

Dedicated to the increase
and diffusion of knowledge
about how the nation's
lands are apportioned,
utilized, and perceived.

The Lay of the Land

The Center for Land Use Interpretation



"And I sincerely believe, with you, that banking establishments are more dangerous than standing armies." -Thomas Jefferson

LURED BY THE LOCAL

EXHIBIT AND TOUR PROGRAM PROBES CULVER CITY



A public art occupation in central Culver City, California.

CLUI photo

CULVER CITY IS BOTH EXEMPLARY and unusual. It embodies many of the recent redevelopment tropes found at affluent urban nodes within sprawling horizontal cities across the country. It also is a singular place, defined by its history as a center for the cinematic depiction of America, part of the placeless "Hollywood," at the end of manifest destiny. This year the Center explored ideas embedded in the land of Culver City in an exhibition called *Into the Heart of Screenland: A Neighborhood Exhibition in Three Parts*, which opened on April 22, 2011 in the Center's main office exhibit hall, located across the street from downtown Culver City.

continued on page 21

THE HIGH POINTS OF AMERICA

LOOKING DOWN ON THE NATION, STATE BY STATE



The parking lot on top of Mount Mitchell, North Carolina, the highest parking lot east of the Mississippi River.

CLUI photo

EACH STATE IN THE USA has one point of ground that is higher than any other. These are the high points of the nation. Some are hard to get to, and some have roads and gift shops at their summits. Some are lower in elevation than communication towers and buildings in their state, and some are barely perceptible rises of land in farms or back yards. An overview of these high points provides an interesting typological and supremely topographic portrait of the USA.

continued on next page

Editor's Note

Welcome to the thirty-fifth issue of *The Lay of the Land*. In this issue we look microcosmically at the community of Culver City and macrocosmically at the nation, through a survey of its highest points. We also go from region to region across the country, reflecting the breadth of the Center's operations. As part of the thematic focus on physical manifestations of cartographic phenomena, we wrap up our program about the various centers of the USA (a subject dear to this, and other *Centers*), and, at the moment, we are putting together an exhibition about surveying "points of beginning" opening early in 2012. Since the image quality and space in the printed newsletter is limited, a number of the articles here are presented a little differently on our website, www.clui.org, where full color and larger and longer photo spreads are possible. We will continue to create self-contained, printed editions of *The Lay of the Land*, as many of you have expressed an interest in it, and we still see value in the physical format—in fact we are made of physical formats ourselves, and expect you are too.

Thanks for *being there*!

IN THIS ISSUE

MIDWEST REGION.....	4
NORTHEAST REGION.....	8
CENTRAL STATES REGION.....	10
GULF STATES REGION.....	17
SOUTHWEST REGION.....	18
GREAT BASIN REGION.....	19
CALIFORNIA REGION.....	20
TAKING THE SHOWS ON THE ROAD.....	22
BOOK REVIEWS	23

HIGH POINTS

continued from page one

Mount Whitney, the high point of California and all of the lower 48 is seen here lined up in the vertical line of sight arrows at a visitor center in the valley below it. The summit can be reached by foot on a (long) day hike, though a permit costs \$15, and they are given out by lottery, as demand is high. The Forest Service limits how many people are allowed to be on the trails to the summit to around 100 per day. CLUI photo

Remote High Points

Seventeen state high points require relatively serious hikes of at least a few hours to get there. Of these, twelve could be considered Alpine, or more than 11,000 feet in elevation. The most extreme case of course is Alaska's Mount Denali, which despite being 20,320 feet tall, has been summited by around 15,000 people, who generally take two weeks to do so. More people have tried than made it all the way to the top, having to turn back due to health or weather. More than 100 have died trying.

The other Alpine high points requiring major hikes are in Western states, and are, in descending order: Mount Whitney, California (14,494 feet); Mount Elbert, Colorado (14,433 feet); Mount Rainier, Washington (14,411 feet); Gannett Peak, Wyoming (13,804 feet); Kings Peak, Utah (13,528 feet); Wheeler Peak, New Mexico (13,161 feet); Boundary Peak, Nevada (13,140 feet); Granite Peak, Montana (12,799 feet); Humphry's Peak, Arizona (12,633 feet); Borah Peak, Idaho (12,662 feet); and Mount Hood, Oregon (11,239 feet). Because of their remoteness, there are minimal amount of constructions at these locations, though a number, including Mount Whitney, have small huts near or at their summits, or have ski lifts or alpine lodges halfway up their flanks, like the Timberline Lodge at Mount Hood.

The next category are undeveloped high points that still require a bit of a hike to get there, even though they are not really Alpine. These include Guadalupe Peak in Texas (8,749 feet); Harney Peak, South Dakota (7,242 feet); Mount Rogers, Virginia (5,729 feet); Mount Marcy in New York (5,344); and Maine's Mount Katahdin (5,268 feet, and the northern end of Appalachian Trail). Due to remoteness from roads, these high points do not have a lot of constructions on them, though most of these have some kind of plaque or monument at their summit.

West Texas' Guadalupe Peak has a stainless steel triangular monument at its top, placed there by American Airlines in the 1950s. Harney Peak, high in the Black Hills, a three-mile hike from a road, has a dramatic old stone fire tower perched on the side of the cliff at the summit. Mount Marcy and Katahdin are both in parks, have good views, and are heavily visited by hikers, so their summits are often crowded.

Virginia's Mount Rogers is the highest of the state high points east of South Dakota that lacks a road to its summit. The view-less high point is in spruce woods in a state park, four miles away from the public road.

Five more of the high points could be considered undeveloped, as even though they may be low in elevation they are relatively remote, and because they are low in elevation or are close to higher or more scenic peaks in adjacent states, they are not really considered destinations for most people. These include Black Mountain, Kentucky (4,039 feet); Backbone Mountain, Maryland (3,360 feet); Mount Magazine, in Arkansas (2,753 feet); Mount Frissell in Connecticut (while not the highest peak in the state, the slope of Mount Frissell, where it crosses into Massachusetts, is at 2,380 feet, 50 feet higher than Bear Mountain, the tallest summit in the state); and Eagle Mountain, the highest point in Minnesota, a lowly 2,301 foot hill on the upper peninsula, which is a 3.5 mile hike from a public road.

Not all of these semi-remote, low high points are completely unaltered though. Maryland's Backbone Mountain's summit is owned by a coal company and has a private logging road through it. Kentucky's Black Mountain has a private road up it to access a tall radio tower at its summit.

But the rest of the high points in the nation, 28 out of 50, are all developed in some fashion. Some are totally built up for visitors, with parking lots and short ADA compliant paths, and others are on someone's farm or ranch. All have some sort of marker indicating their status as the highest point in their respective states, whether they are open to the public officially or not.

Developed High Points

The tallest of the 28 drivable high points is Mauna Kea, the highest peak in Hawaii. With an elevation of 13,796 feet, the road to its summit is one of the highest roads in the nation. The road is there because the summit is heavily developed with observatories. (The highest auto road in the nation, incidentally, goes to the summit of Colorado's Mount Evans, 14,120 feet, though there is a restricted access road to a lab building on the summit of White Mountain Peak, in California, which is, at 14,252 feet, technically the highest road in the USA).

A number of high points on public land have limited access roads to viewing towers or former fire towers. In these cases, of course, the tallest point in the state becomes the tower, not the ground it sits on. These include Mount Davis, Pennsylvania (3,213 feet); Timms Hill, Wisconsin (1,951 feet), located in a county park with an observation tower and a taller radio tower that some people climb; and Spruce Knob in West Virginia (4,863 feet). Some points have a simple trail leading from a nearby road to a clearing in the woods with a sign and survey marker, such as Sassafras Mountain, South Carolina (3,560 feet, though recent grading is said to have lowered the site to 3,533 feet).

Some high points have publically accessible roads directly to their summits, or to parking lots just a few hundred yards away, with a graded walking trail leading to the actual summit site and a monument or viewing tower that dominates the summit substantially (making the monument the highest point), such as at Mount Gray-

HIGH POINTS



The view from Campbell Hill, the highest point in Ohio.

CLUI photo

lock, Massachusetts (3,491 feet); Mount Mitchell, North Carolina (6,684 feet); Clingman's Dome, Tennessee (6,643 feet); and New Jersey's High Point Park (1,803 feet).

Oklahoma's high point, Black Mesa (4,975 feet) is another one of those highest points that is on a slope of a hill whose summit is on the other side of the state line (in Colorado), so the highest point is on the state line itself. On Nature Conservancy land, it is marked with a ten foot tall stone obelisk that describes distances to other near and far places (*Texas, 31 miles due south, Kansas 53 miles ENE, Colorado 4.7 miles due north, New Mexico 1299 feet due west, etc*).

Missouri's high point, Taum Sauk Mountain (1,772 feet) is in a state park, and has a road to a parking lot with a well-graded ADA-compliant path leading to a bench and overlook with a granite plaque. Campbell Hill (1,550 feet) is Ohio's highest point. It is dominated by structures remaining from the 1960s, when the Air Force operated a NORAD radar site there as part of the continental early warning defense system. The state took over the site in the 1970s, and it is operated as the Hi Point Career Center, an adult education facility. There is a small patio that overlooks the grassy slope below, with a state historic sign about the high point, and a bench. A weatherproof drawer has a sign in book for visitors.

Alabama's high point, Cheaha Mountain (2,407 feet) is in a national forest, and has a large stone observation tower built by the CCC, and a lodge-style hotel, restaurant, and store. Brasstown Bald (4,786 feet), Georgia's high point, is also accessible by paved road, and has a visitor center with a substantial observation tower built on the summit.

The most developed high point in the entire country, though, is one of the most severe. At Mount Washington, New Hampshire (6,288 feet), which held the record for the highest windspeed on the planet until just a few years ago, not only is there a heavily used tourist road to the summit, there has been a cog railway since 1869. Up top is a parking lot, museum, post office, restaurant, gift shop, transmission towers and support buildings, park offices, and the weather observatory. 250,000 people visit the summit every year, and a few meteorologists even live there year round.

Of the low relief high points that are on private land, most have

fairly simple monuments constructed by locals, or people who are committed to visiting and marking all the high points of the nation (people known as high-pointers). Many of the Midwestern high points fit into this category. The owners of the farm where Illinois' high point, Charles Mound (1,235 feet) is located only allow visits on the first weekends of the summer months (the rest of the year high point seekers can take the elevator up one of several buildings in Chicago whose upper stories are hundreds of feet higher in elevation). Hoosier Hill, the high point in Indiana (1,257 feet) is a low wooded rise on privately owned farmland. Hawkeye Point, Iowa (1,670 feet) is next to a very tall farm silo (obviously a higher point), and has a nice monument with directional place/distance sign poles, carved stones, and other features. Mount Avron, Michigan (1,979 feet) has a sign and a bench in the woods along a remote logging road. In the Great Plains, Mount Sunflower, Kansas (4,039 feet) has a couple of nice sunflower sculptures and a plaque. Panorama Point, Nebraska (5,424 feet) has a small stone monument. At White Butte, North Dakota (3,506 feet) there is just a survey marker on a small butte, surrounded by farmlands.

The Lowest of the Highest Points

Despite being one of the lowest high points and located just 200 yards from a public road, Rhode Island's Jerimoth Hill (812 feet) had been one of the most difficult high points to reach for a long time, as the land owner that controlled access to the property was not friendly to visitors (and was well armed, by some accounts). Eventually, though, concessions were made to allow visits on five days a year, and new owners recently made it available every day from 8am to 4pm. The summit itself is an unadorned exposed granite rock, a couple of feet higher than the surrounding land. It has been owned by Brown University since 1952, and used by its astronomy department, which refers to it as Little Mauna Kea. In December 2011, the state of Rhode Island announced that it was purchasing the site in order to provide public access to it.

Woodall Mountain, Mississippi (806 feet) rises 300 feet above the surrounding plain. A small dirt road leads to the summit, where there is a power line pole. Much of land in the area is owned by a gun club, and visitors are cautioned to take extra care when visiting during hunting season. Driskill Mountain, Louisiana (535 feet), rises about 150 feet above the surrounding plain. It's summit is reached on a trail that starts behind a church. There is a post with a sign, a small pile of rocks, and a message box at the high point.

