

# CITY CREEK CENTER:

# THE NEW SHOPPING EXPERIENCE

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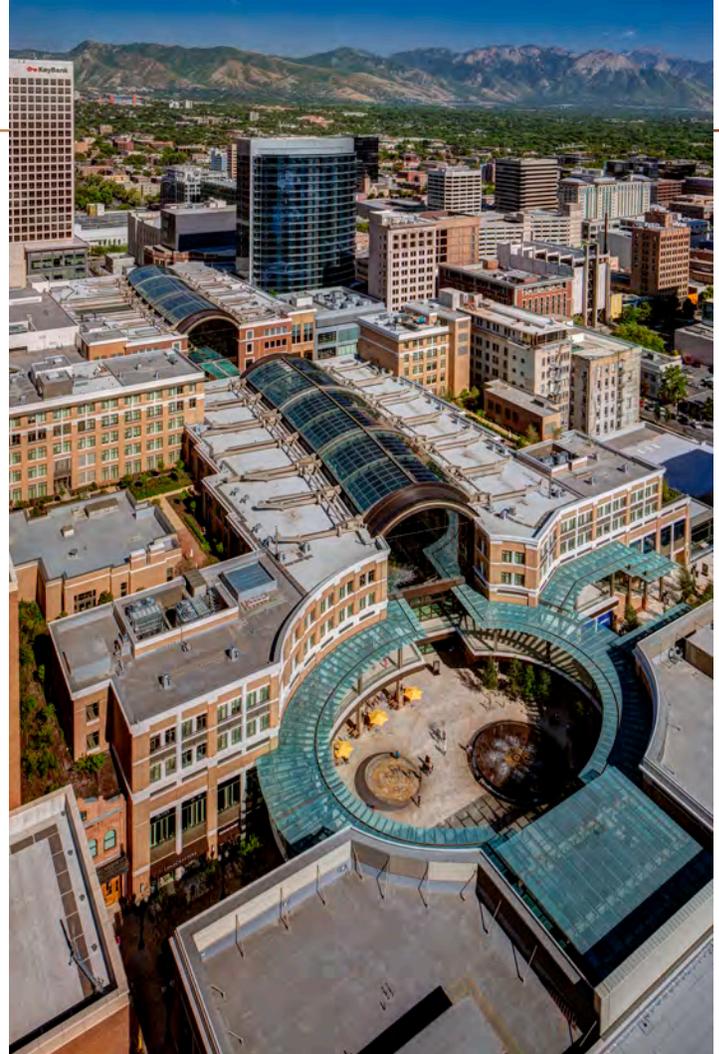
## INTRODUCTION

Many growing cities struggle to adapt and even reconfigure their downtown to meet their residents' needs and respond to changing times. Decades of suburban expansion can leave urban cores underutilized and outmoded. Aging utility infrastructure, vacant parcels or buildings, insufficient parking, and the need for a comprehensive vision are common elements that each municipality faces.

The headquarters and spiritual center for the Church of Jesus Christ of Latter-day Saints is situated in the core of downtown Salt Lake City, giving them a vested interest in the success and future of the property surrounding its offices, Tabernacle, and grounds.

Located in the valley of the Wasatch Mountains, Salt Lake City, Utah has one of the fastest growing populations in the country. The metropolitan area has a population of 182,000<sup>1</sup>, while the greater Salt Lake City area includes 1.2 million residents<sup>2</sup>. 2010 density was 1,678 persons per square mile. Over 30% of these residents are between ages 20 and 34 with a median 2010 household income of \$44,223<sup>3</sup>. These young professionals are a demographic that typically gravitates to urban residences near their places of employment, with convenient supporting services.

With this in mind City Creek Reserve, Incorporated of Salt Lake City, Utah, the development arm of the Mormon Church, partnered with the Taubman Company of Bloomfield Hills, Michigan and selected Hobbs + Black Architects (H+B) of Ann Arbor, Michigan in 2007 as the principal architect of record for the retail portion of the massive new City Creek project in downtown Salt Lake City, Utah. Hobbs + Black is also the architect of record for 111 luxury rental apartments situated above the retail, and the design architect for a stand-alone building ("Building H") which houses a restaurant on the first level and a health club on the second and third.



<sup>1</sup> U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, County Business Patterns, Economic Census, Survey of Business Owners, Building Permits, Consolidated Federal Funds Report, Census of Governments

