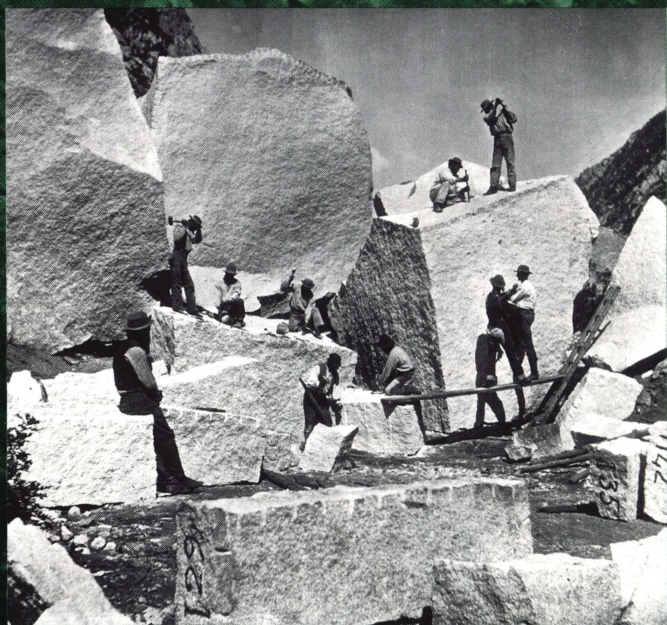
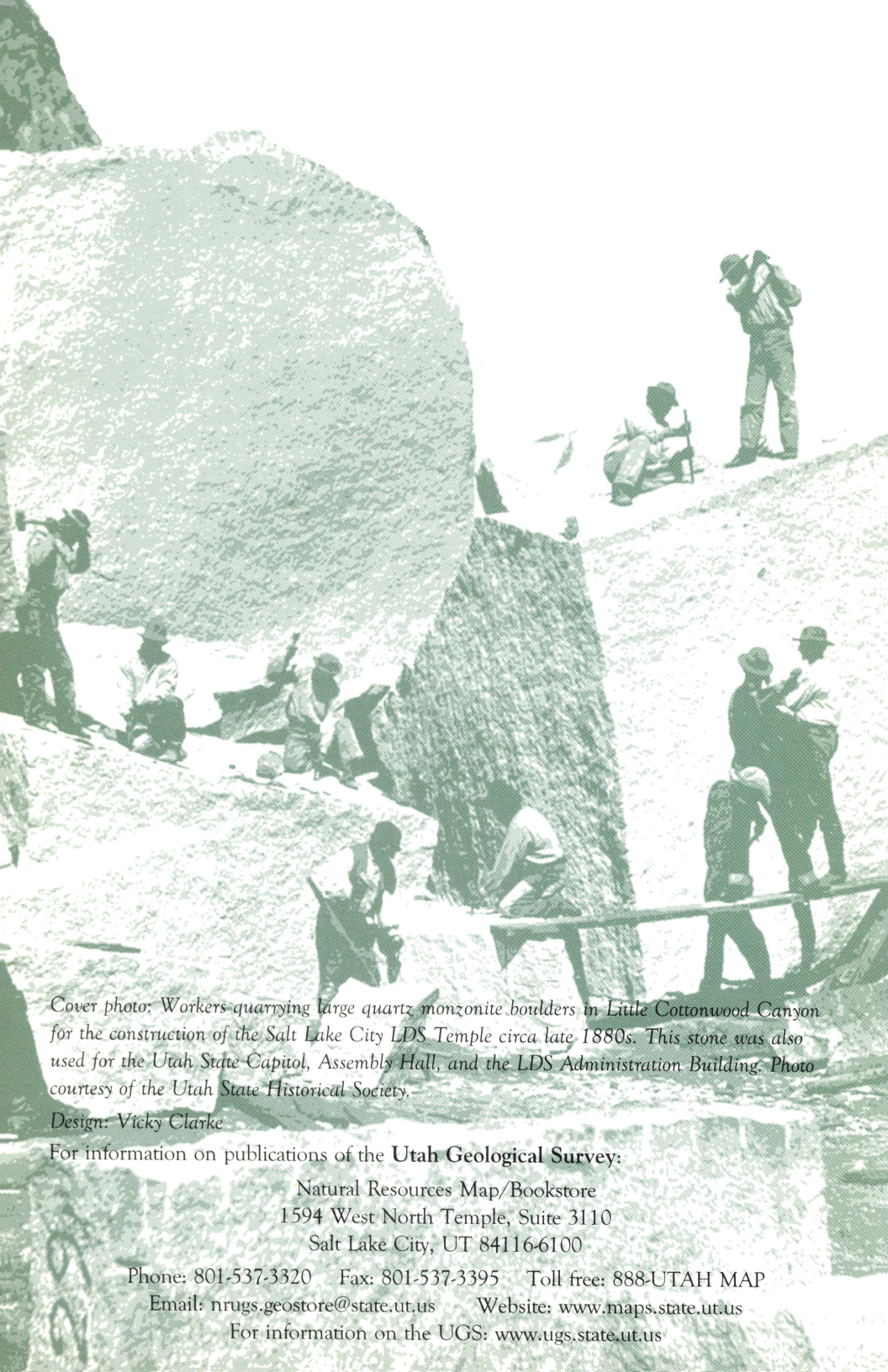


BUILDING STONES OF DOWNTOWN SALT LAKE CITY



A WALKING TOUR

by Christine M. Wilkerson



Cover photo: Workers quarrying large quartz monzonite boulders in Little Cottonwood Canyon for the construction of the Salt Lake City LDS Temple circa late 1880s. This stone was also used for the Utah State Capitol, Assembly Hall, and the LDS Administration Building. Photo courtesy of the Utah State Historical Society.

Design: Vicky Clarke

For information on publications of the **Utah Geological Survey:**

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BUILDING STONES OF DOWNTOWN SALT LAKE CITY

A Walking Tour

What is building stone?

Well, as you might have guessed, building stone is rock that is used in the construction of buildings, retaining walls, bridges, and other structures and includes building components such as walls, foundations, sills, chimneys, and steps. The most desirable building stones have a combination of strength; durability; beauty; and ease of quarrying, cutting, and carving.

What kinds of stones are used?

Varieties of all three rock types - sedimentary, igneous, and metamorphic - are used as building stones.

Sedimentary rocks are extremely varied, differing in color, texture, and composition. Some like sandstone are composed of sediments eroded from previously existing rocks, while others such as limestone are composed of sediments precipitated from dissolved materials. These sediments are deposited in layers which, over time (a very *long* time), are compacted and cemented together. Travertine and other compact varieties of limestone are classified as marble (see metamorphic rocks) by the building stone industry. In Utah, sandstone and limestone have been quarried since pioneer days and are the most frequently used sedimentary building stones.

Igneous rocks are formed from magmas, which are molten mixtures of minerals found deep below the earth's surface. Some igneous rocks cool and harden deep underground (granite, quartz monzonite, and diorite) and may later be exposed by erosion, whereas others reach the surface as basaltic lava flows and other volcanic deposits (such as rhyolite). Due to its strength, durability, and capability of being quarried in large massive blocks, granite has historically been used for imposing government and religious structures. Lava with interesting textures and rhyolite with intricate color banding are frequently used as building veneers.