The second lowest high point is Delaware's, and it is so low that it's not even acknowledged as a hill, but simply as a surveying site known as the Ebright Azimuth (448 feet). A state historic sign along a two-lane highway marks the spot, though the actual site is said to be in a trailer park 50 feet from the sign. The lowest state high point is Britton Hill (345 feet) on the panhandle of Florida, in a small park. There's a stone monument and a bench. ♦

It should be noted that just about all of the 50 state high points have some kind of weatherproof box at the summit, like a metal ammunition box or a mailbox. Inside is a sign-in list/comment book, usually supplied by a member of the High Pointers Club, a loose network of people who are interested in visiting as many of the USA's high points as they can. The club's web site, www.highpointers.org, is the authority on the nation's high points, and, along with www.summitpost.org, and field research by members of the CLUI, is the source of much of the information for this article.

FIELD TRIPPING IN THE PITS

CLUI LEADS OHIO STATE INTO AGGREGATE



CLUI-led landscape architecture class topping a mound in carts while touring Phoenix Golf Links, a gravel pit turned garbage dump turned golf course (and once the highest point of land in Columbus, Ohio). CLUI photo

AGGREGATE (SAND, CRUSHED STONE, AND ROCK) is the most mined material on earth, and the pits created by its extraction are all over the place. Every city has a network of them, since they are the source of the primary material for roads, foundations, and anything made of concrete. They are often massive, even a few miles wide, and dramatic, with abrupt cliffs, colorful ponds, complex conveyors, and conical piles of sorted material. Yet they are generally overlooked, unseen, and, certainly, rarely appreciated by the public.

For these reasons and more, the CLUI has been engaged in a continuous investigation into these quotidian extractive landscapes—how they work, where they are, and what happens to them once they are mined out. This fall, the CLUI was invited to work on the subject with a landscape architecture class at Ohio State University. The class, directed by Ben Loescher of the CLUI and their professor, Jason Kentner, will generate a publication about their findings.

The Ohio State project focuses on the belt of Columbus Limestone, the most useful form of aggregate in the region, which runs underneath the state's capitol of Columbus (home of Ohio State University), and continues north to Lake Erie, where it continues to be mined from pits on islands that extend beneath the level of the lake.

The first of two field trips, conducted in October 2011, looked at the full range of local pits, from active and expanding ones, to long since closed ones which have been turned into housing developments or parks.

To get oriented, we started the day with a visit with the curator of the geology museum on campus, Dale Gnidovec, who gave us an overview of the underlying strata. He described the history of the landscape of Ohio, starting with the formation of the earth itself, followed by the global events that transpired to build up the layers beneath us. Geology, as Mr. Gnidovec eloquently stated, is the book of earth time. The past begins with the oldest, at the bottom, and works its way up to the surface, to now.



Orton Hall, built as the geology building on campus, is a lesson in stone. Its exterior is clad in geological order, oldest rocks at the bottom, to newest at the top, with glacial erratics scattered around outside. CLUI photo

Once stratigraphically and temporally oriented, we felt a fresh, renewed sense of awareness of our place on the surface of the planet. With this clarity we headed out for an intense day of encounters.

Onto the chartered bus, and to the largest active quarry in the region, the Columbus Limestone pit on Jackson Pike, 15 minutes from campus, and just four miles south of downtown. At the gate we were met by Jamie Sturgeon, public relations officer for the Shelly Materials company, which operates the pit. She escorted the bus onto the site for outdoor briefings with the pit's designers, operators, managers, and regulators.

Shelly Materials is the principal aggregate supply company in the region. It started as a local construction company in 1938, specializing in roads when the post-WWII boom set in. The company now operates in Ohio, Indiana, and West Virginia, and has 24 subsidiaries with 41 asphalt plants, 28 redimix concrete plants, seven rail depots, four liquid terminals, and 45 aggregate operations.

As is the norm in these days of consolidation and globalization, Shelly Materials is owned by a larger company, Oldcastle Materials, a nationwide supplier of aggregates, asphalt, ready mixed concrete and paving services, with 1,200 locations, which, itself, is owned by CRH International Building Materials Group, a global construction material supplier, headquartered in Ireland, with 75,000 employees around the world. A conglomeration of aggregates.

The Jackson Pike pit is about a square mile in size, and with surrounding processing and storage areas, covers a site nearly exactly as big as downtown Columbus. It is on the Scioto River, the main waterway through town, and as a result needs to run pumps continuously to stay dry. Three pump stations in sumps below the bottom of the pit are equipped with 15 pumps that remove 20 million gallons of water per day. The water discharges into ponds, and into the river, and is used to irrigate some landscaping operations nearby.

The main product produced there is known as "state rock." This is the material that meets the specifications required by the state's road builders. To be state rock, the aggregate (in this and most cases) limestone needs to meet standards of durability, compressibility, and uniformity as specified by state and other agencies, in order to be determined to be suitable for road construction. This is

an important determination, and one that affects the life and existence of quarry operations, since road building is one of the largest single use of aggregate, and the higher grade rock is more valuable. It is used in road beds, as well as asphalt, which is 95% aggregate.

If the rock does not meet these standards, then the material is considered “commercial rock,” available for other uses, as determined by the regulations and requirements of other commercial construction industries. The American Society for Testing and Materials is one source of specs for determining what quality, size, and shape of rock can be used in different applications.

As with most hard rock aggregate pits (as opposed to sand pits), the material is blasted out from the solid rock strata along vertical working faces. Front end loaders scoop up the loosened, random-sized material and put it in dump trucks which take it to the crusher, which grinds the rock to a specified dimension. Different dimensions and mixtures are used for different uses, ranging from less than half an inch diameter, for concrete, to several inches, used in riprap. Of the 40 employees at the pit, most work at the crushing and sorting operation.

With no navigation possible on the Scioto, and no rail terminal here, all the material leaves the site by truck, at a rate of up to 800 trucks per day. Most trucks can hold 21 tons. Selling for between \$5 per ton (for ungraded #9 gravel) and \$10 per ton (for washed #2 gravel) it is clear that the largest expense in this business is for transportation, and the further the material has to be moved from the pit, the more expensive the project becomes. This is one reason why cities exist. As cities grow, the close-in aggregate pits become surrounded by development. This makes expansion difficult physically, as new buildings surround the pits, and also difficult due to pressure from people in the encroaching communities, who complain about unsightliness of industrial operations and the traffic, dust, and noise they produce. The proximity to the urban center, so highly valued, can eventually become a liability that forces many to shut down once they have mined out their layer of readily available limestone, or even before.

Some quarries are finding another solution—going underground. If the mineral rights of property adjacent to the pit can be acquired, then the layer of rock can continue to be mined by tunneling into the vertical wall, leaving the surface property undisturbed. Ten years ago there were around 200 underground aggregate rock mines in the country. Now there are more than 300.



Mike Dunn, the engineer for the underground portion of the pit, talked to group and showed us a model of the mine they are building now. CLUI photo

They have just started one here at Jackson Pike, extending the quarry northwestward by tunneling underneath land owned by the county. Shelly Materials found that the operating cost of extracting gravel from underground was nearly the same as from a pit, requiring just the initial purchase of around \$150,000 in new drilling equipment. And because underground mining is regulated at a federal level, a lot of the local regulations and state permits required for surface mining are not applicable, which simplifies, expedites, and economizes the process.

Once we had completed our tour and discussions at Shelly Materials, we headed back up from the pit level, onto the surface plane, to look at some examples of pits that have shut down and been filled in. We didn't have to go far, as this southern part of the city along the river is the most heavily excavated. The area immediately north of Shelly's Jackson Pike pit was deeded to the city of Columbus in 2007 for use as the city's main car impound lot, a large-scale marginal use typical of such post-industrial lands. Some of the fill used to level the site came from a waste incinerator, which brought up some contamination issues. They were solved not by removing the material, but by having the official flood plain boundary moved instead.

Big empty pits on the edge of the city are often simply too tempting to not fill with unwanted waste. Not that long ago, in the years before environmental regulations required lining and isolating landfills from watersheds, gravel pits and marshes were where urban trash went. Across the road from the Jackson Pike Pit is a pit that was filled with trash, known as the Model Landfill. By the time the landfill was closed, it contained five million tons of waste, and was a mound more than 60 feet tall—the highest ground point in the region.

The landfill was operated by the Solid Waste Authority of Central Ohio (SWACO), which began to work with the contamination issues at the site after closure, by installing wells to collect leachate and slow the migration of contaminants into the groundwater, and installing gas pipes to collect and burn the methane. The landfill was also covered in a less permeable clay cap to reduce the amount of moisture flowing into and out of the buried waste. Development possibilities for the grounds are limited, due to the unstable landfill grounds and the fragile impermeable layer under the topsoil. One use that was considered possible was a golf course, so to help defray costs, one was built. It opened in 2000—the first golf course on a landfill in the state.

The course was designed by Tim Nugent, of Nugent Golf Inc, a golf course design firm who has completed several landfill-to-golf course projects. This is a “links style” course, meaning that it has no trees, as trees would damage the clay closure cap. The 185 acre course has over 6,900 yards of manicured bentgrass tees, fairways and greens, and dozens of bunkers. The major vertical obstacles are methane vents, fenced off with signs warning of flammable gas. Located next to the freeway, and with a good view of downtown, the course is moderately priced and moderately popular. Since composting waste generates heat, the ground is slightly warm, which, in the winter, means the course has more snow-free days than others in the area. Another unique feature is that the course actually has 19 holes—one is kept in reserve for when any of the standard 18 are out of commission for repairs due to subsidence issues. These points and more are conveyed to the group as we

MIDWEST REGION

are shown around the site by the course's manager, Charlie Castle, who led the group of 20 people, including the bus driver, as well as two representatives of the Ohio State Department of Natural Resources' Division of Mineral Resources Management, who joined us at the last stop, traveling in a convoy of electric golf carts. After the tour, we headed into the Ryder Cup Grille ("the 20th hole?") for a lunch of hot dogs and apples.

After lunch, the group boarded the bus again and headed to the other cluster of pits around Columbus, also located along the Scioto River, four miles upstream of downtown. This area is less industrialized than the cluster downstream, and is more impacted by the encroachment of residential development. Only one pit remains active.

We arrive at Quarry Lake Drive, where a gated community called the Quarry Apartments opened in 2005, built around a now flooded former quarry, which has been incorporated into the development as a scenic recreational focal point. We stopped across the street from the development and climbed a small and distinct mound. This is the Shrum Mound, a Native American mound believed to have been built 2,000 years ago by members of the Adena culture, and one of the few remaining conical native burial mounds left in the region. It's a nice reminder that Ohio residents have a good history of heaping and mounding as well as excavating. From the top of the mound it became clear that it is located on an isthmus of sorts, a narrow strip of surface-level land between two former pits, one turned into the housing development, and another, nearly a mile long, hemmed in by McKinley Avenue and the railroad tracks, and slowly filling up with water. A native mound at the fulcrum between two deep gouges. We imagine what a nice cross-sectional relief drawing this would make.

A mile north, further up the river, we approach the operating part of the Marble Cliff Quarry, which once covered much of the area, but now is limited to a half-mile square pit, the last of the active pits in this area. It is operated by Shelly Materials too, and the company has had to work extensively with the encroaching neighbors to continue here. A new entrance road was constructed at great expense to route trucks more directly onto commercial streets. The mile-long road wraps around the edge of the quarry property, and is lined with trees that obscure the pit.

At the office we meet up with Mike Matoszkia, Shelly's Area Operations Manager, and tour the pit. This is one of the more historic quarries in the state. It started out as a dimension stone quarry in the mid 1800s, and was the source for limestone for the State Capitol building, as well as limestone aggregate for Ohio Stadium and large portions of the Columbus freeway system. Many older houses in the area have stone foundations and window sills from this pit. It was operated for years by the Kauffman family, with as many as 400 workers on site, including at times inmates, breaking rocks by hand. The site was originally considered favorable because it had less than 10 feet of glacial overburden on top of a 250-foot deep bed of Silurian and Devonian Limestone and Dolomite. But after more than a hundred years the original formation has been nearly exhausted, and no highly prized "state rock" remains. They used to mine as much as 2 million tons a year here. Now they do around 400,000 tons, mostly construction-grade aggregate for asphalt and concrete used in residential and commercial developments.