Last Revised: Tuesday, 31-Jan-2012 17:28:22 EST

<sup>2</sup> Sale Lake Tourist & Visitor Center - Demographics, June 13, 2012

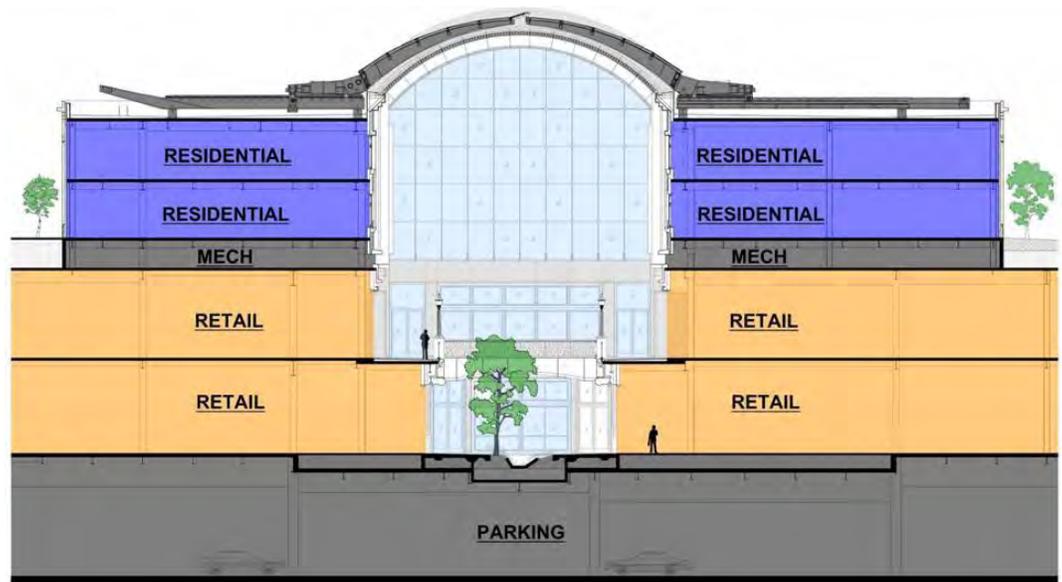
<sup>3</sup> Op. cit. U.S. Census

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The **City Creek** complex is comprised of two city blocks which are sequentially numbered 75 and 76 within the city grid. The blocks are bisected by Main Street which terminates into Temple Square to the North of the project site. City Creek Center is the retail portion of the development. Prior to construction commencement the site had to be cleared of an existing high rise and the failing Crossroads and ZCMI malls, which had been economically harmed by the development of suburban shopping centers.

With City Creek Center, many issues faced the architectural team above and beyond the static opening date and typical budgetary checks and balances that face all new mixed-use and retail centers. As project architect, Hobbs + Black was tasked with managing the documentation of a new two-story 700,000 square foot retail center with 111 residential rental units over four levels of underground parking, all within a downtown environment and adjacent to occupied and new **structures**. The infilling of two city blocks scaling approximately 23 acres involved the collaboration of more than twenty consultants and experts spanning four time zones managed by H+B. Monthly face-to-face coordination meetings, video conferencing and web meetings enabled a smooth process and flow of information.

There are several features that distinguish City Creek Center from other retail centers. Existing office towers and a hotel are interspersed with newly-constructed condominium towers on the block **perimeters**. The retail and rental apartment structures were constructed within and around these other site elements. Amenities and components that further differentiate City Creek Center from other developments include the re-creation of a flowing creek with waterfalls, fully operable skylight roofs, dancing fountains, re-use of historical facades, LEED accreditation and unique use of structural brick.



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## SEISMIC CONSIDERATIONS

The project site is located on the seismically active Warm Springs Fault, a spur of the Wasatch Fault. The most recent event of surface fault was approximately 1,300 years ago. The average recurrence in the past 6,000 years is 1,350 years plus or minus 200 years. The estimated probability over the next 100 years for a future seismic event greater than 7.0 magnitude ranges from 10.7% to 22.1%<sup>4</sup>. The 2006 International Building Code classifies the site as Class D (stiff soil profile). Due to these conditions, seismic considerations were paramount throughout the design and construction process.

City Creek Center is intertwined with new condo towers, existing commercial structures and a hotel, several of which have not been seismically upgraded. The structural design created the four stories of underground parking in a post-tensioned cast in place concrete structure capped with a “superdeck.” The superdeck collects seismic loads from the podium and transfers to the garage/basement perimeter walls. 15,000 tons of structural steel used on the project, plus tens of thousands of tons of masonry, live and other dead loads are transferred 453 times above until reaching the superdeck. Transfer deck plate girders range from 175 pounds per foot to 720 pounds per foot, and the lengths average 60 feet. Extreme transfer deck strength was required due to not only the building structures constructed atop it, but also the weight of the creek water feature.

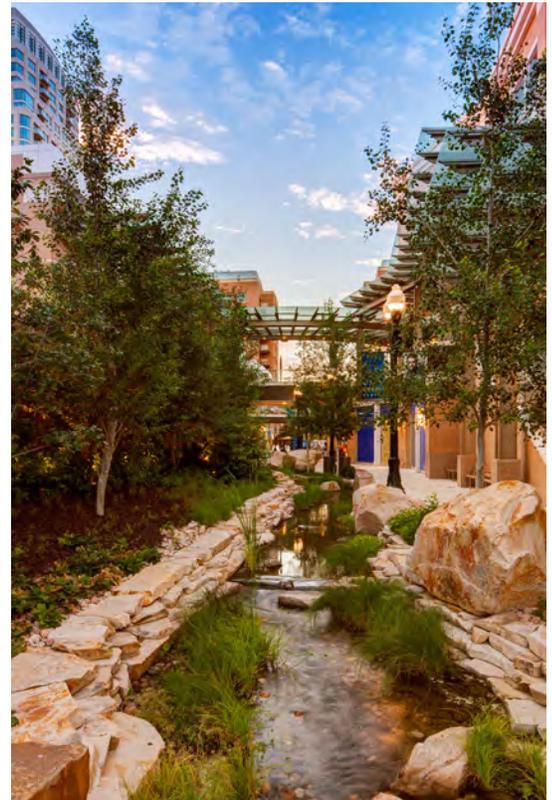
Each adjacency required specific clearances between structures ranging from 6 to 22 inches. The seismic joints were protected using countless custom configurations of flexible cover materials. Several joints cross portions of the newly constructed creek creating unique conditions of waterproofing bridging joints under flowing water.