Metamorphic rocks formed from pre-existing rocks that were altered by high heat, pressure, and/or the chemical actions of fluids and gases. Some common metamorphic building stones are quartzite (altered sandstone), marble (altered limestone), slate (altered shale), and granitic gneiss (altered granite; gneiss is pronounced "nice").

What building stones will I see on my tour of downtown Salt Lake City?

(Trade name in *italics*; stone quarried in Utah unless indicated otherwise; year of construction follows building name)

SEDIMENTARY BUILDING STONES

Sandstone:

Nugget Sandstone

Council Hall, 1864-1866
204 North State Street, 1890
McCune Mansion, 1901
LDS* Tabernacle, 1863-1867
Lion House, 1856
Social Hall, 1852
Utah Commercial and Savings Bank,
1888-1890

Kyne sandstone/Colton Formation

Alta Club, 1897-98
McCormick Building, 1890
David Keith Building, 1902
Frank E. Moss Courthouse, original
building, 1903-1906
Salt Lake City and County Building,
1892-1894

Limestone:

Sanpete oolitic limestone/Green River Formation

State Capitol-interior, 1913-1915
Hansen Planetarium, 1905

Birdseye marble/Flagstaff limestone

State Capitol-interior, 1913-1915
LDS* Administration Building
interior, 1914-1917

Travertine or Onyx Marble/limestone

State Capitol-interior, 1913-1915
LDS* Administration Building
interior, 1914-1917
115 South Main Street, 1963

IGNEOUS BUILDING STONES

Granite:

Town Mountain Granite (Texas)

One Utah Center, 1992

Rockville White Granite/Rockville Granite (Minnesota)

American Stores Tower, 1998

Diorite:

Academy Black Granite/Knowles

Granodiorite (California)

American Stores Tower, 1998

Quartz Monzonite:

Little Cottonwood stock

State Capitol, 1913-1915
LDS* Temple, 1853-1893
Assembly Hall, 1877-1882
LDS* Administration Building,
1914-1917

METAMORPHIC BUILDING STONES

Quartzite:

Quartzite of Clarks Basin

Cabana Club, 1940 (1950s)

Elba Quartzite

Cabana Club, 1940 (1950s)

Gartra Grit Member of Ankareh Formation

LDS* Tabernacle, 1863-1867

Marble:

Murphy Marble (Georgia)

State Capitol-interior, 1913-1915

Hualien Jade (Taiwan)

ZCMI Center Mall, renovation 1991

Breccia Oniciata (Italy)

ZCMI Center Mall, renovation 1991

Crema Marfil (Spain)**

ZCMI Center Mall, renovation 1991

*Church of Jesus Christ of Latter-day Saints

**Might be a limestone.

How old are these rocks?

On this tour, you will see building stones ranging in age between the 2.5 billion-year-old, Precambrian-age *Cold Spring Black Granite* to the geologically young, Quaternary-age travertine.

AGE	PERIOD	EPOCH	Millions of years ago	BUILDING STONE
Cenozoic	Quarternary	Holocene	10,000 years ago	? Italian travertine
		Pleistocene	1.6	
	Tertiary	Pliocene	5	
		Miocene	24	
		Oligocene	38	Little Cottonwood stock
		Eocene	55	Sanpete oolitic limestone / Green River Formation Kyune sandstone / Colton Formation
		Paleocene	66	Birdseye marble / Flagstaff Limestone
		Mesozoic	Cretaceous	
Jurassic			205	Nugget Sandstone
Triassic			240	Gartra Grit Member
Paleozoic	Permian		290	
	Pennsylvanian		330	
	Mississippian		360	
	Devonian		410	
	Silurian		435	
	Ordovician		500	
	Cambrian		570	Murphy Marble Quartzite of Clarks Basin
	Precambrian		4500+	Elba Quartzite Town Mountain Granite Rockville White Granite / Rockville Granite Cold Spring Black Granite

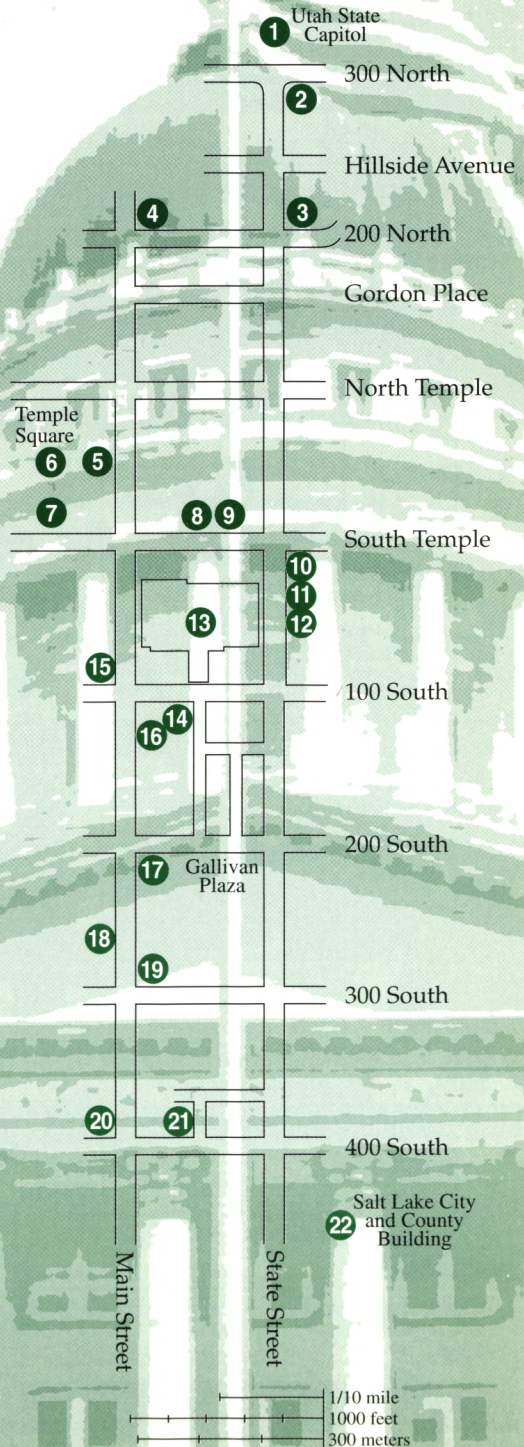
Building Stone Walking Tour

This walking tour begins at the Utah State Capitol and finishes at the Salt Lake City and County Building, seven blocks to the south. Each building stone stop is numbered and described. Please respect private property, refrain from jaywalking, and remember **NO ROCK COLLECTING!!**

The Utah Transit Authority (UTA) has free bus service (Bus #23) to and from the downtown area and the Capitol building, Monday through Saturday (no service on Sunday or holidays). Contact the UTA at BUS-INFO (287-4636) for information on bus stops and time schedules. You should also be able to pick up a schedule at the Utah State Capitol, Council Hall, or the ZCMI Center Mall.