Though Shelly Materials operates the quarry, the site is currently owned by the Specialty Restaurants Corporation, based in Orange County, California. The company operates more than a dozen restaurants and banquet facilities around the country, mostly along waterfronts, such as the Reef, on Long Beach Harbor, Brady's Landing restaurant, on the ship channel in Houston; the Rusty Pelican, on Biscayne Bay in Miami; and a pivotal site in Columbus too, the River Club Restaurant, which dominates the confluence point of the Olentangy and Scioto rivers, and overlooks the downtown skyline. The company seems to be curating vistas, or at least considers the view as an important element of the dining experience. We're not sure if they have plans for the marble Cliff Quarry or not, but with its tall highwalls and location next to the dam on the Scioto, it will make a nice deep lake, someday.

The last stop of the day was at the Darby Bend Lakes area of the Prairie Oaks Metropark, an example of a former quarry site returned to public use. Located eight miles further west, along Big Darby Creek, this group of quarries closed many years ago, and the site is slowly being returned to a "natural" condition by the State of Ohio Metroparks division naturalists, including Tom Cochran, who meets us at the site. The stripped topsoil and heavy compaction of the quarry days are still evident in the middle of the park, where a barren and hard denuded look prevails. The ponds, not yet surrounded by the planned native vegetation, look stark and decidedly unnatural. The fact that some are a hundred feet deep and have pallets, Christmas trees, and plastic items tossed in there by the parks department to create habitat for the native fish they are stocking them with now, somehow distances the site even further from its intended naturalness. Once we learn that one of the ponds has a designated dog swimming beach, but otherwise swimming is not allowed in the park, and that the park is the site of WAG-fest, an annual dog festival with an attendance of more than 1,500 (dogs), it makes sense: it's not really a park for people, but it's a perfect park for people with dogs.

The field trip heads back to campus in the fading light, thinking that maybe the best use for an abandoned quarry is as an abandoned quarry. A few weeks later, on a second trip, exploring the aggregate realm at the top of the state, this sentiment was reinforced. But an account of that will wait for another day. ♦



Bus trips in the bottoms of Ohio.

CLUI photo

SEEING THE FOREST AND THE TREES

CHICAGO'S ARCHITECTURAL SAFARI BOAT TOUR



Thousands of people take the architectural boat tour in Chicago every day during the warmer months. CLUI photo

UNLIKE MOST CITIES WITH LOTS of tall buildings, Chicago has a wide watery crack right through the middle of it, providing enough space between the buildings to actually see them. This could be part of why the city attracted so many innovative designers of the modern era—they knew that if they built next to the water, their building would not be occluded by the next big thing to come down the road.

Or not. But whatever the cause, the effect is that there is a veritable frenzy of architectural tourism on the water, like nowhere else outside Venice, probably. More than a dozen boats with a capacity of 120 or more people pace endlessly, back and forth, passing each other over and over throughout the day as they conduct 90-minute architectural tours. And they seem to be full to the brim most of the time, selling out hours or days ahead of time, and loaded with people on the top deck, exposed to the sky, looking up as directed by the amplified voice of the building interpreter.



Chicago History Museum's River Tour is conducted on board Chicago Line tour boats, the Ft. Dearborn, Innisfree, and Marquette. This tour integrates a cultural and historical perspective to the city and its architecture. Chicago Line is commissioning a 400 passenger boat, under construction in Wisconsin at the moment, that will be twice as large as any other tour boat on the river. It will be made of steel from the nearby Burns Harbor plant, and be electric-powered by 80 tons of batteries.

CLUI photo

Strangely, though, the buildings when viewed this way are stark monoliths. The scale is huge, and there are few references of a human occupation, except the repeating motifs of fenestration that imply a stratigraphy of stacked humanity. There are no visible people, nor much of anything else besides masses of mass along the shoreline, except an occasional kayaker, or someone anomalously on a balcony. The buildings, when viewed from Chicago's rivers, look like they were made not for people, but for architecture.

Which is at least partially true. This is not a complaint, it's an observation. The experience of an architectural boat tour is one of the great things to have done in Chicago, to be sure. It is an anachronistic futuristic history lesson, an oldschool modernist activity that should be done over and over and over, at least once. ♦

A photo tour of this aquatic architectural safari is on our website at www.clui.org.



Chicago Architecture Foundation's River Cruise is generally considered the most informed architecture tour, led by unpaid volunteer "docents" as opposed to "tour guides" like the others. They use the boats belonging to Chicago's First Lady Cruises, which has three yachts with 120 to 200 passenger capacity. CLUI photo



Shoreline Sightseeing's Architecture Cruise draws from the company's large fleet of nine touring boats, including the Voyageur, Star of Chicago, and Bright Star. CLUI photo



For those in a hurry, or if you just like speed, the Seadog speedboat architectural tour takes 75 minutes instead of the usual 90, and even includes a fast ride out on the lake. CLUI photo

TESTING THE WATERS

PROBING THE BOUNDARIES OF THE NYC WATERSCAPE



It's a line, it's a circle: The Circle Line tourboats go around Manhattan, and around and around...
CLUI photo

NEW YORK CITY'S WATERFRONT IS often perceived as an impermeable wall. The fact that it mostly is (an abrupt vertical wall of stone or concrete) is both an intention and a reflection of this condition. The water is what separates the city from itself, and it is also the only space where all the boroughs come together. It's shared space, and it is free, unscripted, unpossessed. It is a space of freedom, still, at least in theory.

Every year the number of interesting explorations of this idea and this watery space increases. Last summer's "Sea Worthy" series of projects, for example, arranged by Gowanus Studio Space, Elizabeth Foundation for the Arts, and Flux Factory, included boat building workshops, expeditions, presentations, exhibitions, and other projects about New York City's aquatic realm. It included the sold-out "Boatel" set up by the artist Constance Hockaday, where people could stay overnight on rafts and boats parked at a marina in Far Rockaway. Back in 2005, the place-based arts organization Minetta Brook (named after a waterway that used to run through Manhattan) arranged to physicalize Robert Smithson's "Floating Island" idea, with the Whitney Museum (which was showing a Smithson retrospective exhibit at the time). Based on just a sketch he made in 1970 showing a park installed on a barge being towed around the city by a tugboat, they created just such a thing, and it was so. In 2008, Creative Time showed the artist Matthew Buckingham's film about the Hudson River aboard water taxis plying the waters. Then there was Olafur Eliasson's "Waterfall" project, also in 2008, not on the water but made of water, which brought another level of attention and form to the water's edge. And recently, in October 2011, a floating dome sculpture assembled by a group led by Slo Architecture was on its way to being installed in the Harlem River, when it got away from them, and was wrecked on the shores of Rikers Island.

Some of these projects, such as Swoon's 2008 raft trip down the Hudson (starting in Troy), and Mary Mattingly's "Waterpod" (2009), seem to be inspired in part by Poppa Neutrino. He was a legendary boat hobo visionary who lived aboard a self-built barge at Pier 25 in Manhattan in the 1980s, and crossed the Atlantic in 1998 in the first "junk raft" to make the trip.

Other forms of recent creative acquaticism in New York's waters are of a more exploratory nature, using vessels to examine the place and perceptions of it, as well as various methods of staying alive and afloat. Artists like Bob Braine, Marie Lorenz, and Duke Riley's

journey's into the fringes and vestigial islands of the East River for example, in kayaks camouflaged with floating debris, homemade dinghies, or wooden submarines, even, and their encounters with authorities, help test the limits and sustain the reality of open water as free space. Countless other urban explorers probe the rich curiosities along the urban water's edge on their own, from the potter's fields at Hart Island to the sinking fleets off Staten Island.

Institutional diversity is increasing in the watery realm too. The Metropolitan Waterfront Alliance, started by the Municipal Art Society in 2000, has become a major force encouraging favorable public shoreline development with water access. There are now more than a dozen official places to launch a kayak on Manhattan and on the East River, and local water-access organizations, such as the Long Island City Community Boat House and other canoe and kayak clubs are increasingly popular, and influential. Creative small cultural organizations, like the Hudson Waterfront Museum in Red Hook, and Proteus Gowanus, explore their respective places. Newtown Creek and the Gowanus Canal, both some of the most hyper-urbanized and polluted watercourses in the nation, are now popular places for post-industrial kayak safaris. The opening of Governor's Island to the public over the last decade, and the scheduling of creative public events there has also helped draw people to the water, and given us a new perspective from which to view the waterfront of the city.

Members of the CLUI have done a bit of probing along Gotham's urban shores too, to get a sense of the size and shape of it, and to explore the possibility of developing public programs along its fringes. One thing for certain, is it's changing quickly. An interesting waterfront needs complexity, diversity, and utility. If it all becomes a park, we will fall asleep on the grass and die of boredom. It's the haphazard mix of forms, with a range of activities, including unplanned ones, that makes an urban waterfront alive and part of our lives. The possibility of uncertainty and discovery are critical to keep a public engaged with a place, whether it is technically theirs or not. But in this case, the water around the city—this city and others—is still all of ours. In fact, open water may be the only true commons left in America. The fact that open water is here, in the densest population center in the country, makes it especially valuable. ♦

A description of a circumnavigational journey around Manhattan, depicting and describing points of interest, logistics, hazards, and accessibility, is online on our website at www.clui.org.



Pier D, a long-standing collapsing relic, one of the last undesigned spaces on the Hudson shore of Manhattan (seen here in a 2008 photo, with Trump's towers rising up in the background) was removed in mid January, 2011. The old lighterage piers were monuments of decay, immortalized on the cover of the 1982 photo book *Dead Tech: A Guide to the Archeology of Tomorrow*. Here tomorrow is now yesterday.

CLUI photo

CLUI NORTHEAST OFFICE UPDATED WILL SUPPORT REGIONAL ACTIVITIES THIS SUMMER



Flexible and functional office trailer interior at CLUI:Troy.

CLUI photo

THE CENTER'S NORTHEAST OFFICE in Troy, New York, has a new addition, an interior space that has been converted into a construction trailer, to match other CLUI regional offices, which are all completely, or partially, in office trailers. This was done for practical reasons, as the standardized size of most CLUI facilities makes the planning, production and installation of equipment, displays, and furnishings simpler, and more efficient, as well as to reflect the transitory state of things in these times. ♦

TROY'S URBAN RENEWAL RENEWED CITY HALL GONE, UNCLE SAM STILL IN HIS GRAVE



Troy's city hall was sacked by the Trojans themselves this summer to make way for new urban renewal.

CLUI photo

THEY TORE DOWN CITY HALL in Troy this year. The mayor, poetically, called the event "an addition through subtraction." And though few miss the building, another few were disappointed to learn that the city government is still around, relocated just a few blocks away, for the time being. Where it will go, nobody knows.

The modernist brutalistic angular and moldy old city hall was built in 1974, when urban renewal projects were sweeping the country, addressing economic blight as if it was a problem created (and cured) by architecture. A row of Victorian commercial buildings in the center of town was demolished to make way for the free-standing new seat of government, and its concrete parking garage. A year ago, after months of delays, the mayor ordered demolition to begin on December 31, 2010, the last day of the year, so he could keep his promises, and so as not to jeopardize the state's \$2

million Restore NY grant, already appropriated for the purpose. The demolition was soon halted though, as the city council had not given the go ahead, the contractor's methods were being challenged, and the neighbors were complaining. The partially demolished building sat for six months while the contractor sought out bonds, and the city was cited for starting the demolition before the asbestos situation had been assessed and abated.

Things were straightened out and demolition started up again in June, and by July the building was gone. The city then officially transferred ownership of the site, 1 Monument Square, to the developer who won the contract to build a new mixed use project there, Troy City Center LLC. The project is part of a larger redevelopment of the city's downtown Hudson River waterfront, also being planned. Today's urban renewal renewing yesterday's. Perhaps appropriate for a city whose motto is *Ilium fuit, Troja est*, a line from Vergil's *Aeneid*, about the ancient Grecian war for the city of Troy (Ilium), literally meaning "Ilium was, Troy is," and generally meaning that the past is dead, and lives on.

City Hall erased itself without a clear plan for the future. It is currently in leased space in an old Verizon building, a building which is owned by a local losing bidder for the redevelopment project, who also owns the building next door to the old city hall, and who was making complaints about the shoddy and hasty demolition effort. The city does not expect its lease in the Verizon building will be renewed in their favor.