## THE EPONYMOUS CITY CREEK

Upon entering the Wasatch valley in the mid 1800's the first Mormon pioneer settlers used the shores of City Creek for fresh water. Flowing from City Creek Canyon to the North, this stream was the primary source of water for the city until 1882 when it was supplemented with water from Utah Lake. In 1909 the creek was placed in underground conduit down North Temple Street.

As part of the new development a 1225' long re-creation of City **Creek** with two waterfalls was designed over the top of the parking garages below. As a key feature to the project, the creek flows from the Northeast corner of the project through the retail space, terminating at the Southwest corner. 420 tons of local sandstone further authentic the creek environment. The boulders and stones of all sizes create an 18' high **waterfall** in front of the food court providing for an attractive feature to deal with the large grade changes across the site. The creek is divided into sections, each having its own set of circulating pumps, which are strategically hidden under pedestrian bridges or landscape features creating the appearance of a continuous element.

Within the Block 75 retail concourse the creek is further sectioned off to create a self sustainable environment for rainbow and cutthroat trout. The varying depths of the water and the creation of small alcoves (fish hotels) in which the fish can congregate became important design features in realizing this environment. Also critical was the selection of the protective waterproof barrier, which was tested for its compatibility with the plantings and fish. The plantings surrounding and embedded within the creek were selected from native species for their ability to contribute to a healthy sustainable environment.



<sup>4</sup> Geotechnical Investigation Block 76, Oct. 27, 2007, page 20.  
Applied Geotechnical Engineering Consultants, Inc.

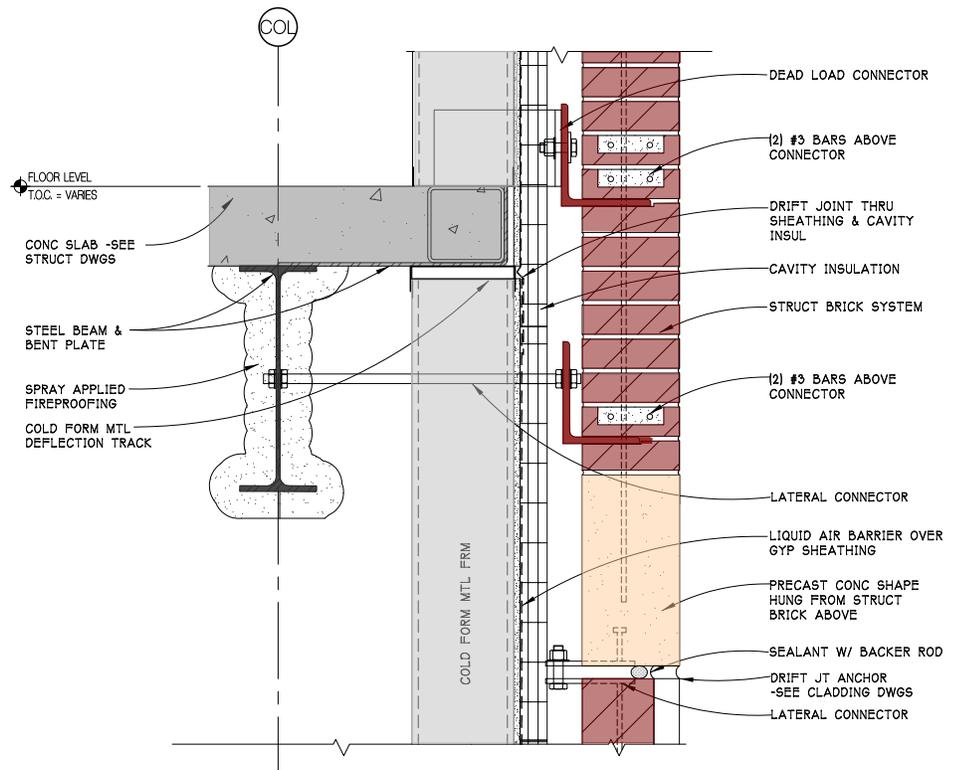
# CITY CREEK CENTER: THE NEW SHOPPING EXPERIENCE

## STRUCTURAL BRICK

Structural brick veneer with integrated precast elements was used to create the shell of the retail buildings throughout the project. Structural brick veneer is described as a “hollow reinforced clay brick curtain wall system” according to the Western States Clay Products Association. This system was selected to assist in creating the highly detailed facades and to maintain the schedule by allowing the building envelope to be completed prior to the brick being completed.