Building Stone Stops

1. Utah State Capitol
2. Council Hall
3. 204 North State Street
4. McCune Mansion
5. Salt Lake City LDS Temple
6. LDS Tabernacle
7. Assembly Hall
8. LDS Administration Building
9. Lion House
10. The Alta Club
11. Hansen Planetarium/Old Salt Lake City Public Library
12. Social Hall
13. ZCMI Center Mall
14. Utah Commercial and Savings Bank Building
15. McCormick Building
16. 115 South Main Street
17. One Utah Center
18. David Keith Building
19. American Stores Tower
20. Frank E. Moss United States Courthouse
21. Cabana Club
22. Salt Lake City and County Building



1. Utah State Capitol

Capitol Hill

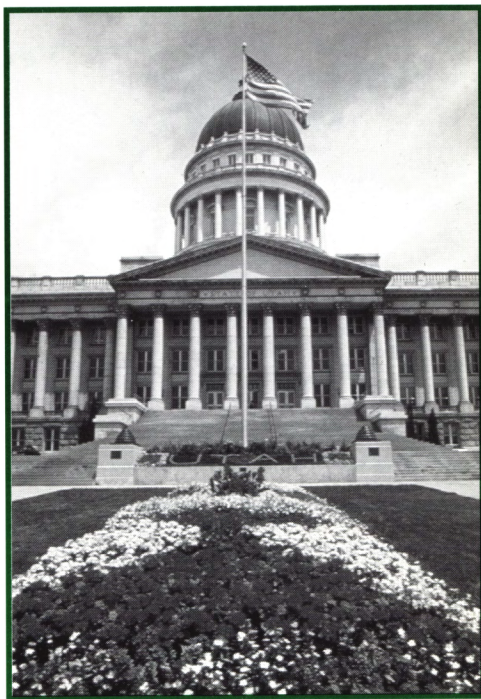
Utah's Capitol building was built between 1913 and 1915, almost 20 years after Utah achieved statehood in 1896. Eight hundred railroad carloads of quartz monzonite (a granite-like stone) from the Little Cottonwood stock in Little Cottonwood Canyon, Salt Lake County were used for the exterior. Quartz monzonite is very similar to granite but has a different ratio of quartz to feldspar minerals (granite contains more quartz). The Little Cottonwood stock was intruded deep within the earth between 24 and 31 million years ago (during the Oligocene Epoch). Beginning roughly 15 million years ago, the Wasatch Range was gradually uplifted and the quartz monzonite was exposed as the overlying rocks were eroded away.

Other Utah stones were used extensively throughout the Capitol's interior. The Gold Room, the Supreme Court Chamber, and the House of Representatives are decorated with

Birdseye marble, quarried in the Thistle area of Utah County. The attractive brown to golden-brown Birdseye marble is actually a limestone unusually rich in oncolites (small, rounded concretions formed by lime-secreting algae). This limestone is part of the Flagstaff Limestone formation deposited in the freshwater Paleocene-age (66 to 55 million years old) Lake Flagstaff.

Travertine quarried 4 miles south of Low in the Cedar Mountains of Tooele County, adorns the main vestibule and Senate Chamber. This beige and cream-colored travertine has either a banded or cloudy appearance. It crops out in large veins within the Pennsylvanian/Permian-age Oquirrh Formation (330 to 240 million years old). The travertine probably started forming during the Basin-and-Range extension in Utah and Nevada, which began roughly 15 million years ago and continues today. Travertine is a finely crystalline limestone formed by the precipitation of calcium carbonate around hot springs, in caves, near waterfalls, and from cold-water solutions. This travertine has also been called onyx ("ON-ix") marble. Onyx marble is a dense, usually banded variety of travertine precipitated from cold-water solutions. True onyx is a parallel-banded form of chalcedony, a compact variety of quartz.

Since Birdseye marble and travertine are capable of being polished, they are classified as



The Utah State Capitol is built of quartz monzonite quarried in Little Cottonwood Canyon, located 20 miles to the southeast in the Wasatch Range. Photo by Frank Jensen, courtesy of the Utah Travel Council.



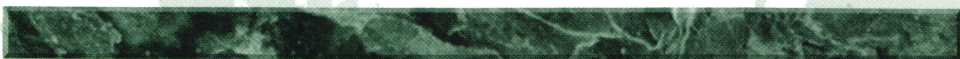
The last quartz monzonite stone used in the construction of the Utah State Capitol was delivered directly to the Capitol from Little Cottonwood Canyon on February 11, 1915 by a railroad line built to transport construction materials to Capitol Hill. Photo courtesy of the Utah State Historical Society.

marble by the building stone industry, but to geologists they are considered varieties of limestone. True marble is limestone that has been metamorphosed or recrystallized.

The walls and corridors of the Capitol's ground floor, although they have been plastered over, were constructed of white Sanpete oolitic limestone quarried east of Ephraim in Sanpete County (see Hansen Planetarium, p. 15, for more information on this limestone). Because it was less expensive, gray Georgia marble (Murphy Marble) was used for the floors, walls, stairs, and columns of the interior rotunda. Quarried in the Tate area of north-central Georgia, this Cambrian-age (570 to 500 million years old) marble was originally deposited as carbonate sediment along an ancient barrier reef.

The Capitol sits on roughly 40 acres of landscaped grounds that are maintained as a public park. The Capitol is open daily from 6:00 a.m. to 6:00 p.m.; guided tours are provided every half hour from 9:00 a.m. to 4:00 p.m. weekdays.

Cross 300 North in front (south) of the Capitol to Council Hall



2. Council Hall

300 North State Street

Formerly the old Salt Lake City Hall, this building was constructed in 1864-66 with the reddish-brown Nugget Sandstone. This sandstone was quarried in Red Butte Canyon located on the northeastern edge of the Salt Lake Valley and brought down on railroad flat cars (the railroad spur was removed years ago). The Nugget Sandstone in northern Utah and the Navajo Sandstone of southern and eastern Utah were part of a large sand dune field that covered almost all of Utah during the Early Jurassic Period (208 to 187 million years ago).

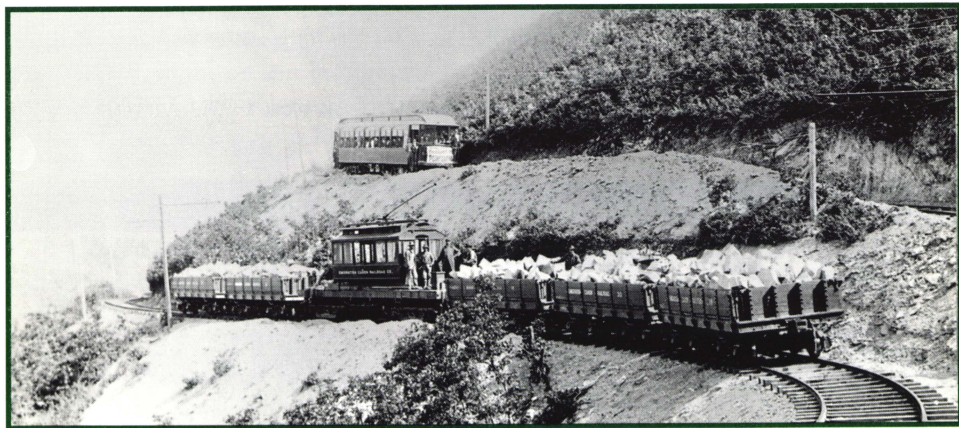
The Salt Lake Fire Crew lined up in front of City Hall (now Council Hall) in the 1880s at its original location on the southeast corner of 100 South and State Street. The octagonal clock tower contained a fire alarm bell. This building was constructed of Nugget Sandstone quarried in Red Butte Canyon, Salt Lake County and was moved to its present location in 1961-62. Photo courtesy of Utah State Historical Society.