Other sites considered, and so far rejected, include the massive and ornate old Proctors Theater, empty for decades, and the old Kentucky Fried Chicken block, where the fast food building has been shuttered for nearly a decade. But it is unlikely there will be money to build a new city hall from scratch anytime soon, and the city is full of empty space, needing use. A plan to move to downtown's Dauchy Building, already owned by the city, is on hold for various reasons, including choking on the \$2.2 million it is expected to cost to move there, and the fact that due to lack of space, relocating there may require turning the old porn theater next door, shut down by the city a few years ago, into the city council chamber. Tee hee.

As with most small cities, local politics, played out through buildings, can be as revealing as they are entertaining. But it seems this city's fictions are often stronger than its facts. This being, after all, where Santa Claus made his first appearance (In 1823, when *The Night Before Christmas* was published for the first time, in the local paper), and where "Uncle Sam" lies buried in a local graveyard. Ilium indeed. And so on. ♦



Uncle Sam's grave, in Troy.

CLUI photo

CENTER'S CENTERS OF THE USA TOURS
CENTERS OF THE USA
A CENTRAL PERAMBULATION



The CLUI Exhibit Unit at the "geographic center of the 50 states," one of the centers of the USA. IMAM/CLUI photo

THE CENTER'S EXHIBIT ABOUT THE different centers of the USA traveled to different centers of the USA this summer, inside the Center's mobile exhibit hall. The exhibit, called *Centers of the USA*, was produced by the CLUI and the Institute for Marking and Measuring, and depicted and described eight different centers, such as the geodetic center, the geographic center, and the population center. The self-contained traveling exhibit made a loop around the middle of the country, stopping to open to the public at a number of central locations, ultimately covering a distance of 2,972 miles. This distance is similar to the length of traveling from coast to coast. If it was divided in half, we would be back in the middle, where we started.

On August 8, the exhibit unit left Lebanon, Kansas, where it had been on view for a year, next to the monument indicating the Center of the Contiguous United States. The first stop on the journey was Thompsons OK Tire Center, in Beloit, 60 miles away, to get some new skins for the long journey ahead.

Dinner was at Bosselmans Travel Center in Salina, with Chris Cook of the Salina Art Center, which had assisted by hosting the IMAM crew when they outfitted the trailer with the exhibit a year ago. Then the crew made it to Topeka for the night.



The CLUI Exhibit Unit next to the new Census Bureau monument in Plato, Missouri, population center of the USA for the next 10 years. CLUI photo



The CLUI Exhibit Unit traveling from one center to another.

CLUI photo

The next morning, after a visit to Home Depot to beef up the safety chain (and a pledge that Motel 6s were not to be considered in the future, despite their occasional proximity to Home Depot) the crew set out eastward again.

South of Kansas City towards the Lake of the Ozarks, through Missouri towns with funny names like Peculiar and Tightwad, the Exhibit Unit arrived at its first exhibition site: the little community of Plato, Missouri, designated as the Population Center of the USA, based on the 2010 census. The exhibit unit was leveled and steps were set up next to the post office in the middle of town, next to the monument erected by the Census Bureau that spring.

As a few visitors came and went, the crew headed out to see the "actual" population center point as it was mathematically determined, located a couple of miles out of town, in the woods, on private land. (The monument, however, is in the middle of the village, as the land owners, the Census Bureau, and the rest of the community thought that would be a better spot.)

Bob Biram, the unofficial mayor of Plato (it's unincorporated) took the group to the Hartzog Farm, a couple of miles out of town, where we met Meg Sartain, one of the owners of the old and sprawling farm, who let us through the gate, out to pasture. We started down a path headed towards the spot in the woods where the surveyors from the US Coast and Geodetic Survey and the Census Bureau had first been, in the spring of 2011, to visit the actual spot they had calculated to be the Center of Population. They had left a small pile of rocks to mark the site.



The official surveyed site of the Population Center, as calculated by the Census Bureau, in the woods on private property a couple of miles outside of Plato, Missouri. CLUI photo

CENTRAL STATES REGION

After fording a stream and entering a thicket, the group arrived at a small clearing with the slumped-over rock pile and a small American flag. We all savored the moment of poise, imagining being surrounded, equally, on all sides, by everyone else in America. We were a statistical center of consensus, a remote balanced fulcrum.

The exhibit unit stayed open through the evening, then was opened again the next morning before we packed up and headed back on the road to the next destination: the Geographic Center of the USA, near Belle Fourche, South Dakota.



The CLUI Exhibit Unit at the *Center of the Nation Visitor Center* in Belle Fourche, South Dakota. IMAM/CLUI photo

Floods had shut down Interstate 29, making a detour necessary to get to Omaha for the night. The next day, heading west on Interstate 90, severe thunderstorms threatened. West of exit 208, when the skies blackened and the wind picked up, the crew pulled over to the edge of the highway and stopped. Just then, a gust came, tipping the exhibit unit, gently, on to its side. The trailer stayed attached to the truck hitch, lifting the dual wheeled F-450 into the air. The police and tow truck came and the trailer was righted, since there was, strangely, no damage except a bit of a twisted hitch.

The crew was on its way again. A visit with a welder in Wall, South Dakota fixed the trailer hitch, and the exhibit unit soon arrived in Belle Fourche. This was the first stop at the Center of the USA, the



Visitors to the *Centers of the USA* exhibit at one of the Centers of the USA. IMAM/CLUI photo

Center of the Nation Information Center, with several interpretive enhancements made in 2007. The exhibit unit was opened to the public, and passers-by included a number of motorcyclists, as this was biker week in nearby Sturgis.

After some time there, the unit was hitched up again, and taken 20.8 miles north to the “actual” site of the center of the 50 states, located in a field north of town. A few more visitors came in, referred by the Information Center, and following the travels of the exhibit on Facebook.

After that, the unit went to a remote pullout on Highway 85, to commemorate a more obscure Center, located nearby. The Center of the 49 States was the Center of the USA for a few months in 1960, after Alaska had been admitted to the Union, but before Hawaii joined later that year. No monument exists, though the pull-out had some abandoned restrooms, concrete slabs, and a former overlook with a view of the hillside where the 49 State Center remains in its obsolete oblivion.

The next day, back on the road for the long journey back to Lebanon, where the exhibit unit would settle into its new home. ♦



The Exhibit Unit returns to Lebanon, at twilight's last gleaming. IMAM/CLUI photo

With the Centers of the USA exhibit and tour program completed, the Center's Exhibit Unit will stay in Lebanon, Kansas indefinitely, to continue to support research and programming related to the central parts of the United States.

Of all the Centers of the USA, the one near Lebanon, Kansas, the Center of the 48 states, feels most like the center to us. With sincerest apologies to our friends at Belle Fourche, South Dakota (the Center of the 50 States), as well as to the entire states of Alaska and Hawaii, it's just a lot easier to imagine a contiguous continental mass's center than one that balances the “peripheral” states, separated by the voids of the Pacific, or Canada. Even though it isn't, Lebanon, Kansas seems more like the middle of the USA than western South Dakota does. Plus, Belle Fourche has a fancy new plaza and visitor center about its center-ness, while Lebanon doesn't.

So with that being said, the Center's Central States Regional Center is now officially based out of Lebanon, Kansas. The exhibit unit will remain there, open for public visitation, with the exhibit Centers of the USA on view, for the time being. Access information is available by calling the CLUI's main phone number.

POINTS OF INTEREST WITHIN 150 MILES OF LEBANON, KANSAS, CENTER OF THE USA



Platte River Road Archway Monument, Kearney, Nebraska

63 miles from the Center

A westward migration history museum and road-side attraction, that spans Interstate 80, like an archway marking the transition from East to West, and West to East, or like a covered bridge to nowhere. Opened in 2000, the museum was designed by a team from the Walt Disney company and is full of full-size dioramas of people, carts, and wagons, and live staff dressed in period garb. It's located here because it's the middle of the country, pretty much. The interstate is the latest version of the transcontinental route (from New York to San Francisco), and follows the historic Platte River in this stretch, as well as the original path of the Lincoln Highway. 30 miles further west on I-80 is its mid-point, mile 1,450 of the 2,900 mile long highway, and 20 more miles west is the 100th Meridian, one of the historic transition points between east and west. The 300-foot long building was assembled next to the interstate, then wheeled out and lifted into place, reducing the needed closure of the interstate to 12 hours.



Harold Warp Pioneer Village, Minden, Nebraska

50 miles from the Center

Harold Warp assembled what is called the largest private collection of Americana here in his hometown of Minden. The collection contains 50,000 everyday artifacts from 1830-1960 (mostly), housed in 26 buildings, and includes 12 historic buildings moved to the site and arranged around a village green, 350 antique cars (including the "second oldest Buick in the world"), and the largest collection of restored tractors. Warp's fortune, spent largely on this museum, came from his company, Warp's Plastics, a Chicago-based extruded polyethylene products manufacturer, making plastic sheeting used largely by the agricultural industry. His collection, though smaller, more quotidian, and rural, has similarities in form to Henry Ford's museum and Greenfield Village, in Dearborn, Michigan. A sign above the door reads: "For thousands of years Man lived quite simply. Then, like a sleeping giant our world was awakened. In a mere hundred and twenty years of eternal time Man progressed from open hearths, grease lamps and ox carts to television, supersonic speed and atomic power."



Golden Spike Tower & Bailey Yard, North Platte, Nebraska

150 miles from the Center

Located near the center of the nation, less than 50 miles from the 100th Meridian, this is said to be the world's largest railway yard, where more than half of Union Pacific's rail traffic passes through at some point. Throughout the 150 parallel tracks at the eight mile long yard, trains are assembled, reconfigured, and loaded at a rate of around 120 trains and 10,000 freight cars per day. In addition, maintenance facilities repair locomotives and railcars at the yard. The yard is a popular spot for railfans who can watch for the numbered locomotives from a special visitor platform that offers a view of the yards. The visitation facilities were significantly upgraded in 2008, with the opening of the Golden Spike Tower, an eight story structure built in the shape of a railroad spike. At its top levels are observation decks with touchscreens, plaques, benches, and viewing scopes. At the base of the tower is a gift shop.



Home on the Range Cabin, Athol, Kansas

20 miles from the Center

A small preserved wood and stone structure (now next to a private house near the town of Athol), is where Dr. Brewster Higley homesteaded and lived in 1871, when he wrote a poem called *My Western Home*. The poem was put to music by a neighbor, a civil war bugler named Dan Kelly, and a refrain was added when the song was first performed, by a local judge. The refrain evolved into "*Home, home on the range,*" and once Franklin D. Roosevelt called it his favorite song, it became popular nationwide. It is now one of the most well known songs in the world, though it is an expression of the simple life long ago, here, at this exact spot. The cabin is owned by a trust created by the land owners, the Rust family, who lived at the site for 75 years, and who refused all offers to buy and move the cabin, powerful offers from the likes of Walter Knott, of Knott's Berry Farm, in Southern California, and Harold Warp, who apparently gave them a blank check, which they returned, blank. The unattended cabin, still in its original home on the range, is open to the public all the time, and a guest book awaits any visitors.



Garden of Eden, Lucas, Kansas

53 miles from the Center

The Garden of Eden is a half-acre lot in a small Kansas town, transformed over the years with elaborate sculptures, towers, and furnishings, starting in the early 1900's, by its owner, Samuel Perry Dinsmoor. The sculptural park, now owned by Garden of Eden, Inc., is part populist political commentary of the day, part Freemason symbolism, and part Christian preaching. It is an early remaining example of what some people call visionary environments. The surrounding town of Lucas has developed into a major folk arts community, with the Grassroots Arts Center and several galleries, and is the home base for the "World's Largest Collection of the World's Smallest Version of the World's Largest Things" traveling museum.



Art Farm, Marquette, Nebraska

85 miles from the Center

Art Farm is an internationally known artist residence program, located deep in the fields of Nebraska. Residents spend months at the site creating art that reflects the site and region, or not. At the center of Art Farm is a sculptural and architectural wonder created by Art Farm's visionary founder and director Ed Dadey, who has been piling barns on top of one another. There is no shortage of abandoned farmsteads in the region, and no doubt some more of them will find their way to Art Farm.