Although the system has been around for years, it is a unique approach to the construction of brick exterior walls. Structural brick **veneer** is similar to conventional brick in that it supports no gravity loads other than its own weight, windows and other miscellaneous weights. Structural brick when reinforced allows the wall panels to span further between ties and supports. A few of the advantages that supported the use of structural brick on the project were greater design flexibility, reduced backup framing, greater seismic resistance with more ductility, less restrictive deflection requirements for back up structure and greater resistance to cracking. With structural brick the brick is tied back directly to the building structure resulting in a reduction of the forces on the floor, therefore reducing the deflection requirements on perimeter steel beams and reducing their size.

City Creek Center used precast shapes of various sizes to create the dramatic forms. A large portion of the precast shapes were laid up contiguous with the **brick** by the mason in the field. Other precast shapes used a variation of the brick connectors to allow for attachment back to the building structure. All connections were bolted in order to protect the liquid air barrier used throughout the project. Overall the systems were successful in allowing the architecture to be created on schedule.



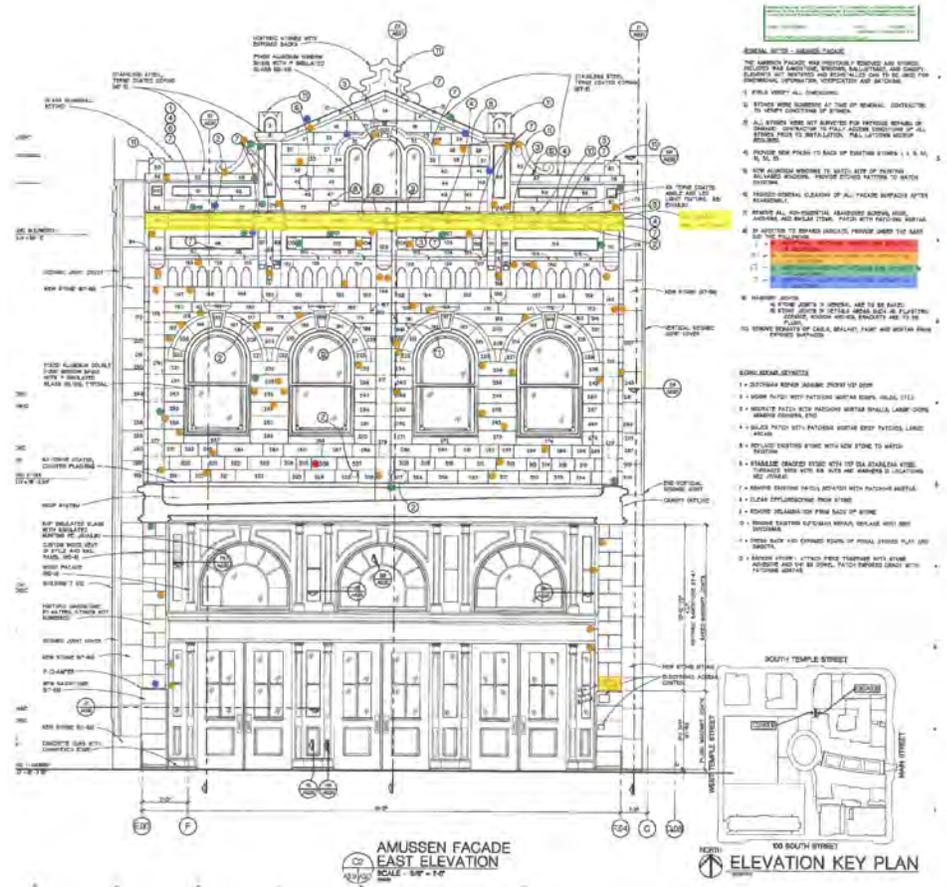
# CITY CREEK CENTER: THE NEW SHOPPING EXPERIENCE

## HISTORIC FACADES

Two historical facades were salvaged during the demolition of the previously-existing mall with the intention of incorporating them into the future project. The Amussen façade was located along Main Street on the West side, and the Zions Cooperative Mercantile Institution (ZCMI) façade served as one of the entrances to the earlier mall on the East side of Main Street.

The Amussen façade is the only existing commercial structure built during the pioneer period prior to the arrival of the railroad. It is one of few buildings designed by architect William H. Folsom who also designed the Salt Lake Tabernacle<sup>5</sup>. This important structure made of cut red sandstone was in poor condition when it was dismantled and inventoried stone by stone. Each stone was **analyzed**, with detailed reports made identifying any necessary patches, existing chips, water damage, and delamination. Upon repair the stone façade was reassembled and given a new porch, wood doors and windows. The **façade** now serves as an entry to the residential commons building along Richards Street.

The three-story ZCMI is one of few remaining intact examples of a cast iron façade. The façade was disassembled and refurbished by Historical Arts & Casting. Old finishes and fillers were removed down to bare metal, then reconditioned, recast or repaired as necessary. Each piece was primed and painted with a 3-coat system then reassembled and reinstalled. The façade was placed on the National Register of Historical Sites in 1970 and currently stands as the salient Main Street façade and entrance of **Macy's**.



