shelf ceiling systems, a little concrete block — with bright colors, not materials, used to provide accents. On the exterior, paint and limited additions suffice. “We were dealing with a fixed shell. We attached things to the building rather than punching holes,” Sealy says. To further cut cost, those additions — chiefly a large pylon drive-through — are neither



A really big box: As the interior plan shows, even after filling it with a community college campus (right, above) half of the former Incredible Universe remains undeveloped (left, above).

Courtesy Page Southerland Page



This building on Dunvale just north of Westpark, above, was first a food manufacturing plant, then a warehouse, then the home of an electronics distributor. Its next life will be as Briar Meadow, an HISD charter school, seen in the rendering on the next page.



Courtesy Gensler



Courtesy Gensler

The adaptability of the big box can be seen in these two interior plans by Gensler. Top is a one-time K-Mart remade as a call center for Hewitt Associates. Bottom is a former Randall's reborn as an administration building for the Galena Park Independent School District.

air conditioned nor watertight. At Galena Park's new administration building, the only changes will be paint, signage, and landscaping. For Hewitt Associates' call center, which generally doesn't host visitors, there were no exterior changes aside from adding doors.

This is the essence of reuse: making do with what is there. Reuse projects require a fundamentally different approach to design than do projects that start from the ground up. Trying to change too much of what's there will quickly drive up the budget. "You have to try to respect the bones of the building and understand the new use," Gensler architect Dean Strombom says of the Pasadena City Hall project.

The more complex the original building, the bigger the challenge. In a light industrial neighborhood on Dunvale just north of Westpark, the Houston Independent School District is transforming an old warehouse into a new school. It is a building with a complex history and a plan to match. Built originally as a food manufacturing plant for Purina, it also served as a food preparation plant for Jack in the Box and as home to an electronics distributor before being bought by the school district. HISD initially used the office portion of the building for their technology group. The building was built in several phases over several decades, with five different structural systems, four roof heights, and widely varying column grids.

The charter school that will take over this building, Briar Meadow, is unusual in its own right, running from kindergarten through eighth grade. Adding together HISD's kindergarten through fifth grade and sixth grade through eighth grade space specifications produced a 200,000-square-foot requirement. The building contained only 98,000 square feet. Even after some trimming of space needs, it was still a hard fit. "It's like a puzzle,"

architect Israel Grinberg of ArcTec says. "You assign room sizes, then when you do it you find out it doesn't work." Some matches of rooms and shell were obvious. In the back of the building, a two-story storage space with a 14-foot ceiling proved ideal for a music classroom. The mezzanine surrounding that room, accessible through a separate outside staircase, became a mechanical room. In other cases, the seemingly obvious solutions didn't work. The newest portion of the building, with 25-foot ceilings, should have been ideal for a multi-purpose room. However, using it for that would have meant putting classrooms in the older portion of the building, whose clay tile walls could not be opened up with windows. Thus the older section, complete with a low ceiling and columns in the middle, became the multi-purpose room so that the classrooms could have natural light. Elsewhere, little additions adapted elements of the existing building to new requirements. An office wing, stripped of its curtain walls, became a front patio. Matching new walls underneath the patio roof with screen walls above gave the illusion of vertical masses that break up the building. New windows on the classroom wing were added to existing ones to create a less industrial look.

The real adaptation, though, came in the construction phase. There were early setbacks. HISD did exploratory demolition in most of building to determine the existing structure, but the front portion was still occupied while the building was being designed and so was off-limits to demolition. That led to surprises: an unexpectedly deep beam, a column in an unusual place. The beams required the architects to lower the ceiling of the front lobby; that in turn required creative detailing where the ceiling met the front window walls, whose top matched the designed ceiling. Elsewhere, a column



Courtesy Archer



Michael Stewart

Developers have discussed turning the former Spectrum theater near the Galleria into lofts.

ended up in the middle of a classroom. In another location, rods bracing the roof cut through one of two skylights in a hallway. Since the function of the bracing was unclear, it could not be removed. ArcTec simply added matching rods through the other skylight.

Such changes are typical for reuse projects. Out of the \$4 million budgeted for HCCS's West Loop Center, \$1 million was spent on unexpected costs. In some areas, mechanical components shown on the drawings for the original building and designed into the renovation had been ripped out. Other areas had not been built to code. "When we started demolition we found some real monsters behind the walls," Lynn Sealy says. "Because [the original building] went up fast and cheap, we inherited whatever corners were cut."

Dealing with such problems, Sealy says, requires constant adaptation, not only by the client and the architect, but also by the contractor. The architect's role, says designer Arturo Chavez, is different on a reuse project. "Our documents turn into an intent rather than the detailing you have in a green field project," he notes. On the West Loop Center, Page Southerland Page had an architect on site almost every day of construction, rather than the weekly visit typical of new buildings, to deal with issues as they came up.