SAC Museum, Ashland, Nebraska

145 miles from the Center

This museum for the Strategic Air Command opened in 1998, and is one of the largest military museums in the world. The original museum, conceived by SAC commander and Pentagon-builder General Curtis LeMay, opened in 1959, on the grounds of the SAC headquarters at Offutt Air Force Base, located 20 miles to the east—a strategic location at the middle of the country. Security and space issues there led to a drive to build a new museum off-site. For much of the Cold War, SAC was the military agency responsible for deploying the nation's nuclear arsenal against the enemy. The 300,000 square foot museum and education center contains numerous aircraft, including an SR-71, as well as fixed and traveling exhibits. It is now called the Strategic Air and Space Museum, reflecting a change in the museum, away from its origins.



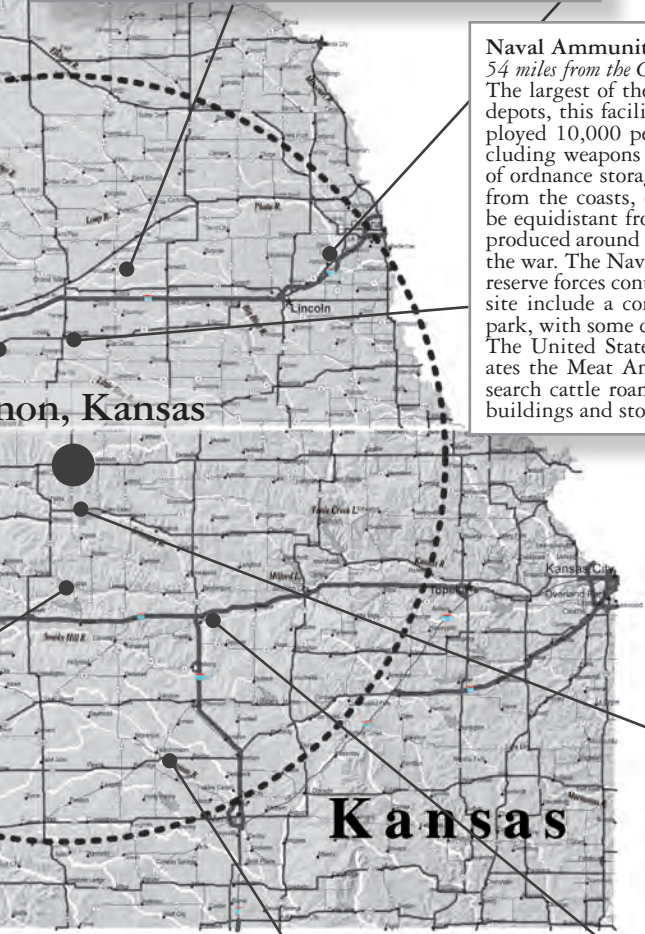
Naval Ammunition Depot, Hastings, Nebraska

54 miles from the Center

The largest of the Navy's WWII inland ammunition depots, this facility covered nearly 50,000 acres, employed 10,000 people, and had 2,200 buildings, including weapons manufacturing plants and hundreds of ordnance storage igloos. It was built here to be far from the coasts, out of potential harm's way, and to be equidistant from the Atlantic and Pacific fleets. It produced around 40% of the Navy's munitions during the war. The Navy closed the facility in 1966, though reserve forces continue to train here. Other tenants on site include a community college, and an industrial park, with some civilian ordnance-related production. The United States Department of Agriculture operates the Meat Animal Research Center here, and research cattle roam some of the grounds. Most of the buildings and storage igloos are still unused.



on, Kansas



Largest Ball of Twine, Cawker City, Kansas

23 miles from the Center

It seems to be an earnest trope of the heartland to have a "largest ball of twine" attraction, but this is one of the superlative superlatives. Located a few towns southeast of Lebanon, in Cawker City, Kansas, this one is, most certainly, the largest ball of twine closest to the geographic center of the 48 states. It is also officially the "largest sisal twine ball built by a community," as opposed to the "largest sisal twine ball made by a single person," at Darwin Minnesota, or the "heaviest ball of twine," still being built in Lake Nebagamon, Wisconsin, or the Ripley's Believe it or Not "largest twine ball" in Branson, Missouri. Unlike the others, the Cawker City ball is outdoors and open to the public, and twine is kept on hand for passers-by to add to it. Currently it has about 1,500 miles of twine on it, enough, appropriately for its central location, to stretch to one coast, or the other.



Second Longest Grain Elevator, Hutchinson, Kansas

127 miles from the Center

This 2,600 foot long concrete grain storage terminal in Hutchinson, Kansas, is the nation's second longest grain elevator (after a 2,700 foot long one in nearby Wichita). Built in 1961, it is known as Terminal J and is operated by Archers Daniels Midland. The elevator, incidentally, is the tower in the middle that lifts the material into surrounding storage vessels, in this case hundreds of adjacent concrete silos.

Land Institute, Salina, Kansas

91 miles from the Center

A well-known and innovative sustainable agriculture research and advocacy organization, headquartered in this suburban-looking house, surrounded by trails and research gardens, outside of Salina Kansas. The Land Institute researches and promotes agricultural methods that reduce soil erosion, decrease dependence on petroleum, natural gas, pesticides and herbicides. Not simply a scientific organization, the guiding principles of the Land Institute originate in the broader realm of culture and society, and from an awareness that many of the historical great societies of the world have fallen due to the failure of their agricultures. Lectures and events are held regularly at the Institute, attracting visitors from all over the country.



JOPLIN'S HOME DEPOT IN EYE OF THE STORM

WHEN TILT UPS FALL DOWN



Joplin, Missouri's retail strip stripped by an unnaturally disastrous tornado this summer.
CLUI photo

ON MAY 22, 2011, A F-5 tornado hit Joplin, Missouri, gouging a half mile wide, 7 mile long belt of utter destruction through town. Everything in this routed out swath was ripped up and blown away. 7,000 homes were destroyed, 18,000 cars were flung around, 500 commercial buildings were demolished. Telephone poles were snapped off. And 162 people were killed. This was the worst tornado strike in the USA since 1947, and the most expensive so far (17,000 insurance claims and \$3 billion in damages).

It was a Sunday afternoon. More than half of the deaths were people at home. 14% were in cars. And a lot of people were out shopping with their families. The tornado went from west to east, carving a cross section through this community of 50,000. It landed first in the rural outskirts, then through the increasing density of developed housing blocks, crossing South Main Street a mile south of downtown. Then it crossed the main commercial strip, Range Line Road, a mile north of Exit 8 of the interstate, with Golden Coral Buffet, KFC, Taco Hut, Red Wing Shoes, and Walmart Supercenter number 59, then through a industrial/warehouse area, the eastern residential outskirts, then crossed Interstate 44, and disappeared back up into the sky.

203 people were in the Walmart when the tornado hit the cinderblock big box. 200 of them survived. Across 20th Street, at the Home Depot, 29 customers and employees were amidst the canyon-like aisles of the warehouse retail store. When the tornado appeared, employees directed everyone to the break area room at the back of the store, and locked the doors so they would not blow open. Through the glass doors, an employee saw several people trying to get in from the parking lot. He let them in, but none of them made it to the safety of the back of the store.

The wind ripped the roof of the Home Depot off, and the unsupported tilt-up concrete walls toppled over like dominos. It was over in less than 90 seconds. The 28 survivors in the back were lucky that the wall next to them fell outwards, away from them, though some were saved from collapsing walls only by the happenstance of a sturdy desk.



Temporary Home Depot intent on serving customers in tent between buildings.
CLUI photo

Building codes in most of the tornado prone parts of the country require commercial structures to withstand up to 90 mph winds. An F5 tornado like this one has winds around 225 mph. The tilt up method of construction, where walls are slabs of concrete, poured flat on site, tilted up vertically, then secured primarily by connecting them to the lightweight metal roof is a common and cost-effective method for making big box buildings.

Hundreds of Home Depot stores like this one, as well as those of other retailers and warehouses, are built this way. With block construction, which is more common, when walls fail they break apart, rather than fall as a continuous slab, causing less collapse and damage. Such was the case at the Walmart across the street.

Joplin's Home Depot began selling lumber, roofing material, and whatever it could get, out of its parking lot, soon after the tornado, supplying much-needed building materials for repairing and rebuilding Joplin (Lowes, less than half a mile down the street, but barely damaged, was open the day after the storm).

In less than a month, Home Depot opened a 60,000 square foot temporary store in a tent-like structure in the parking lot in front of the remains of the old store, while a new Home Depot building, with slab wall construction, is being built on the old site. It will be the first Home Depot to have a storm shelter, even though local codes don't require it.

It has been said that there is no such thing as a natural disaster, since tornados, floods, and earthquakes are natural occurrences, whose effects, disastrous or otherwise, are on the buildings, structures, and people that we place, unnaturally, in their path. Terrestrial attacks, like what happened in Joplin, where, in even the less demolished areas, trees are debarked before they are snapped off at their bases or uprooted, test this otherwise sensible notion. They demand that we rethink how far we should go to limit the disaster. While we are not in complete control of the weather yet, nor shall we be for some time, we are, currently, entirely in control of mediating it's effects. ♦

GPS GUIDES CLUI TO GARMIN HQ

GROUND TRUTH AND LOST KNOWLEDGE



The CLUI made a recent visit to Garmin's headquarters, to see the place that changed how we navigate and how we deal (or don't deal) with understanding where we are.
CLUI photo

THE CENTRAL PARTS OF THE country draw many logistics industries and infrastructures to it, such as the western railroad's headquarters, yards and operations centers (in places like Omaha, St. Louis, and North Platte), the continental pipeline and energy company Koch's headquarters (in Wichita), and the military's operations centers, like the Strategic Air Command, satellite control centers, and ammunition plants (in Omaha, Colorado Springs, and Kansas City, respectively). Another such headquarters near the middle of the map of the nation is Garmin International, makers of the leading models of consumer GPS units.

Though its parent company is in the UK, the company's main campus in the USA is located, fairly centrally, in Olathe, Kansas, in the business park sprawl of southwest Kansas City. The company has grown quickly since its inception in 1989, and now employs a few thousand people, most of them here, and at a manufacturing center in Taiwan. The company is vertically integrated, meaning it designs, builds, and markets its products itself, in house, maintaining control over the process, and enabling it to respond more immediately to developments in technology.

The consumer GPS industry boomed in 2000, when the military turned off the intentional interference that reduced its accuracy for non-military users, known as "Selective Availability." With SA terminated, a consistent accuracy of at least 15 meters could be expected, and the small devices marketed to consumers, for use in aircraft, hiking, cars and boats, became more reliable and popular. Garmin, and their principal competitor, Magellan, based in Silicon Valley, have sold more than 100 million devices since then.

Most of these are the car-oriented GPS units that sit on the dashboard, reading the satellite signals through the windshield, and plotting your position on a map. If queried to do so, the device speaks to you, and tells you where to turn to get you to your planned destination. The accuracy now is uncanny, and is improving all the time, as software is enhanced, and new corrective systems go online.



Going to Garmin, guided by a Garmin Nuvi GPS unit, one would expect some sort of electronic homecoming, or at least an acknowledgment of arriving at the mother-ship. But as we drove around the corporate campus all we got was the same voice, over and over, "recalculating," until finally "...arriving at destination, on left."
CLUI photo

GPS is still based on the constellation of 24 satellites launched by the US military, 12,000 miles above the earth's surface, circling the globe twice a day. Each of them is about as big as a car, and transmits their signal with less than 50 watts of power supplied by a solar panel. The signal each satellite emits (at least on the L1 band—the L2 band, also emitted, is more precise, but is available just to the military) is essentially a precise time code which, when compared with others through triangulation, becomes a gauge of distance, since the code's speed (the speed of light), is a known constant.

There are a lot of variables still affecting accuracy, such as signals reflecting on surfaces, clouds, and other aberrations, but these are being addressed with enhancements which we are beginning to see in GPS units like Garmin's. The current and most advanced corrective measure is WAAS (Wide Area Augmentation System), which is being developed by the FAA to aid in aircraft navigation. Once completed, it is expected to be precise and reliable enough (better than 3 meters, 95% of the time) to guide airplanes all the way to the runway approach. The system uses a network of around 25 precisely surveyed ground stations that collect information from GPS satellites, compare it with its ground location, and transmit the data back to the satellite networks, and then back to the GPS receivers equipped to read the additional signal. One of these ground stations is at the FAA technical center near the Garmin headquarters, making Olathe, Kansas, another centralized location in groundspace and infospace.