<sup>5</sup> From Utah State History Markers and Monuments website – “The Amussen Building”, 2012. Accessed June 27, 2012: [http://history.utah.gov/apps/markers/detailed\\_results.php?markerid=2439](http://history.utah.gov/apps/markers/detailed_results.php?markerid=2439)

# CITY CREEK CENTER: THE NEW SHOPPING EXPERIENCE

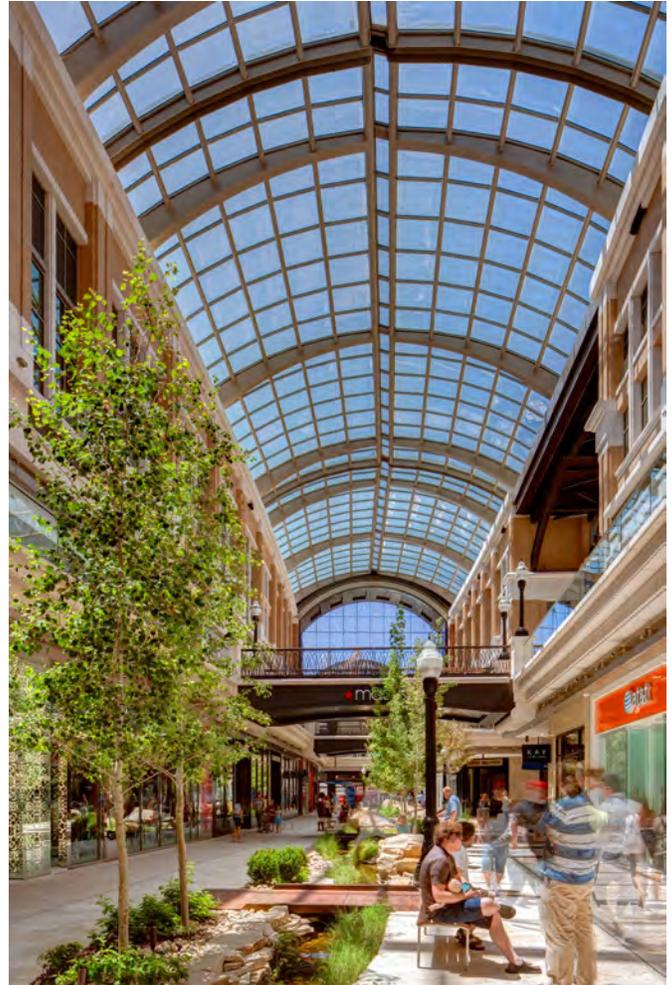
## OPERABLE SKYLIGHT

A prominent element of the City Creek project is the presence of fully retractable **skylights**, affording climate-controlled shopping year-round. One of the key components to the City Creek Center shopping experience, the skylight system allows the Mall to adapt with the ever changing Utah climate. These skylights extend 470' along the retail concourses and provide a total of 33,250 SF of skylight **area**. The clever design enables them to cantilever 29' from the roofs, and disappear completely from view when fully retracted. This is possible through the use of arched structural steel members that resemble ribs with a 12½' upturned backspan, or tail, resulting in their nickname: "whalebones". The inboard end is an arch that raises 20 feet and spans 29 feet to the center of the skylight openings. During a seismic event the panels slip over each other allowing for upward of 24 inches of movement. The backspan houses the drive system components and secures the panel to the building structure. Each component weighs 10.5 tons and had to be lifted onto the rooftop using two cranes.

Each panel rides on three rail girders which are mounted to the **building**<sup>6</sup>. A roller track along the bottom of each girder provides the travel path. Because of the S-shaped curve the control system must sequence the panels' movement to prevent them from interfering with one another. The cantilevered section of ten tilted panels rotate down out of sightline from the shoppers below. One cantilevered panel on each block, however, must remain in the raised position when open to prevent conflict with others. Upright panels move ahead of the tilted panels when opening, and lag behind when closing.

Each panel is powered by four 5-hp electric motors, which operate traction drive wheels. The six panels travel 8 feet per minute and go through a full operating sequence in less than **7 minutes**. Slip arrest assemblies stop panel movement if a wheel loses traction, and an incremental encoder monitors for over-speed conditions, generating an emergency stop when detected. The interface for standard operations is a personal computer located within the mall facility offices. The control system to sequence all the movements is the most complicated engineered to date by Uni-Systems LLC of Minnesota.

The panels are covered with a custom designed horizontal glazing system infilled with an insulated **glazing unit**. The glazing system is connected back to the steel structure with adjustable bolted connections. The glazing unit is 1 1/8" laminated **system** designed with high visual light transmittance which allows for the appropriate day light to enter the space and support the landscaping below. The overall skylight system is flexible enough to allow for daily open and close cycles as the weather changes to provide a comfortable shopping environment.