This building housed offices of the Salt Lake City government and meetings of the Territorial Legislature for nearly 30 years. Initially located on the southeast corner of 100 South and State Street, it was dismantled stone by stone and reconstructed at its present site in 1961-62. The original octagonal clock tower contained a fire alarm bell.

Today, Council Hall is home to the Utah Travel Council and the Utah Tourism and Recreation Information Center which provide information on Utah's public lands and tourist attractions. Council Hall is open Monday through Friday 8:00 a.m. to 6:00 p.m.; Saturday, Sunday, and holidays 10:00 a.m. to 5:00 p.m.

As you continue south down the east (left) side of State Street, notice the use of local Nugget Sandstone for steps, retaining walls, and basements built in the early 1890s to early 1900s (especially at 214, 204, and across the street at 225 North).



Stone (possibly Nugget Sandstone) being transported by Emigration Canyon Railway Company to the Salt Lake Valley, July 1909. Photo courtesy of the Utah State Historical Society.

3. 204 North State Street

In 1890, Charles C. and Millicent Godbe Brooks constructed a 2½-story home on this site (sometime later a third story was added). Charles Brooks, a mining engineer from New York, was appointed U.S. Deputy Mineral Surveyor for Utah, became the Salt Lake County Surveyor for two years, and sat on the Salt Lake County Board of Public Works. From 1888 to 1891 he surveyed the Salt Lake County's sewer system. Millicent Brooks was the daughter of William Godbe, founder of the Godbeite movement (a group which broke away from the LDS Church in the late 1860s and early 1870s).

The ground floor, stone wall, and steps were built of Nugget Sandstone, the second floor is brick, and the upper floors are wood covered with shingles. If you look closely at the front edge of some of the stone steps, you will be able to see curved lines, or cross-bedding, in the stone. These formed when winds lifted the sand grains off the windward slope of a sand dune and then dropped them on the leeward side.

Cross-beds, created by changing wind directions when these sediments were part of a large sand dune field, can be seen on the front edge of these Nugget Sandstone steps located at 204 North State Street.



Turn west (right) on 200 North and continue one block west to the McCune Mansion.

4. McCune Mansion

200 North Main Street

Alfred and Elizabeth McCune desired a 'bungalow' that would be simple, comfortable, and convenient that they could live in and enjoy. To accomplish this, they financed a two-year tour of the United States and Europe for architect S.C. Dallas to study architectural styles and techniques before drawing up the plans. Two existing homes were cleared off the hill-



The magnificent McCune Mansion was built in 1901 of local reddish-brown Nugget Sandstone, dark red brick, and roof tiles from Holland.

side and the finest materials were imported for the interior: rare European and South American oak and mahogany; African and Italian marble; Utah onyx marble; European silks, brocades, and wool tapestry; and Russian leather. Construction of the home was completed in 1901. The exterior finish is dark red brick with Nugget Sandstone trimmings and base, and a dark reddish-brown roof of tiles from Holland. (Not exactly my definition of a bungalow!)

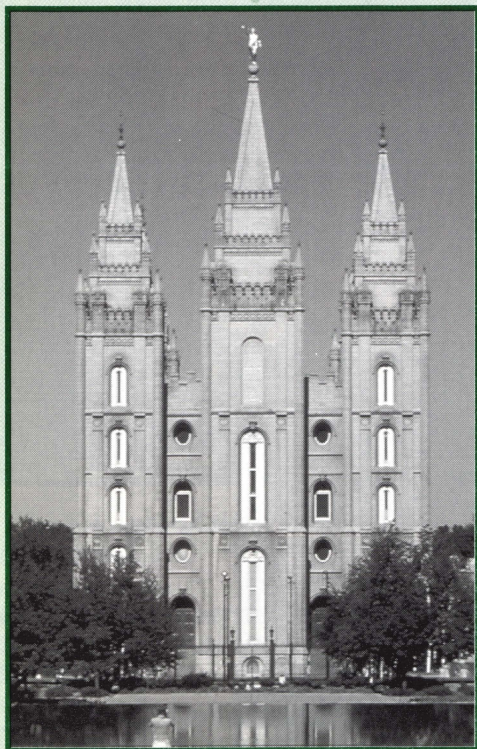
The Nugget Sandstone used for the house, steps, and surrounding walls was quarried near the Salt Lake Valley, probably in either Red Butte Canyon or Emigration Canyon in the Wasatch Range. The beautiful red color of this rock is caused by hematite, an iron oxide (rust) mineral, in the cement between the sand grains. It only takes a small amount of hematite to give strong color to a rock formation. These stones contain more hematite and therefore have a darker red color than the stones of Council Hall.

Iron is a very effective and abundant pigment. Depending on its chemical state and combinations, iron may color rock red, brown, black, gray, yellow, or green. Other elements that create colorful rocks are manganese which produces purple, black, red, and brown; carbon which yields black; and copper which gives green.

Turn south down Main Street and enter Temple Square at the North Temple gates. Temple Square is open daily from 9:00 a.m. to 9:00 p.m., winter and 8:00 a.m. to 10:00 p.m., summer; tours begin every 5-10 minutes at the flagpole in the center of the square.

5. Salt Lake City LDS Temple

Temple Square



The gray, granite-like stone (quartz monzonite) used to build the cathedral-like Salt Lake City LDS Temple was quarried at the mouth of Little Cottonwood Canyon, about 20 miles to the southeast in the Wasatch Range. Temple construction began in 1853, six years after the first influx of Mormon pioneers (members of the LDS Church) entered the Salt Lake Valley, and was completed 40 years later in 1893. Workmen cut the stone from enormous boulders at the base of Little Cottonwood Canyon and initially hauled the three-ton blocks from the canyon to the temple site by ox teams, making the trip in three to five days. The blocks later traveled by rail cars after completion of the railroad and a branch track to the quarry in 1873.

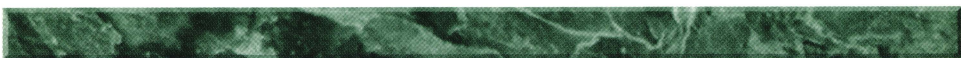
The Salt Lake City LDS Temple was constructed between 1853 and 1893 of quartz monzonite from the Little Cottonwood stock in Little Cottonwood Canyon. Photo courtesy of the Utah Travel Council.



Stone masons working on quartz monzonite blocks used in the construction of the LDS Temple, 1874. The LDS Tabernacle is in the background. Photo courtesy of the Utah State Historical Society.

Inspired by LDS scripture, carved religious symbols and inscriptions encircle the temple, including moon-stones, sun-stones, earth-stones, cloud-stones, star-stones, and the all-seeing eye and the clasped-hand motifs. Seven stars depicting the constellation Ursa Major (the Big Dipper) are carved on the west center tower.