Once available in car-mounted consumer GPS devices, this more precise location information will get us that much closer to where we are going without needing to have any idea where we are. Soon enough all we will have to do is steer around obstacles, and around all the other clueless people. ♦

GPS equipped smartphones are taking a bite out of Garmin's niche. Though too bad for Garmin, one possibly good effect is that at least people can't talk on the phone if it's in the midst of telling you where to go. Or maybe there is an app to deal with that already.

MUD ISLAND

AN ISLAND IN THE MISSISSIPPI THAT IS NOT AN ISLAND
WITH A MISSISSIPPI ON IT THAT IS NOT THE MISSISSIPPI



High water at Mud Island in May 2011. The park's landscape is established at a point that is around three feet above the highest recorded flood on the river, which has come close to inundating its miniature cousin on a number of occasions. CLUI photo

2011 WAS ONE OF THE best years for extremely bad weather in the USA. Heat in Texas, tornados in Alabama and Missouri, and floods all over, from North Dakota to the Atchafalaya, to Vermont. Most of the high waters converged on the Mississippi River since it drains two thirds of the continental USA, prompting the government to open the Morganza Floodway gates in Louisiana for the first time in 38 years, intentionally flooding one area to save some others.

The transformation of the Mississippi into an engineered continental plumbing mechanism, leveed for thousands of miles, and with valves that can be a mile long, turning on and off rivers, is one of the largest single systemic constructions in the world. While it's hard to get one's mind around something so vast, there are two places in the country where this has physically been attempted.

One is the Mississippi Model, a 200 acre 1:2,000 scale functional model of the river made over a thirty year period by the Army Corps of Engineers, now rotting in a field outside of their headquarters in Vicksburg, Mississippi (and the subject of an exhibition by the CLUI in 1995).

The other site is the Mississippi Riverwalk, a half-mile long contour map of the river, located on the shore of the Mississippi itself, in Memphis, Tennessee. This model of the river allows people to walk the length of the river at a very "human" scale, where one step equals about a mile. The journey along the meandering miniature channel, from Illinois to New Orleans, is punctuated by interpretive plaques noting regions and features, and ends up in the gulf of Mexico, represented by a one-acre wading pool where paddle boats can be rented.

The Mississippi Riverwalk was built as part of a larger park design for Mud Island, an old sandbar on the river, next to downtown Memphis. Mud Island first appears on maps in the late 1800s, and for much of its life was notable mostly as a hazard to navigation on the river. The development of the island was conceived in the 1970s as part of the nation's bicentennial fervor, but wasn't

completed until 1982. The park, which includes an amphitheater, museum, and restaurant structures, as well as the Riverwalk, was designed by Memphis architect Roy Harrover, whose other civic accomplishments include the Memphis international airport.

Though Mud Island is actually a peninsula now, connected to the land at its northern end, Harrover's design called for a futuristic approach to the park, in the form of a hanging monorail over the water. The trip takes just a couple of minutes, and ends at the top of a building that provides an aerial view of the Mississippi River model and the full sized analog that surrounds it.



Like many of the best attractions in America (Disneyland, the Getty Center, Newark Airport...) Mud Island is accessed by a monorail, though an unusual one, as it hangs from a track that is above it, not below it. Monorails are kind of futuristic, and foreign: the cars here were made in Italy, and the drive motors are Swiss. The two trains run back and forth opposite one another, passing one another in the middle on separate tracks. The gleaming pyramid in the distance, well that's another story... CLUI photo

Visitors to Mud Island arrive via a tall bridge, along which runs a dangling monorail. Once on the island and descending to ground level, visitors have the option of entering a museum that focuses on regional history and the river, and includes a towboat pilot-house display, full-size talking mannequins of Mark Twain and other historical figures, a "Theater of Disasters" showing a film about accidents along the river, a full-size replica of Old Ironsides, and a display about the musical history of Memphis. The museum recently got a few small updates from the company that designed it originally, Barry Howard Limited, of Santa Monica, California. Barry Howard is an interpretive center, trade show, and museum display company that has designed dozens of visitor centers, including at some of the nation's most notable landscape attractions, such as at Mount St. Helens, the Hoover Dam, and the Bay Model, in Sausalito.

Once outside the museum and its gift shop, visitors land on the surface of the model, at a point just upstream of Memphis. The model contains gently flowing water, 1.2 million gallons of it, re-circulated every 12 hours through nearly two miles of underground piping. It slopes down from upstream to downstream, proportionately to the real river, though the designers had to cheat a little bit with the grades so that they could keep a more even slope. Other distortions include the exaggeration of the vertical scale by more than 20 times, in order to display more physical relief (horizontally the scale is 1 inch equals 175 feet, while vertically 1 inch is equivalent to 8 feet.) If it were proportionally as flat as the real river that it flows next to, water would be stagnant in it, and the sides would barely appear to rise at all.

continued on next page

CENTRAL AND GULF STATES REGIONS

The model is made of 1,746 precast concrete panels, each weighing 5 tons. The relief on the panels is not continuous, but is stepped, like contour lines, giving the effect of being on a map as well as a model. Each contour level step is just over an inch, equivalent to a five foot change in elevation.

Rather than display the entire Mississippi River and its extensive watershed, the Riverwalk Mississippi represents the 950 miles of the lower river, from Cairo, Illinois to the Gulf of Mexico, beginning just above the confluence of the Ohio River with the main river channel. The four principal tributaries—the Arkansas River, the Missouri River, the Ohio River, and the upper Mississippi—which extend the watershed north to Canada, west through Montana, and east to Pennsylvania, are represented with “watershed walls,” each emitting a roughly proportional amount of water over a small spillway into the model channel.



The vertical “watershed walls” depict the areas and drainages of the states that feed into the Mississippi, and emit a proportional amount of water over a small spillway into the model channel. CLUI photo

Walking the 2,200 feet/950 miles of the model river, one passes dozens of descriptive plaques and markers on the ground. The cities are represented as light relief maps, made in stone and concrete, with roads and other features in inlaid metal. AHP numbers embedded in the concrete refer to the distance upstream “above the head of passes,” the navigational beginning of the river in the birdfoot of Louisiana. After that, the concrete slabs of the river submerge into the one acre Gulf of Mexico pool, which is sometimes stocked with catfish.

At the end of the actual Mississippi River, in the full-sized Gulf of Mexico, there is a dead “hypoxic zone,” a product of all the organic nutrients and pollution that flows out of the river. In an apparent coincidence, on the Riverwalk, the Gulf of Mexico was originally intended to be a swimming pool, but the health department forbids swimming there, due to water quality problems. ♦

A photo tour of Mud Island is on our website at www.clui.org.



Southwest Pass, the end of the Mississippi, entering the mini Gulf of Mexico.

CLUI photo

GULF STATES REPORT

FROM THE CLUI FIELD OFFICE IN HOUSTON



TexHex screening films under the freeway on Houston's Buffalo Bayou. CLUI photo

THE GULF STATES OFFICE IS supporting a few regional research initiatives in 2011/2012, projects that will become exhibitions and publications in the future. Its exhibit rooms remain open to the public, and contain a display about the oil industry in and around Houston.

The primary activity at the Center's site in Houston in 2011 was the continued development and deployment of the TexHex vessel, an interpretive and research platform for use on inland waterways, built by SIMPARCH. In May 2011, a series of video programs curated by the filmmaker Deborah Stratman was presented at different locations along the Buffalo Bayou, as part of her residency aboard the TexHex, supported by the Mitchell Center for the Arts.

For another event, in November 2011, TexHex headed further upstream from its industrial haunts than usual, to the park-like setting around the Sabine Street Bridge, where it was on display for the Buffalo Bayou Partnership's annual fundraising gala (on the bridge, which was closed to traffic for the occasion). Inside a tent, a few hundred business and arts professionals, including Houston's Mayor, Anisse Parker, ate a catered dinner, and celebrated “Confluence,” the partnership's arts program on the Bayou.

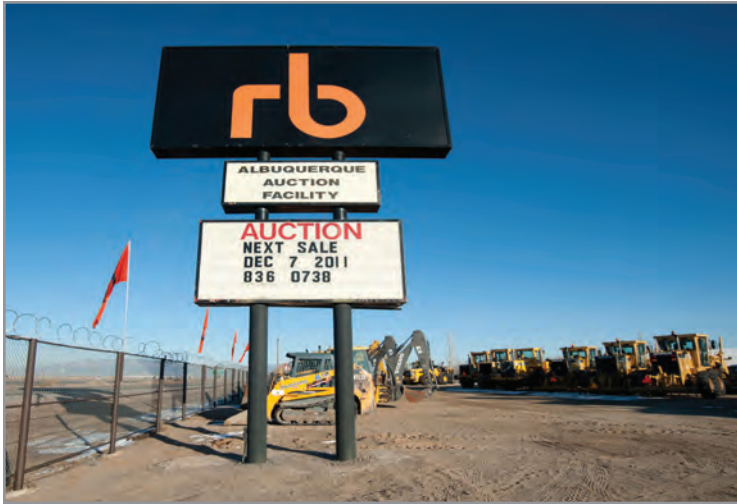
Below the bridge, the TexHex floated in the middle of the bayou, tethered to the shores, showing its video program to whoever noticed. The program was mixed by Johnny Dekam, combining live video footage from remote cameras, with footage shot along the Bayou by the CLUI, and selections of narrative films (*Waterworld*, *Anaconda*, *Mosquito Coast*, *Apocalypse Now*) that feature themes and scenes deemed appropriate for the context and occasion. ♦



Visitors from the American Association of Museums at the CLUI Gulf States Field Office for a briefing from CLUI Director Matthew Coolidge. CLUI photo

RITCHIE BROTHERS AUCTIONS

LOTS OF LOTS AND SIGNS OF THE TIMES



Ritchie Brothers Albuquerque Auction Facility sign.

CLUI photo

OVER THE PAST FEW YEARS, huge used construction equipment auction lots have been sprouting on the edges of cities across the USA, under the bright orange banners and signs of the Ritchie Brothers Company. Ritchie Brothers is in fact the largest auctioneer of used heavy equipment and trucks in the world, and these auction yards, some as large as 200 acres, with row upon row of hundreds of pieces of surplus heavy equipment, are a dramatic sight, and a stark reflection of the condition of the construction industry. When there is a lot of excess construction equipment around, things are not going well, unless you are in the construction equipment auction business.

Though the company has been around since the 1950s, it wasn't until 1998, the year it went public, that it broke the \$1 billion in annual sales mark. Over each of the past four years, sales have exceeded \$3 billion. An increasing number of sales are from overseas, in growing markets, like India and Asia, and the company's website currently offers its auction inventories in 21 different languages.

Most of the sales are still made on site, at one of the company's 22+ auction yards in the USA. The company selects locations that are highly visible, generally on interstates, just outside the region's major metropolitan center's city limits, where land is cheap, but airports and motels are close by. In Las Vegas, the yard is the last development north of the city on I-15; in Sacramento it is 25 miles north of town on Interstate 5; in Salt Lake City it is 15 miles west of downtown, at the Tooele exit; in Los Angeles it is in the Inland Empire, off Interstate 215 in Perris; in Denver it is 25 miles north of town on Interstate 25. And so on.

These sites are spectacles, sand boxes full of (mostly yellow) loaders, backhoes, excavators, graders, compactors, scrapers, rollers, tampers, plows, dozers, trenchers, water trucks, and lifters and cranes of every configuration, all lined up neatly in rows of like content, like a military parade, or a Busby Berkeley can-can. In parts of the country dominated by agriculture, more of the items are tractors, combines, wagons, hoppers, balers, seeders, cultivators, and the dominant color is green (dominated by John Deere products, instead of the Caterpillar's yellow).

At their largest lot, in Orlando, Florida, Ritchie Brothers sold \$190 million of equipment in one auction in 2008, and in another in 2009, they sold more than 8,300 pieces of heavy equipment in an auction that lasted six days. In 2010, they held 336 auctions and sold 310,000 items worldwide. Despite this, 2010 sales were down \$200 million from the previous year (on sales of \$3.28 billion), marking a possible downward trend in used construction equipment sales overall. Perhaps this means the economy is picking up.