<sup>6</sup> From Uni-Systems City Creek Center Operation Manual Revision 2, page 1, November 2011

# CITY CREEK CENTER: THE NEW SHOPPING EXPERIENCE

## SKYBRIDGE

A distinguishing landmark is the Main Street sky bridge. This 140' long glass-clad structure provides a walkable connection between the second levels of the two **blocks**. Operable roof panels (nicknamed "Gull Wings") allow in air, sounds, and smells, reinforcing one's sense of being **outside**. The vertical glass panels are custom-etched by Wood Janssen Inc, with a leaf motif in multiple pane layers to provide visual dimension. The architectural and engineering team, in trying to retain as much spatial and visual openness as possible, was challenged to squeeze into an incredibly tight area all of the utilities and systems that feed the bridge system. Structurally, the skybridge employs architecturally exposed structural steel (AESS), and custom glass fiber reinforced concrete (GFRC) ceiling panels with a 'swept sand' **pattern** hung on the underside of the bridge.



The skybridge is also remarkable for the installation challenges it presented. The 160-ton steel framework arrived on several truckloads and was assembled on the ground, then lifted and placed between two high-rise buildings with only inches to **spare**. The rigging required two dedicated cranes, exclusive of the nine cranes employed elsewhere on the site. Lifting and positioning was achieved with one crane remaining stationary as the other crawled forward. A shoring pad had to be erected specifically for the crane that assumed most of the load.

The lifting and placement began at midnight and had to be completed within a tight four-hour window when the TRAX transit system was regularly out of service. Critically, operation of the TRAX system was uninterrupted during construction of the dedicated cranes as well as bridge placement. The skybridge rigging and installation was detailed on a television episode of National Geographic Channel's program World's Toughest Fixes.

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## WATER FOUNTAINS

Three fountains provide striking water feature focal points to the site, distinct from the waterfalls and creek. Conceived by WET Design of Sun Valley, CA, the same firm that designed the Bellagio fountain in Las Vegas, these fountains are intended to evoke the natural patterns perceived in river rapids or within field grasses swaying with the wind. The **Transcend Fountain** is the central focus of Richards Court on Block 76. Here, water jets choreographed with lighting and music create dynamic entertainment, enchanting patrons with different programming through the day. Varying heights engage viewers on the upper level as well as the main level. After dark, fire elements are added to the artistry producing a magical effect.

The use of fire required a series of safety features that were coordinated into the architecture of the fountain and the surrounding structures. Pressure sensing pavers that cut the flow of gas when someone gets too close to the fountain were integrated. Additionally, wind sensing equipment, which constantly test and analyze the wind patterns within the space, have the ability to dynamically adjust the height of the water.

**Touch**, an interactive fountain adjacent to Transcend invites young and old to play among the pressure-activated water jets. During the main Transcend shows the interactive fountain participates in the choreographed show.

Water basins line Richards Street, where a third fountain feature named **Flutter** is located in front of the Amussen Building, midway between Richards Court and South Temple Street. This fountain features a unique water bell in which gas is ignited for another fire and water feature.

These fountains, in addition to the many other water features throughout the site, provide for year-round entertainment. The many nozzles, equipment rooms, audio and lighting elements that enable and enhance the shows are tucked away within the surrounding architecture and in the parking garages below.



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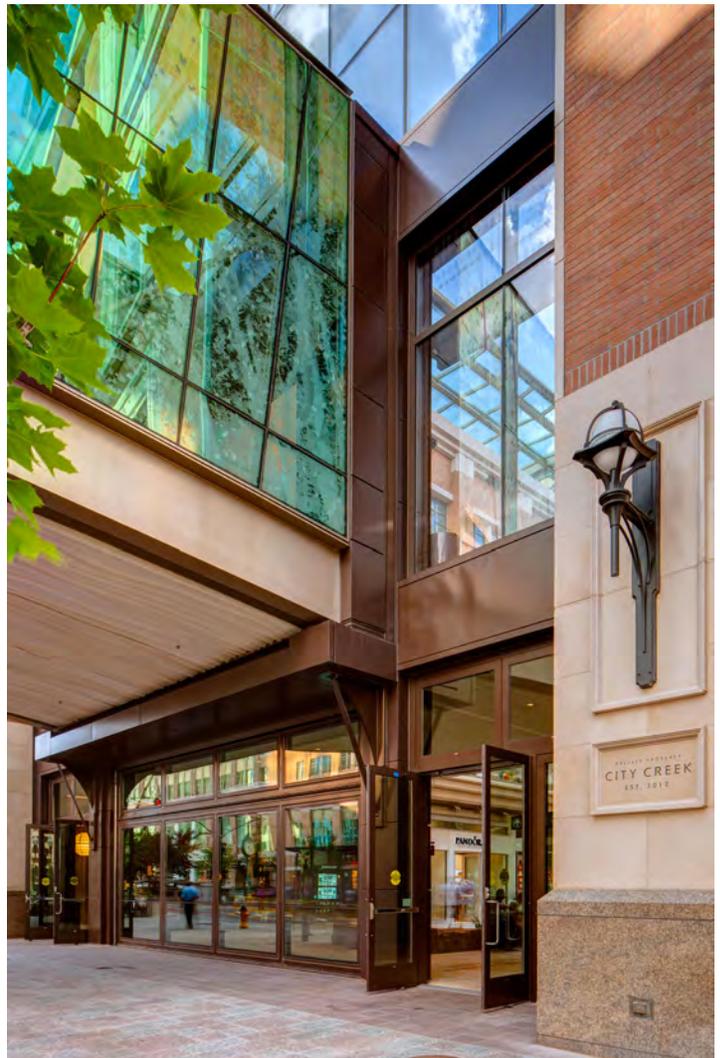
## PUBLIC ART