Only the recommended faithful of the LDS church can enter the temple, and only by an underground tunnel from the Temple Annex, the building located north of the temple. The main temple doors are sealed awaiting Jesus' second coming.



6. LDS Tabernacle

Temple Square

The Tabernacle's elliptical dome rests on 44 sandstone columns surrounding the building. These columns are composed mostly of reddish-brown Nugget Sandstone with some light gray to lavender, occasionally pebbly, stone from the Gartra Grit Member of the Ankareh Formation. Both stones were quarried in Red Butte Canyon where the Nugget Sandstone overlies the Late Triassic-age (230 to 208 million years old) Ankareh Formation. The pebbles and sand that became the coarse-grained quartzite of the Gartra Grit Member were probably eroded from highlands that were previously located to the south, east, and south-east.

Constructed between 1863 and 1867, the Tabernacle is covered by a unique, wooden lattice truss roof. When built, it was considered a spectacular engineering achievement, setting a record for the size of an open assembly space without interior supporting pillars. The building has remarkable acoustical qualities and an enormous organ containing over 11,000 pipes. The world-famous Mormon Tabernacle Choir performs and rehearses here every week.

Pebbles up to roughly 1 inch long can be found in some of the stones that make up the columns supporting the LDS Tabernacle's roof. This stone is from the Gartra Grit Member of the Ankareh Formation quarried in Red Butte Canyon near Salt Lake City.

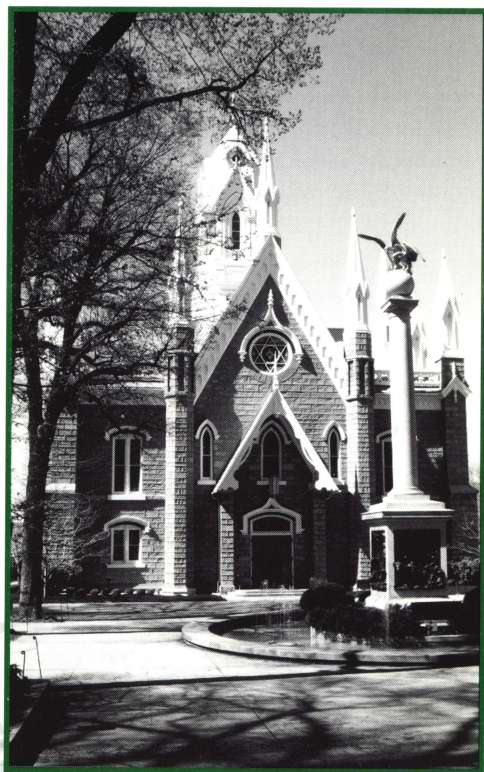


7. Assembly Hall

Temple Square

This attractive building was constructed between 1877 and 1882 using discarded stone from the temple construction. The roughness and irregularities of the quartz monzonite give the building its rustic exterior finish. Its open interior arrangement is similar to that of the Tabernacle and includes a baroque pipe organ. This building is used for LDS church meetings and public concerts and lectures.

Quartz monzonite and other granitic rocks were formed by crystallization during cooling of a hot molten mass, or magma. This molten material originally rose from great depths and intruded the rocks in the upper part of the earth's crust. As the material slowly cooled and hardened, crystals of quartz, feldspar, mica, and other minerals formed. These crystals are interlocked and held together like the pieces of a complex 3-D puzzle. The slower the magma cooled, the larger the crystals grew.



Assembly Hall was built between 1877 and 1882 with quartz monzonite left over from the temple construction.

Exit Temple Square through the south gates, turn east (left) on South Temple.

8. LDS Administration Building

47 East South Temple

The LDS Administration Building houses offices of Mormon church officers and their staffs. Only church officials and their guests are allowed entry. This building was constructed between 1914 and 1917 of quartz monzonite from the same quarry in Little Cottonwood Canyon as the stone used for Utah's State Capitol and the nearby LDS Temple. Its impressive columns weigh 8 tons each.

The Mt. Nebo Marble company supplied marble and travertine for the interior of the

Administration Building. The company quarried Birdseye marble in the Thistle area of Utah County, and travertine and onyx marble at Pelican Point near Utah Lake in Utah County and in the Cedar Mountains of Tooele County (see Capitol, p. 5).

9. Lion House

63 East South Temple



The Lion House (left) was a communal residence for Brigham Young, his wives, and their children. The enclosed porch along the west side and the surrounding stone walls were removed long ago. This photo was taken in the 1860s. Photo courtesy of the Utah State Historical Society.

The front and basement level (ground floor on the west side) of the Lion House were built with pinkish-brown, rough-hewn Nugget Sandstone from the Red Butte quarry. A reclining, pale brown sandstone lion, from which the building received its name, sits on the portico over the front entrance. Nugget Sandstone varies in color from gray through yellow, brown, buff, and pink to red depending on the amount of hematite (iron oxide, rust) in the cement between the sand grains.

The Lion House was built in 1856 as a communal residence for the numerous wives and children of LDS church leader and polygamist Brigham Young. The basement contained the weaving room, dairy room, laundry room, kitchen, and a dining room capable of seating seventy. The main floor had a large parlor and individual rooms for wives with young children. The upper floor housed older children and some of the childless wives. A long enclosed porch once ran along the west side where the children roller-skated, exercised on gymnastic equipment, and took music, dancing, and fencing lessons.

Today, The Pantry, a cafeteria-style restaurant offering home-cooked recipes and pioneer ambiance, is located on the ground floor; call 363-LION for operating hours.

Cross both State Street and South Temple; the Alta Club is located on the southeast corner of this intersection.

10. The Alta Club

100 East South Temple



The Alta Club as it appeared in 1905 before its expansion in 1910. It was constructed of Kyune sandstone from Utah and limestone from Montana. Photo courtesy of the Utah State Historical Society.

This building was constructed in 1897-98. The lower portion was built of rough-hewn Kyune sandstone quarried about 5 miles northeast of Colton in Utah County. This gray sandstone is part of the Eocene-age (55 to 38 million years old) Colton Formation and is composed of sediments deposited in a deltaic river system. The upper portion was built of grayish-brown Montana limestone. Limestone, which occurs throughout the world in every geologic time period, is composed chiefly of calcium carbonate, usually in the form of the mineral calcite. Most limestone is formed on the ocean floor, but limestone can also be deposited in lakes, streams, and springs.

The Alta Club, founded in 1883, was the first private social club (for men only) in the city and at that time was considered the most prestigious and exclusive organization in the intermountain area. Originally Mormon men were banned from membership, but beginning in the early 1900s they were gradually admitted. It took a bit longer for women, but they were finally admitted as members in 1987. The Alta Club building was doubled in size in 1910 by the addition of an east wing along South Temple. At that time the main entrance was moved to South Temple and the State Street entry became the women's only guest entrance with a women's stairway leading to the main dining room. Today both men and women are welcomed through the main entrance.

11. Hansen Planetarium/ Old Salt Lake City Public Library

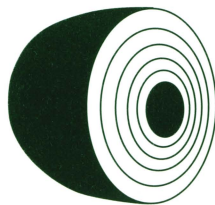
15 South State Street

The Hansen Planetarium was built in 1905 of Sanpete oolitic limestone from the Green River Formation, quarried east of Ephraim in Sanpete County along the base of the Wasatch Plateau. This unique limestone was deposited during the Eocene Epoch (55 to 38 million years ago) in a large freshwater lake and is composed of tiny oolites. An oolite is a small, rounded grain, made up of concentric layers of calcium carbonate that precipitated around a nucleus, usually a mineral fragment or small shell. Oolites form in shallow, wave-agitated water, gradually accumulating more and more layers.