The Medical Center's Nabisco plant project resembles "big box" conversions in its size — 660,000 square feet — and in its generous floor plates (almost all of that space is on two floors). It is different, though, in that the building's history and quality have led to a desire to keep it intact as much as possible. "We'd much rather figure out how to put something into the building than tear out something that's there," architect Bill Neuhaus says. "We save as much as we can, and where we have to make an intervention, we try

to make a clean intervention." This has led to some unusual designs. To avoid cutting up the ground floor slab and its wooden flooring, pipes and utilities will be hung from the second floor and routed through extra-thick walls. For the same reason, the restrooms will most likely be on the second floor. All the skylights will remain, and some that were covered over by Nabisco will be uncovered. Old railroad cars will be rolled into a covered rail siding inside the building to serve as conference facilities.

While there will be some laboratory space in the flour mixing area and a training center in the old loading docks, most of the building will be offices. These will be leased to half a dozen different tenants. Ordinarily, this would mean dividing up the building with floor-to-ceiling demising walls. However, that would break up the long, two-story space at the building's center into individual units, eliminating one of the structure's best features. Because the building has been continuously occupied, though, the architects were able to reach an agreement with the city by which the new use would not be considered a change of occupancy by the building code. Thus, demising walls will not be required.

Having multiple tenants in one space is unusual. While the tenants are all members of the Texas Medical Center, they are also distinct and sometimes competing institutions that will be separated only by walls that, while they go above head level, will not reach the ceiling. Neuhaus says he was initially worried that sharing the facility and having offices in a former factory would scare off tenants. However, the response has been positive. "I thought it would be a selling job, but people are walking in, seeing the natural light, and being blown away," he says.

The building will be organized around a grid of indoor pedestrian "streets" that

separate tenant spaces and lead to fire exits. The main street, 1,200 feet long and 20 feet wide with lamp posts and trees, will lead to bus stops at either end of the building. Employees will be able to arrive on Metro or travel to and from other TMC facilities and parking lots via shuttle buses. Pods containing restrooms, mechanical equipment, stairs, and elevators will be spaced out along the hallways. "Cross streets" at each pod will lead to building entrances. Visitors will enter on the second floor, where they will be able to look over the office spaces before descending into them. "We want to take them to the cleaner, more open area first," Neuhaus says. On the exterior, new stair towers will mark the entrances. Their form and materials have not been determined, but Neuhaus hopes to make them visually distinct: "When you approach the building, you have to know something has happened to it."

The planning process has been kept deliberately flexible to allow changes as tenants join the project. Space allocation has shifted and many design features have remained undefined, though the project is getting increasingly tied down as time goes by. The first tenant, the Veterans Administration Medical Center, has moved in. Its offices are located in one corner of the building to maximize planning flexibility. As other tenants sign leases, they will hire their own architects to do build-out, though Neuhaus will retain overall control as the executive architect. This process, he says, sometimes seems more like urban planning than architecture. "This is a whole lot more like how a city develops than I ever thought it would be," he says. There has even been talk of having some sort of internal zoning to govern tenant build-out.

Most likely, there will be a lot of pragmatic reuse in Houston's future. Massive

retail construction and the move of light industry into the suburbs have left many vacant spaces in structurally sound buildings. As more clients and architects learn to see the possibilities and become more comfortable dealing with those spaces, they can find new uses. The economics support that. Even Briarmeadow, which required considerable modification and was built to high standards, came in at \$15 to \$20 less per square foot than a typical HISD school.

The reuse trend may also have wider effects. The creative thinking required to convert a building, and the solutions that come from it, can find their way into new architecture. Bill Neuhaus says that the early trend towards adaptive reuse of historic buildings in the 1960s and 1970s changed the direction of architecture. "I think it was reuse that led to post-modernism," he says. "The buildings talk back to the architect." Such concepts as the "street grid," developed in reusing of the horizontal floor plates of "big box" spaces, may find their way into new buildings. On a local level, companies can learn from their own experiences with reuse. Hewitt Associates is now building some of the flexibility of its converted K-Mart into a purpose-built corporate campus. Similarly, a policy of letting employees decorate their own spaces, developed to brighten up the windowless big box, is now spreading through the company.

Perhaps the best implication of reuse is its effect on the city. It is an old law of real estate that vacant buildings drag down neighborhoods. Adaptive reuse, whether of historic buildings or more prosaic recent ones, offers the possibility of putting life in those buildings again. "Fact is, there are a lot of buildings that are reusable, Gensler's Dean Strombom says. "The easy thing to do with a building is to knock it down. The challenge is to look at a building and see what it can be." ■