City Creek was developed with a story that was overlaid into the project beginning with the development of the landscape and following through to the environmental graphic and **art program**. An international request for proposal was distributed to bring artists from varying media and perspectives to the project. CCRI dedicated a percentage of the project budget toward commissioning art that enhanced the “story of the creek” and added to Salt Lake City’s already active art community. After a full review and selection process, several artists were commissioned to develop works for a specific area within the site. Each piece of art tells a story and complements its surroundings; inviting contemplation and delight among visitors. These works include:

- “Stream of Life” - Rosetta<sup>7</sup>
- “Take Flight” – Douwe Blumberg<sup>8</sup>
- “Sky Orchids” – George Sherwood<sup>9</sup>
- “We” – Paul Villinski<sup>10</sup>
- “Ice Spirit” and “Parallel Arc” Olympic Sculptures – Mark DeBraffenried and Dan Cummings (Spectrum Studios). Dedicated to the Volunteers of the XIX Olympic Winter Games, which were held in Salt Lake City in 2002.

One of the largest installations on the project exists on the glass walls and roof of the skybridge over Main Street. Titled “Roaring Creek; Tranquil Soul” by Wood Janssen, Inc, this piece captures the essence of the true city creek canyon by surrounding visitors with vegetation found in the actual canyon. Each wall is densely **etched** as you enter the bridge then gently fades to allow for clear views of the City and mountains. The glass panels are custom laser etched on four layers providing a **dimensional** experience from a literal leaf to the artist’s interpretation.

Finally, in addition to the pieces above, the City Creek Art Committee met with the Salt Lake City Arts Council and its neighbor, the Utah Museum of Contemporary Art, and dedicated a portion of the site for revolving exhibits by local artists. In this manner City Creek Center aims to complement and build upon the existing downtown art community.



<sup>7</sup> <http://www.rosettasculpture.com/about.html>  
<sup>8</sup> [http://www.douwestudios.com/public\\_art.html](http://www.douwestudios.com/public_art.html)  
<sup>9</sup> <http://www.georgesherwood.com/>  
<sup>10</sup> <http://www.paulvillinski.com/>

# CITY CREEK CENTER: THE NEW SHOPPING EXPERIENCE

## LEED ACCREDITATION (LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN)

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As a participant in the pilot program for the new LEED for Neighborhood Development certification process<sup>11</sup> (“LEED ND”), City Creek Center integrated the principles of smart growth, urbanism, and green building into its design and construction. Sustainable urban living is achieved with a comfortable pedestrian scale, extraordinary access to public transit, and open spaces for residents and visitors to enjoy. Native landscaping, water conservation, energy efficient equipment, and green material selection contribute to responsible stewardship, while abundant daylighting and access to mountain and city views enhance livability.

The residential buildings are seeking LEED Silver certification and the overall project was awarded Neighborhood Design LEED Stage 2, Silver certification and is currently working on Stage 3.

Some highlights of the LEED program include:

- Operable skylights and endwalls which allow in daylighting and fresh air.
- Low-flow faucets.
- Low-wattage light fixtures.
- Woods that weren't harvested from endangered forests or tree species.
- Creation of an urban 'village' with many fundamental services, amenities, and institutions within a 10-block radius.
- Ready access to mass transit via the urban TRAX light-rail system on Main St. This system extends 15 miles north and south, and includes a Fare Free Zone<sup>12</sup> which allows unlimited usage within nine stops downtown, including two at City Center.
- 100% of parking and loading areas are underground.
- (18) bicycle stalls.
- 70% of Key Bank building **demolition** waste was recycled.



<sup>11</sup> U.S. Green Building Council. LEED ND is a collaboration among USGBC, Congress for the New Urbanism, and the Natural Resources Defense Council.

<sup>12</sup> Utah Transit Authority, 2012

# CITY CREEK CENTER: THE NEW SHOPPING EXPERIENCE



## CONCLUSION

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Early reviews indicate that City Creek Center has been welcomed as a remarkable addition to Salt Lake City and to the State of Utah. With over 90 stores and restaurants, including premium retailers like Tiffany, Tumi, and Coach, residents no longer have to travel to suburban locales for a quality mix of shopping destinations and dining opportunities. Upon its Grand Opening on March 22, 2012 the retail tenancy was 90% occupied, with a third of the stores and restaurants new to the market. Notably, it is the only mall of its size to open in 2012.

The owner's desire to create a unique urban environment for living, shopping, and working has been realized with the overall City Creek **development**, of which City Creek Center is a subset. The immense retractable skylight roofs provide an open-air feel to the main concourses year-round, while **Richards Court** serves as the dynamic central focus for Block 76. The expansive Regent Court on **Block 75**, with plentiful seating areas for congregating, invites shoppers, office workers, and residents to relax and linger in this community-within-a-community. The arresting skybridge unites the blocks, while the creek brings nature into the site. The curving footprint of the Hobbs + Black-designed "**Building H**" on Block 75 defines the newly-created Regent Street, which provides an intimate festoon-lit setting for strolling and al fresco dining.