This decorative building originally housed the Salt Lake City Public Library and included a children's library and a small auditorium for meetings of the League of Women Voters and fine arts organizations. Mining millionaire John Quackenbos Packard donated both the site and the construction funds provided that the city would maintain and keep it as a library. In 1964 the library outgrew its space and was moved to its present location east of the City and County Building. The old library building now lodges the Hansen Planetarium and includes a space science library.

Sanpete oolitic limestone was also used for the Kearns Mansion at 603 East South Temple (also known as the Governor's Mansion) and for the intricately carved facade of Hearst Castle at San Simeon, California.

The Hansen Planetarium is open Monday through Thursday, 9:30 a.m. to 9:00 p.m., Friday and Saturday, 9:30 a.m. to midnight, and Sunday, 12:30 p.m. to 6:00 p.m. Call 538-2098 for information about star shows and other events.



An oolite cross section depicting an onion-like structure of calcium-carbonate layers surrounding a tiny shell or mineral fragment.



Now housing the Hansen Planetarium, this building originally housed the Salt Lake City Public Library. It was constructed in 1905 with oolitic limestone from the Green River Formation.



Oolitic limestone being quarried and shipped from a quarry near Ephraim in Sanpete County. (Unknown date, possibly early 1900s.) Photo courtesy of the Utah State Historical Society.

Continue south down State Street to the glass-enclosed Social Hall Heritage Museum. Enter and descend to the lower level. (On Sundays, both the Social Hall Heritage Museum (#12) and the ZCMI Center Mall (#13) are closed. To skip these stops and reach the Utah Commercial and Savings Bank (#14), continue south along State Street to 100 South, cross to the southwest corner of the intersection, then walk west along 100 South until you reach 22 East 100 South.)

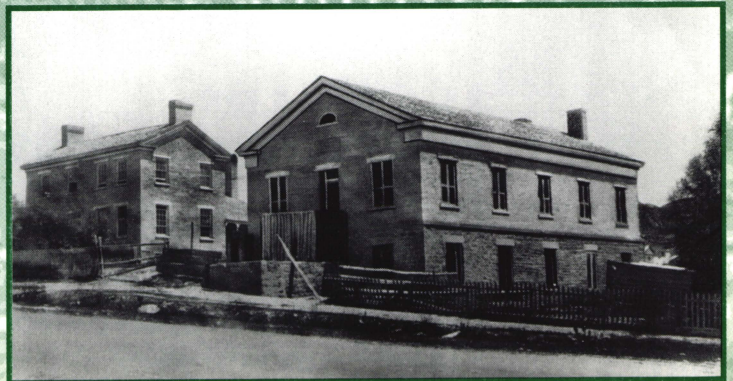


12. Social Hall

39 South State Street

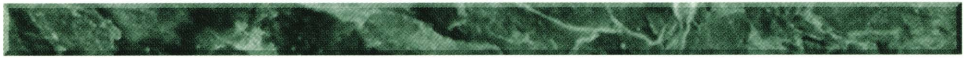
This glass-enclosed area contains all that is left of the original Social Hall building, a partial foundation of Nugget Sandstone and two stone ovens. Built in 1852 as an entertain-

In this early photo, you can see the Nugget Sandstone foundation of Social Hall (on right). This photo was taken before the front steps were completed (probably early 1850s). Photo courtesy of the Utah State Historical Society.



ment and cultural center, Social Hall was the first theater west of the Missouri River. Local drama associations and visiting performers took to the Social Hall stage. Mark Twain entertained here many times. Dances and banquets were also held here for the enjoyment of the early pioneers. Later, the building housed the Latter-day Saint College, now the LDS Business College located on South Temple. After 70 years of use the building was torn down in 1922.

After viewing the exhibits, use the underground walkway to cross State Street and enter the ZCMI Center Mall.



13. ZCMI Center Mall

36 South State Street

Zion's Cooperative Mercantile Institution (ZCMI), America's first department store, was organized in 1868 by the LDS Church in an effort to create a self-sufficient society and to limit the influence of non-Mormon merchants. Soon there were six wholesale outlets and 150 cooperative retail stores scattered throughout the territory. ZCMI moved to 15 South Main Street in 1876 and one hundred years later the ZCMI Center Mall opened its doors.

The ZCMI Center Mall was rejuvenated in 1991 with the addition of an open atrium food court at the South Temple entrance and redecorated center court, floors, and walls. The dark green marble floor tiles, "Hualien Jade" (trade name), were quarried in the mountains near Hua-lien, Taiwan. Hua-lien, dubbed the "City of Marble," is located on Taiwan's rugged east coast and is separated from the rest of the country by the Central Mountain Range. The cream and orangish-brown marble tiles, "Breccia Oniciata," set in the corners of the rectangles formed by the green tiles, were quarried in northern Italy. The beige and cream marble wall tiles, "Crema Marfil," were quarried in Spain.

Continue walking through the mall, turn left at the escalators and exit through the south doors. Cross 100 South and turn west (right).



14. Utah Commercial and Savings Bank Building

22 East 100 South

This beautiful structure is one of the earliest banking buildings still preserved in Utah. It was built between 1888 and 1890 by Francis Armstrong, Utah Commercial and Savings Bank founder and Salt Lake City mayor. The vivid red sandstone facade is Nugget Sandstone, quarried locally in nearby canyons. To provide contrast, the sandstone was

dressed in a variety of ways. Smooth, scored, and carved stone (leaf and basketweave designs) complements the rusticated stone.

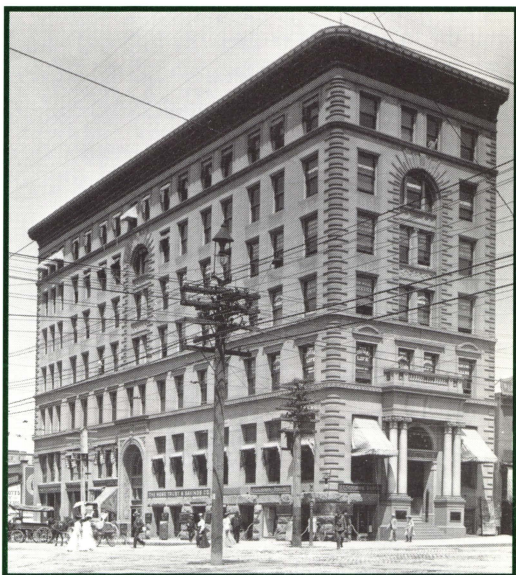
One of the striking features of this building is the distinctly different window styles on each floor. On the main floor, two large storefront windows with smaller rectangular transoms above flank the main entrance which is topped by a half-round window set within a carved stone arch. The second floor features a smooth stone arch over the center windows and rusticated stone arches around each of the side paired windows. On the top floor, the center windows are crowned by a carved arch embracing a stone globe while tripled rectangular windows are balanced on either side.