We'll see what the numbers for 2011 add up to, and see if Ritchie's auction lotscape expands, or contracts. Maybe they should leave one dozer on site though, with a ripper attachment, to help the vegetation grow back once they are gone. ♦

NEW MEXICO EXHIBIT UNIT

MORE PROGRAMS ABOUT THE REGION



CLUI New Mexico Exhibit Unit, in Albuquerque.

CLUI photo

THE CENTER'S SOUTHWEST EXHIBIT SPACE in Albuquerque hosted an display about the history of water management in the region, curated by Chesney Floyd and Jesse Vogler, architects and writers based in Albuquerque. Opened in August, the exhibit was called *Acequia Space: Water Democracy in the Middle Rio Grande*. The project focuses on the Middle Rio Grande Conservancy District as an example of the large scale, scientific administration of water resources in the west.

Established in 1925, the creation of the district transformed the hydrology of the Rio Grande, the lives of its irrigators, and the water culture of New Mexico. It continues to define the relationship of people in the valley to their environment today.

Production is underway for another exhibit in the space, working again with students at Albuquerque Academy. ♦



BLUFFDALE'S NEW PUZZLE CRUNCHING PALACE

MINING THE INFOSPHERE ON THE WASATCH FRONT



It's no bluff on the bluff: Bluffdale's mega-data mine under construction down the road from the mega-copper mine. CLUI photo

A BIG CONSTRUCTION PROJECT IN Bluffdale, Utah, started in January 2011, looks like some kind of mining operation, with piles of displaced soil, terraces, and heavy earthmoving equipment all over the place. And though it is in a mining district, and just ten miles south of the Bingham Pit (one of the world's largest open pit mines) the project at Bluffdale is not a mining operation, at least in the physical sense. It is a new National Security Agency computer processing center—a data mine likely to become the largest one on earth.

The facility, the Utah Data Center, is being built in Camp Williams, an already existing military training reservation operated by the National Guard. The 1.5 million square foot building, expected to open in October, 2013, will surround a 100,000 square foot computer brain that will help the NSA process its load of information that is expected, in a year or two, to exceed a quadrillion gigabytes of data – one “yottabyte.”

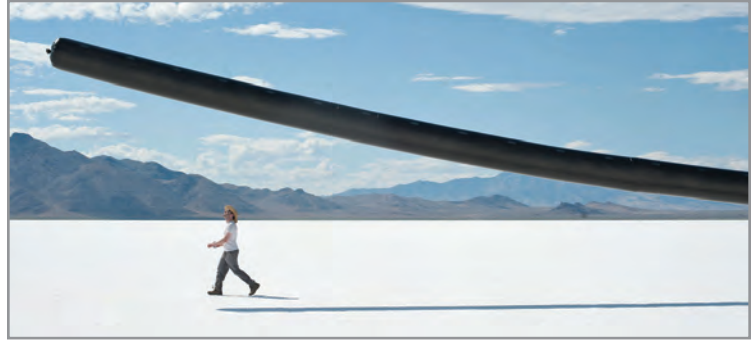
The information in this intelligence storage battery will be processed continuously to meet the classified security demands of the nation as directed by current legislation. Doing so, the building will consume 65 megawatts, equivalent to the amount used by a medium sized city. This site was selected partially based on the abundant electricity in the Salt Lake area, and the two major electric lines converging near Camp Williams. The NSA's headquarters at Fort Meade, Maryland, has maxed out its local grid.

This is just one mega-processing center currently under construction for the NSA. Another, the Cryptologic Center, is being built in San Antonio, Texas (near a new 500,000 square foot Microsoft data center), and another billion dollar facility, the Security Operations Center, is opening next year at Fort Gordon, near Augusta, Georgia. The Bluffdale site may end up being the largest of them, and once equipped, is expected to cost around \$3 billion.

From government to private enterprise, digital information is piling up, and storing and processing it is the future's infinite task. Despite its “immateriality,” information storage is physical, and is taking up more and more space and energy. Storage and processing capacity is directly related to available energy. It's a curious incident in the poetics of place that this new mega-data farm of the 21st Century is sprouting up next to the copper pit that formed to supply the electrical wires of the 20th century. ♦

GREAT BASIN REPORT

FROM THE CENTER'S COMPLEX IN WENDOVER



Informal experimentations in form on the salt flats at Wendover.

CLUI photo

ANOTHER FULL SEASON FOR THE residence program is complete, with several new participants, and several continuing residents returning to continue or finish their projects. New residents this year included the photographer Mike Osborne, who arranged to photograph the interior landscapes of local casinos, and photographed the ordnance disposal teams on the old bombing range; Shana McCaw and Brent Budsberg, collaborators from Milwaukee, who worked on a project about the pathos of historic western immigration; Dan Torop, a writer and photographer from New York, researching and revisiting Mark Twain's travel and writings about the region; Patrick Kikut, Shelby Shadwell, and David Jones, teachers at the University of Wyoming, who worked together on a series of projects that will be installed at Wendover next spring; Mikael Lindahl, from Sweden, who conducted research for a project for next year; and Ross Robertson, from Scotland, who worked on interpretive projects with local senior citizens.

Returning residents included the writer Miriam Sagan, from New Mexico; the German photographer Eva Castringius; the Florida-based stereoscopic aerialist William Keddell; Rob Ray; Jen Hofer, from Los Angeles, who installed her quilted history project in Exhibit Hall 2; Rich Pell from the Center for Post-Natural History in Pittsburgh, who is working on a project involving Dugway Proving Ground; Bay Area photographer Lisa Blatt; Mary Kavanagh, a video maker from Alberta, and Kelly Loudenberg, a New York video-maker whose two new Wendover-related videos will be presented in our exhibit spaces in the spring.

The Living Systems Research Facility at Southbase continued to be developed and improved this year by the SIMPARCH team, with Nancy Klehm assisting with biosoil experiments, and the Land Arts class from the University of New Mexico engaged heavily in water collection and irrigation systems. The other Land Arts class, led by Chris Taylor of Texas Tech, overlapped with the other Land Arts class for a night at Southbase with filmmaker Sam Douglas, who is working on a new film project about Land Arts and the American West, and who showed his film *Citizen Architect*, about Sam Mockbee and Rural Studio.

Other classes and field trippers stopped by the CLUI facilities in Wendover for a day or two, including some from Sierra Nevada College, Westminster College, and Northwestern University. Some, like Catherine Lord's class from UC Irvine, were on an extended tour visiting land art sites such as *Sun Tunnels* and *Spiral Jetty*. Brett

Bloom, from the Chicago-based group Temporary Services, brought his class of forty students from the Jutland Art Academy in Denmark to Wendover, the last stop on their two-week road trip odyssey, traveling mostly in RVs. The tour started in Houston, where they also stopped in to look at CLUI activities there. Other visitors to Wendover who came by to introduce themselves included the art historian Jeff Kelly, and *Spiral Jetty* scholars Hikmet Loe and Ann Reynolds.

The annual work party brought more than a dozen CLUI friends and supporters to help fix up the place. Work included painting exteriors, installing new exhibits, fixing broken windows, and preparing a new building for use as an exhibition space. Rich Pell, aided by Lauren Allen, Stuart Anderson, and Leafan Rosen, updated and repaired the Autotour quadra-bike, made by Municipal Workshop as a residence project several years ago. The Bike is now back online and available for people to take automatic GPS-powered guided tours of the old airbase. Mathew Lippincott and Olivia Everett visited from Butte, Montana, and displayed their kite photography prowess on the salt flats.

Thanks to all the work party 2011 participants: John Hogan, Jennifer Bennett, Jed Lackritz, Philip Weil, Kate Moxham, Dan Torop, Ben Loescher, Rich Pell, Lauren Allen, Jen Hofer, Rob Ray, Aurora Tang, John Fitchen, Eric Potter, and William Keddell.

The residence program will start up again in April 2012. In the meantime, the Center's exhibit spaces in Wendover remain open to the public all winter. ♦

DESERT RESEARCH STATION REPORT FROM THE CENTER'S FACILITY IN THE MOJAVE



Calibrating the new Desert Resonator at the DRS.

CLUI photo

THE CENTER'S DESERT RESEARCH STATION, near Barstow, California, supports the organization's activities and projects in that region, the desert beltway around the hinterlands of Los Angeles. The DRS opened in 2000, as part of the Museum of Contemporary Art's exhibition *Flight Patterns*, and continues to be an asset to the CLUI and its community.

Exhibits inside the Visitor Hall at the DRS are open to the public year around, using a combination keypad on the front door (call the

CLUI's information line to get the current code). These exhibits depict and describe features of the built landscape of the Mojave region. An experimental walking trail and other features of the grounds are open during announced programming periods. Additional structures and facilities on site are available for researchers conducting operations with the CLUI.

Several programs are under way at the DRS, including research and production of sound projects related to spatial dynamics of the ground. Artist and sound experimentalist Deborah Stratman produced the *Desert Resonator*, a 75-foot long aeolian harp that translates the movement of the wind over the ground into sound, using a spherical acoustic resonator.

Another related ongoing research program at the DRS, led by the Center's Steve Rowell, explores the phenomenology of sonic booms, which link sky, sound, and ground in curious ways. The DRS is under an Air Force skypace for sonic boom research, and the DRS is used as a collection point for these sounds. More sound/space projects are planned for 2012, and people interested in submitting proposals are encouraged to do so.

Another program area, supported by the DRS, studies the development of experimental aircraft in the region, which includes Edwards Air Force Base, Plant 42, and Mojave Airport, where commercial passenger spacecraft are being developed. Also nearby are a number of aviation "boneyards," where surplus civilian aircraft are stored and scrapped, encouraging the continued application of the region's moniker "the cradle and grave of aerospace."

A group of curatorial students from the University of Southern California, led by the CLUI, visited the Antelope Valley and the DRS to study crash sites of experimental and exotic aircraft. The group met with aviation historian Peter Merlin at NASA's Dryden Research Center on Edwards Air Force Base, the nation's historic aviation development site. Many of the most unusual aircraft ever produced were developed at this facility. Some led to the development of future aircraft, including the Space Shuttle, others proved that breaking the sound barrier, and then surpassing it several times over, was possible. The planes leave for test flights from the runways here at Rogers Dry Lake, but some never return. ♦



USC students in the Art and Curatorial Practices in the Public Sphere program visited NASA Dryden with the CLUI, to meet with aerospace archeology expert Peter Merlin, and to assist the CLUI with an interpretive project about experimental aircraft crash sites. After the meeting and tour of the facilities and archives, the group then visited a crash site near the Desert Research Station. CLUI photo

LURED BY THE LOCAL

continued from page one

Though the Center's mission encompasses the whole of the USA, its main office has to be somewhere, and it happens to be in the Palms district of Los Angeles, across from downtown Culver City. And although the Center has talked about elements of the neighborhood before as part of larger regional programs, like the nearby oilfields as part of the *Urban Crude: Oil Fields of Los Angeles* exhibit and tour, it has taken us 15 years to finally turn our attention to what is right outside our door—at least in a public way.

"The show feels a bit *Wizard of Oz*-like," said CLUI director Matthew Coolidge. "We spend most of our time physically and imaginatively all over the nation, especially this summer touring our Centers of the USA exhibit all around the center of the nation, based out of Kansas. But for this project we found, indeed, that there is no place like home." Even more so in this case, as part of this home is down the street at MGM, where they made *The Wizard of Oz*. Not in Kansas anymore, but in Hollywood's Kansas. The end of the rainbow is MGM's—and Culver City's—pot of gold.

The charismatic and ambitious developer Harry Culver convinced Hollywood producers to establish studios here even before the town was built, taking advantage of open land and creekside filming locations. So many film studios were based here by the 1930s that the official motto of the city was "Culver City: Where Hollywood Movies are Made." After a settlement with the Hollywood Chamber of Commerce, including a "burying of the hatchet" ceremony, the current motto was developed and incorporated into the town seal: "Culver City: The Heart of Screenland."

The CLUI exhibit addressed much of the landscape of film and television that dominates the history and economy of the immediate region, from the block-long Main Street's famous and frequent use as a backdrop for Laurel and Hardy movies, to the former back lots that abounded in town, containing other towns and places, like Andy Griffiths Mayberry, Tarzan's jungle, and Hogan's Heroes Stalag 13, now an office park with temporary soundstages for TV productions like *Cougartown*, and *Hell's Kitchen*.