Continue to the corner and cross both 100 South and Main Street to reach the McCornick Building on the northwest corner.

15. McCornick Building

78 South Main Street

Built of Kyune sandstone and brick, this seven-story building was constructed between 1890 and 1893 for McCornick & Company. Easy to quarry and containing seams that allowed it to be extracted in large-sized blocks, Kyune sandstone was used extensively in Salt Lake City as a building stone in the late 1800s and early 1900s, especially for large buildings. Today, most of the Kyune sandstone veneer on this building's lower two floors is covered by a new veneer. The smooth stone facade of the upper floors has weathered much better than the rusticated Kyune sandstone of the Salt Lake City and County Building (p. 23). The 1890 eastern entrance is gone, but you can still see beautifully carved flowers, leaves, and squirrels surrounding the remaining southern entrance.



The McCornick Building in 1905 with its original eastern entrance still intact, was constructed of Kyune sandstone from the Colton Formation. Photo courtesy of the Utah State Historical Society.

Established in 1873 by William S. McCornick, McCornick & Company became the largest private bank between the Pacific Coast and the Missouri River. In his youth, William McCornick worked on his father's Canadian farm and then as a California ranch hand. He later became one of Utah's principal businessmen with interests in banking,

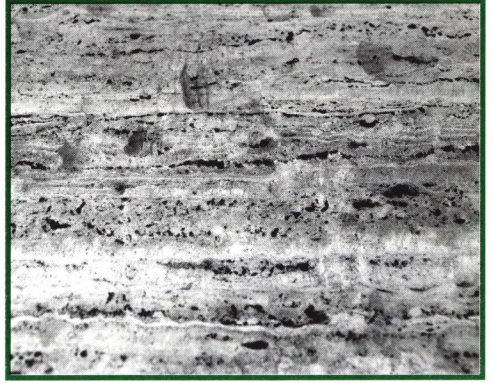
mining, and ranching, and in railroad, telephone, sugar, and electricity companies. He was also the first president of the Salt Lake City Chamber of Commerce and the Alta Club.

Return to the southeast corner of Main Street and 100 South. As you continue south down the eastern side of Main Street, you will see a variety of marble and granite veneers.



16. 115 South Main Street

Constructed in 1963, this building's facade is made of travertine. Travertine is a light-colored, finely crystalline limestone formed by the precipitation of calcium carbonate around hot springs, in caves, near waterfalls, or from cold-water solutions. A compact variety of travertine was used for the walls. The attractive travertine used on this building's large floor tiles and the wall panels within the basement light well displays parallel banding with a porous, frothy-looking appearance and darker bands formed by the concentration of impurities in the stone. This travertine was probably from Quaternary-age deposits located in central Italy.



This porous and banded travertine, a compact variety of limestone, is used as exterior floor and wall tiles at 115 South Main Street.

Continue south on Main Street and cross 200 South.



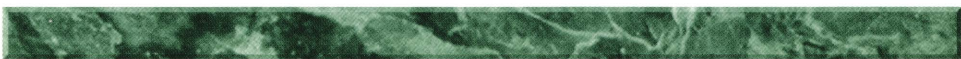
17. One Utah Center

201 South Main Street

The hue of the pink-colored granite facade on this building seems to vary from light pink to russet depending on lighting conditions and the angle of the sun. As you get closer you can see the large individual pink crystals of potassium feldspar. This granite was quarried at Granite Mountain near Marble Falls, Texas and is part of the Town Mountain Granite. This granite began as molten material that intruded the earth's crust about one billion years ago and then slowly cooled and hardened. Quarry operations at Granite Mountain began in 1882, and in 1885 the quarry owners donated 15,700 railroad carloads of granite to construct the Texas State Capitol in Austin.

East of this pyramid-topped building is the Gallivan Plaza, an open space within the city where people can relax and enjoy watching birds in the small aviary, playing chess, eating lunch on one of the many benches, attending lectures and concerts, sailing toy boats on the pond in summer, or ice skating in winter.

As you continue south on Main Street, glance across the street at the David Keith building.



18. David Keith Building

256 South Main Street

It's hard to miss this building with the large "David Keith" carved in stone near the top of the middle section. Constructed in 1902 and centered at that time in Salt Lake City's primary commercial district, this three-story brick and Kyune sandstone-faced building was designed for the Keith-O'Brien department store. In 1892, together with his good friend, Thomas Kearns, one of Utah's leading mining figures, David Keith developed the Silver King mine in Park City which produced over \$10 million in lead, silver, and gold. David Keith was also president of numerous banks, railroads, and clubs and a member of the legislature that adopted the Utah Constitution.

Restored in 1994, this building's original smooth-textured stone appearance remains on the upper two floors while the main floor has undergone major alterations.



19. American Stores Tower

299 South Main Street

Completed in early 1998, this 24-story, flat-topped structure is partially covered by three different building stones. (The flat top was designed for a helicopter landing pad.) The black rock, "Cold Spring Black" (trade name), was quarried near Alma in Quebec, Canada; the dark gray diorite, "Academy Black," was quarried northeast of Fresno, California in the Sierra Nevada foothills; and the light gray granite, "Rockville White," was quarried near the small town of Rockville, Minnesota.

Dark gray and black granite-like rocks called "black granite" in the building stone industry are usually diorite or gabbro to geologists. Diorite is dark gray to blackish-gray igneous rock mainly composed of sodium-rich plagioclase feldspar, hornblende, pyroxene, and a small amount of quartz. Gabbro is dark-colored, coarse-grained igneous rock characteristically composed of calcium-rich plagioclase feldspar, pyroxene, and possibly olivine.

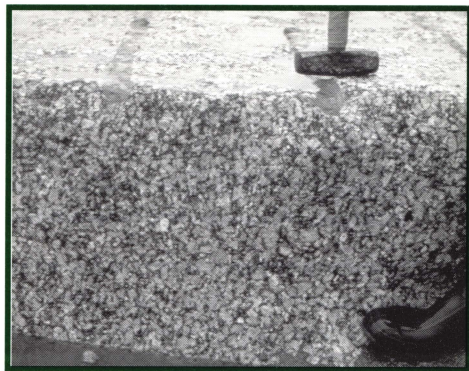
"Cold Spring Black" is a mafic (contains iron and magnesium) metamorphic rock that most likely formed during the early Precambrian over 2.5 billion years ago. Originally, it

Rockville Granite is a coarse-grained granite containing larger crystals of white feldspar with smaller crystals of quartz and black mica. Photo courtesy of Terry Boerboom, Minnesota Geological Survey.

was probably a gabbro that was later subjected to low-temperature, low-pressure metamorphism as it was uplifted.

“Academy Black” contains crystals of hornblende and pyroxene interlocking with smaller crystals of plagioclase feldspar. It is part of the Knowles Granodiorite which formed during the early Cretaceous Period around 110 million years ago.

“Rockville White” comes from the approximately 1.8 billion-year-old Rockville Granite. The Rockville Granite is one of several granite bodies located in east-central Minnesota. This granite has been quarried since the early 1900s and varies in color from a dominantly pink to a dominantly white stone. It is coarse grained and consists of larger crystals of pale pink to white feldspar with smaller crystals of quartz and black mica.



Cross 300 South and Main Street and continue south down the west side of Main Street until you reach the Frank E. Moss United States Courthouse.

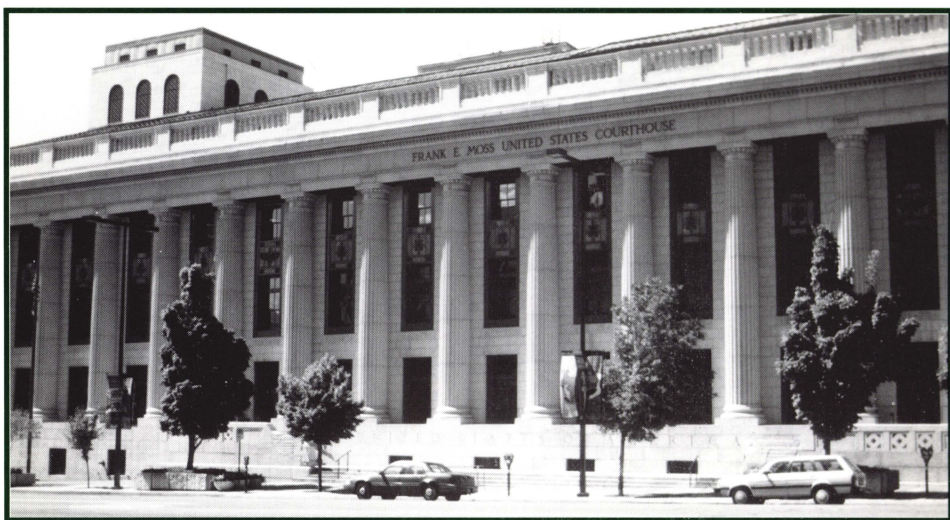
20. Frank E. Moss United States Courthouse

350 South Main Street

This courthouse has undergone a major transformation since it was first built. The original building was constructed between 1903 and 1906 and functioned as federal building, courthouse, and central post office. The Kyune Greystone Company of Utah supplied the grayish-brown Kyune sandstone for the



The original courthouse (now the Frank E. Moss U.S. Courthouse), as seen in 1907, was constructed of Kyune sandstone. Photo courtesy of the Utah State Historical Society.



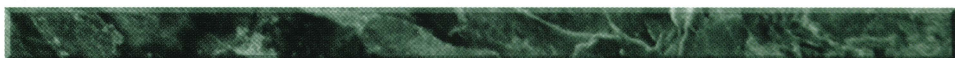
Today the Frank E. Moss U.S. Courthouse is more than double the size of the original and is faced with a granite building stone.

original exterior. At the site, each stone was hand carried and assembled. The Kyune sandstone is a fairly soft rock making it easy to carve into intricate designs. A portion of the original south wall with its intricate carvings can still be seen in the second floor interior light well. To get there, enter the courthouse through the east doors, take the south elevator to the second floor, travel down the left hall to the end, then turn right.

It wasn't long before more space was needed and an addition was added to the west of the building in 1912. A final addition to the south was built in 1932. Due to weathering, there were some serious flaws in the condition of the original stonework, therefore the addition was faced with granite. The original building was also sheathed in granite to match the style of the addition. Because of its strength, durability, and massive appearance, granite has been a popular building stone for use in imposing and awe-inspiring government structures.

The courthouse is open Monday through Friday, 6:00 a.m. to 6:00 p.m. Several small displays on the main floor contain historical information about the building.

Cross Main Street and travel east on 400 South.



21. Cabana Club

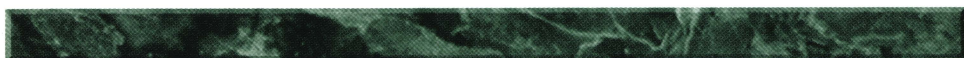
41 East 400 South

The Cabana Club opened its doors on May 5, 1940, and is the second-oldest private club still in Utah (after the Alta Club). The decorative flagstones on its facade are Elba Quartzite and quartzite of Clarks Basin, both found near the border of Idaho in the

northern Grouse Creek Mountains and the Raft River Range in Box Elder County, Utah. The Elba Quartzite is a green, tan, or whitish stone with a dull finish whereas the quartzite of Clarks Basin is tan, brown, and cream-colored, usually with a shiny surface. These quartzites are a flat, hard, and durable material which makes them desirable for interior and exterior veneer and paving material. Quarried periodically since the 1950s, these thin-bedded rocks break into 1/2 to 2-inch thick plates that are pried out with hand tools and then sorted by color, shape, and size and stacked on pallets ready for shipping.

The original sandstone deposit that eventually became the Elba Quartzite accumulated during the late Precambrian (2.5 billion to 570 million years ago). The quartzite of Clarks Basin was initially beach sands of a sea that spread eastward across Utah during Early Cambrian and early Middle Cambrian time (570 to 523 million years ago). Local metamorphism in the Raft River-Grouse Creek area during the middle to late Mesozoic (205 to 66 million years ago) altered the original sandstones. Color variation is due to different amounts of iron staining and the amount and type of minerals present during metamorphism.

Walk to the corner of 400 South and State Street and cross to Washington Square on the southeast corner.



22. Salt Lake City and County Building

Washington Square

On July 25, 1892, the cornerstone for the City and County Building was set in place and in December 1894 the dedication ceremony took place amid crowds cheering, banners streaming, and musicians performing. Offices in the building were divided down the center hall, with the county's on the south and the city's on the north. Furniture was also clearly divided ~ green upholstery for the county and red for the city. This building also served as Utah's State Capitol for almost 20 years, from Utah's statehood in 1896 until the present Capitol was completed in 1915. Today the building has a single owner: Salt Lake City.

The Salt Lake City and County Building was built between 1892 and 1894 and completely restored between 1986 and 1989. The Kyune sandstone exterior is decorated with numerous intricate carvings.



This building was constructed of rough-hewn Kyune sandstone quarried about 5 miles northeast of Colton in Utah County. A railroad spur track was built early in 1892 in order to transport construction materials from the quarry. This sandstone was chosen as the building stone because it is easily cut and carved. Unfortunately, it also weathers easily and from 1973 to 1989, the City and County building underwent numerous minor restorations and finally one major restoration. The original stone quarry was reopened and new sawn and carved blocks of Kyune sandstone replaced the old, damaged stone.

Sandstone faces of pioneer men and women, famous Spanish explorers and American Indians, and some of Utah's early officials gaze from the walls and columns. The numerous original carvings were done by a Mr. Linde (or Lendi) whose self portrait is between the words "City" and "Hall" on the north face. He also sculpted gargoyles and mythical sea serpents and monsters said to have ruled Lake Bonneville (the large, prehistoric, freshwater predecessor of the Great Salt Lake).

The building was badly damaged by an earthquake in 1934, so to help protect it from future earthquakes, the structure now sits upon a base-isolation system of rubber and steel "shock absorbers" set between the foundation and the ground. At the time of its completion in 1989, the \$30 million retrofit was the world's first application of seismic base isolation in the restoration of a historical structure.

Tours of the Salt Lake City and County Building (including the base isolation system) are provided by the Utah Heritage Foundation; contact the Utah Heritage Foundation at 533-0858 for more information.

End of Tour



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