The CLUI tour also looked at features of the physical urban landscape—the back alleys, street furniture, oilfields, communications, and traffic control, as well as some of the notable infrastructural failures that have occurred here. For example, the 1963 dam failure in the hills above town (shown live on television from a helicopter) where 300 million gallons of water washed away dozens of houses. And the gasoline pipeline that blew up in middle of Venice Boulevard (half a block from the Center's office) in 1976, killing nine people (and the pipeline is still there).

Ultimately, though, the project is about the identity of this community, a place that has gone through rapid recent changes. In the 1950s, Culver City dissolved in a way, becoming part of the great postwar sprawl of the flatlands of Los Angeles, television, cars, and boilerplate modernism. In the 1990s, the city's efforts to restore its downtown came together, beginning a rebirth of the Heart of Screenland. Over the next 15 years the core of the city would be substantially transformed by redevelopment projects, an influx of

entertainment affluence, and a housing bubble that only partially burst here.

Today downtown Culver City is in some ways normal—it has a main street with a weekly farmer's market, a Trader Joes, a fire station next to a police station next to a city hall, and perhaps a few too many fancy restaurants and movie theaters. In other ways though it is surreal and dreamlike—familiar in an idealized way. It is a place built up around an industry of veneers, props, surfaces, and facades. If it is the Heart of Screenland, Culver City is the epicenter for representational space—a place more like other places than most places, and in this way unlike any place else. ♦

Come by the CLUI's Los Angeles office and pick up a self-guided walking tour booklet, then take the tour, starting out the front door, into the surrounding "Heart of Screenland." You'll be guided around to points of interest including the gas line explosion site, television production locations, communication hubs, unusual public sculpture, active oil fields, the dam failure site, and more.

CALIFORNIA REPORT

FROM THE CENTER'S OFFICE IN LOS ANGELES



A series of "superstudio" meetings held at CLUI Los Angeles in early 2011, organized by Geoff Manaugh, brought together architects and theorists for a brainstorming session and series of workshops. Ideas here were developed further into an exhibition for the Center for Art + Environment at the Nevada Museum of Art, in Reno. CLUI photo

THE CLUI LOS ANGELES OFFICE houses most of the research and production activities for the organization, and contains the reference library, files, and records. A public exhibit hall at the site is open three days a week, with displays, a small bookshop, and other information, and serves as a venue for occasional public presentations and events. As the Center's main office exhibition space, programming here is both national and local in scale. As a regional site, located in Southern California, projects that address land phenomena in the California region are featured here.

During public hours, the Center accommodates visits by individuals, and groups. School groups, usually at the university level, often come by, and are addressed by representatives of the CLUI when possible. In 2011, academic groups came from as far away as the University of Auckland New Zealand, and domestically from Cranbrook Academy of Art, and the University of Pennsylvania's Architecture Department. Class visits from Los Angeles area schools are more frequent, and this year included Otis College, Sci-Arc, Art Center College of Design, Woodbury University, Caltech, CalArts, UCLA, UCSD, and USC. ♦

TAKING THE SHOWS ON THE ROAD

CLUI EXHIBITS ELSEWHERE



Large format photographs from the CLUI were featured in an exhibition curated by Charles Hood, called *Dirt and Other Poetry*, shown at Antelope Valley College April 18-May 6, 2011. Juxtaposed next to each image from the series *Ground Up: Images of the Ground in the Margins of Los Angeles* were quotes about dirt selected by Mr. Hood, by writers such as William Bryant Logan (*Dirt: the Ecstatic Skin of the Earth*), David R. Montgomery (*Dirt: The Erosion of Civilizations*), as well as John McPhee, William Faulkner, Oscar Wilde, Walt Whitman, and Chuck Close. CLUI photo

CLUI EXHIBITS AND PROJECTS OFTEN travel to other locations. Sometimes too projects are commissioned for other venues and other contexts, or are developed with students as part of a pedagogical exercise, or exist in order to explore some new idea on an experimental or provisional basis.

Internationally in 2011, CLUI exhibits were adapted and shown in Germany (at the Hartware MedienKunstVerein at Dortmunder University in Dortmund); in Barcelona, Spain (at the Centre d'Arts Contemporànics), in Brazil (at the 8th Bienal do Mercosul, in Porto Alegre), in the UK (at the Architecture Foundation, in London), and in New Zealand (at the Unitec Institute of Technology, in Auckland).

In Canada, the CLUI was invited to work with students at the Yukon School of Visual Arts, at Dawson City. Led by their teacher, Charles Stankieveh, the class looked at points of interest in their town, following the methodology of the CLUI, and the dominant regional themes of mining, historic interpretation, tourism, and first nations. The class produced an exhibition of their work, and a 44-page publication called *Dawson City: Mining the Interpretive Realm of the Klondike* that serves as guidebook to points of interest in the region. The project was directed remotely, via telephone conferences between Culver City and Dawson City (as were other projects in the *Over the Wire* series, which has included projects with Gary Hill, Lawrence Wiener and Iain Baxter).

In the United States, CLUI exhibits and photographs were shown at a variety of venues, including at the Museum of Contemporary Photography in Chicago (as part of an exhibition called *Public Works*), and in the subways and buses of the Los Angeles public transportation system. On November 17, an excerpt from the CLUI's *Through the Grapevine Landscan* screened on Los Angeles Metro buses all day during the last 5 minutes of every hour, as part of the program *Out the Window*, and the CLUI program *You Are/ Are Not Here* is still on display in the Normandie/Wilshire Metro Station.

Between March 10 and July 3, 2011, a collection of CLUI photographs was featured in an exhibit at the Utah Museum of Fine Art in Salt Lake City. The exhibit, called *The Smithsonian Effect*, curated by Jill Dawsey, explored the influence of the artist Robert Smithson (maker of nearby *Spiral Jetty*), and was the most ambitious contemporary art exhibition ever organized by the Museum. It included works by Vik Muniz, Tacita Dean, Lee Renaldo, and 19 others. On April 2, CLUI Director Matthew Coolidge presented a talk and participated in a discussion with Sam Durant, Melanie Smith, and Jill Dawsey.

The collection of CLUI images assembled for the exhibit depicted views and features of the marshland at the margins of the Great Salt Lake as viewed from approaching and departing commercial aircraft flying in and out of Salt Lake City International Airport. None of the CLUI images, all taken out the window over the past ten years, were adjusted in any way except to fit them to the frame of the large LCD screen on which they were shown in a continuous loop. The point was to show what anyone with even a rudimentary digital camera would see and could photograph flying in and out of the airport.

The project expands on Robert Smithson's unrealized proposals for the Dallas-Fort Worth Regional Airport in 1966. He imagined making a landscape of shaped forms beyond the runways to be seen from the air by passengers flying in and out of the airport, and made drawings that described things like "Wandering Earth Mounds and Gravel Paths." The CLUI photographs suggest that this type of aesthetic experience exists, fully realized, in the landscape under the northern path of commercial traffic at Salt Lake City International Airport, where a complex network of pools, paths, channels, mounds and swaths exist in a scale-less, gossamer fringescape, the evolving outcome of the inextricable interaction between man-made constructions and non-human forces. ♦

BOB CASSILLY 1949-2011



BOB CASSILLY DIED THIS FALL, in his bulldozer. The creator of Cementland and the City Museum in St. Louis, he was among the great visionary builders of the post-post-post era. He applied his ideas to the physical world, despite all the good reasons not to. He renewed the hope that America might not be as constrained as it seems to be, and showed that the script of the landscape could be scratched-out and rewritten. He leaves those in his wake astounded, confounded and inspired. ♦

BOOK REVIEWS

BOOKS NEW TO THE SHELVES OF THE CLUI LIBRARY

Maphead: Charting the Wide, Weird World of Geography Wonks, by Ken Jennings, Scribner, 2011

Beyond the anecdotal talk about geography bees and map collectors is an interesting overview of systematic travelers, place collectors and checklists, such as the Travelers Century Club, High Pointers, roadgeeks, and the guy that visited 8,480 Starbucks in North America. The best parts of the book are the chapters that look at the info-spatial recreational activities that GPS and internet have enabled, like geocaching, and the Degree Confluence Project. Written by a Jeopardy champion, the book is peppered with historical references, factoids, as well as numerous thoughtful linkages, regarding the earth as a plaything, mostly.

The Big Roads: The Untold Story of the Engineers, Visionaries, and Trailblazers who Created the American Superhighways, by Earl Swift, Houghton Mifflin, 2011

An accessible history of the people, politics, and process of building the Interstate system and the first transcontinental roads in the USA, starting with the often overlooked influence of Carl Fisher, the cyclist and racer from Indianapolis, who personally paid for some of the early roads in the west. These “good road” proponents, along with the driven federal road bureaucrats and engineers of the 1920s to 1950s—Thomas MacDonald, chief of the Bureau of Public Roads and his associates Herbert Fairbank and Frank Turner—are largely responsible for the way America looks today. Their story is ours.

Altered Landscapes: Photographs of a Changing Environment, Edited by Ann M. Wolfe, Rizzoli, 2011

The Nevada Museum of Art first published *The Altered Landscape* in 1999, and it altered the landscape of landscape photography. This new book, published in 2011, to accompany an epic exhibition, shows that the museum has been busy in the intervening years, acquiring images by dozens of contemporary photographers, such as Michael Light, David Maisel, Ed Burtynsky, Victoria Sambunaris, Robert Volt, and Kim Stringfellow. The book, much bolder than its early counterpart, is peppered with text and short essays, one of which asks, “At what point does it become redundant to refer to something as an altered landscape?” Indeed!

On the Grid: A Plot of Land, an Average Neighborhood, and the Systems That Make Our World Work, by Scott Huler, Rodale, 2010

The author examines the physical connections between his house in Raleigh, North Carolina, and the rest of the community and the landscape: where does the garbage go, how does the water come in and from where, how the sewer lines work, electricity, internet, land ownership, transportation—what is generally called “civil engineering” and infrastructure, but which is really the mechanics of our existence. This should be what everyone is required to learn in school, a new and relevant “home economics.”

Physics on the Fringe: Smoke Rings, Circlons, and Alternative Theories of Everything, by Margaret Wertheim, Walker Press, 2011

When it comes to the more esoteric reaches of physical theory, most people defer to the established ideas of experts, like scientists or gods. Consensus reigns in this realm where the tiniest deviation can have cascading effects. This is hardly a favorable environment for diversity. New ideas are assailed, like white blood cells attacking bacteria. The few outsiders, people who become outspoken experts on their *own* theories, are generally worse than ignored. This book by the co-

founder of the Institute For Figuring serves as a delicately curated and selectively porous membrane between the physics of the establishment and the rest of the world. Since most of us live in the rest of the world, I guess we are outsiders too.

Sidewalks: Conflict and Negotiation Over Public Space, by Anastasia Loukaitou-Sideris and Renia Ehrenfeucht, MIT Press, 2009. This academic book looks at sidewalks, the pedestrian connective tissue of urban space. It lays the groundwork for more accessible and compelling stories that will no doubt come in the future.

The Devil's Punchbowl: A Cultural & Geographic Map of California Today, edited by Kate Gale and Veronique de Turenne, Red Hen Press, 2010

This refreshing and at times startling collection of place-based short tall tales of contemporary California is an articulate, idiosyncratic, and encyclopedic portrait of this idiosyncratic and encyclopedic state.

Cities Under Siege: The New Military Urbanism, by Stephen Graham, Verso Press, 2010

The scenario depicted here of the global military security state, its control-centered all-seeing eyes, and video-endgame preparedness, is apt and compelling, and leaves you feeling vanquished or strident, half empty or half full.

Geologic City: A Field Guide to the Geoarchitecture of New York, by Smudge Studio, 2011

A small and intriguing booklet describing twenty sites in New York City selected to represent different elements of terrestrial geologic time and space, from the inverted limestone quarry of Rockefeller Center, known as “The Rock,” to the mounds of Chilean salt barged in from South America to dissolve the city’s winter ice. More of this please!

Warhol's Dream, by Saul Anton, JRP/Ringier & les Presses du Réel, 2007

A book-length rambling dialog between the artists Robert Smithson and Andy Warhol, as they amble around Manhattan. It, of course, is all made up by the author, Saul Anton, an art theory writer, and ends up being mostly about him, not the subject, like most fiction. But its an interesting exercise which does make you wonder what might have been said between these two different and not so different people.

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