## CITY CREEK CENTER: THE NEW SHOPPING EXPERIENCE

Hobbs + Black was involved with City Creek Center for a span of five years from schematic design through tenant fit-out and grand opening. The scope and pace of work required that H+B maintain a full-time on-site Project Manager during the construction process in addition to weekly visits by staff visits out of its Ann Arbor office. This enabled quick response to issues as they arose and rapid accommodation of fit-out requirements for incoming tenants. Hobbs + Black's project team ultimately published over 4,100 unique drawings, including 900 drawings within the architectural discipline.

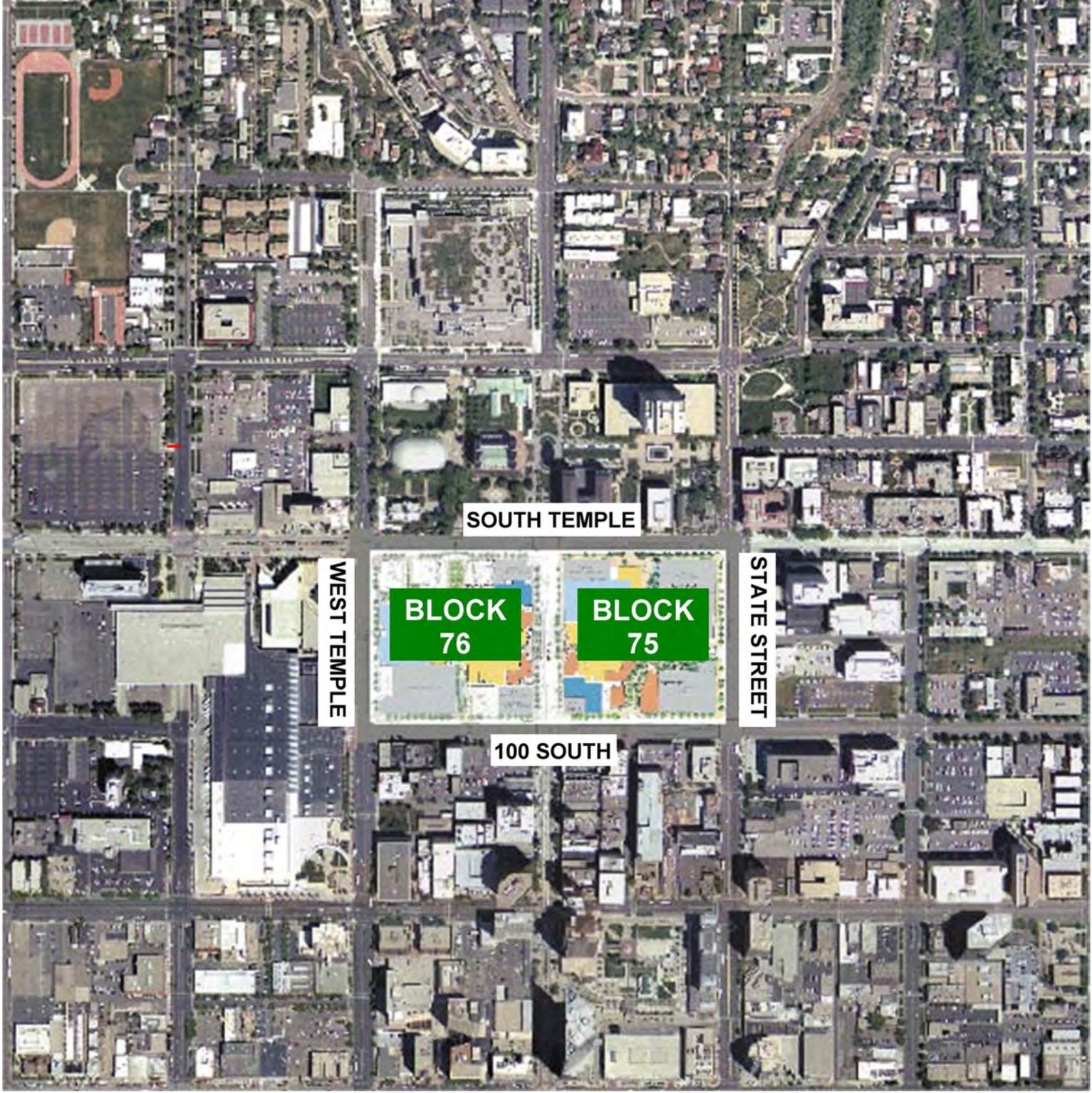
This Center, as a component of the overall City Creek project, entailed working with two owners, six other design and project architect firms, and three general contractors to coordinate efforts. Hobbs + Black was responsible for managing the documentation of eight new buildings, which were integrated with seven other new buildings outside of scope, which were constructed amidst nine existing buildings, all atop a 20-acre parking garage.

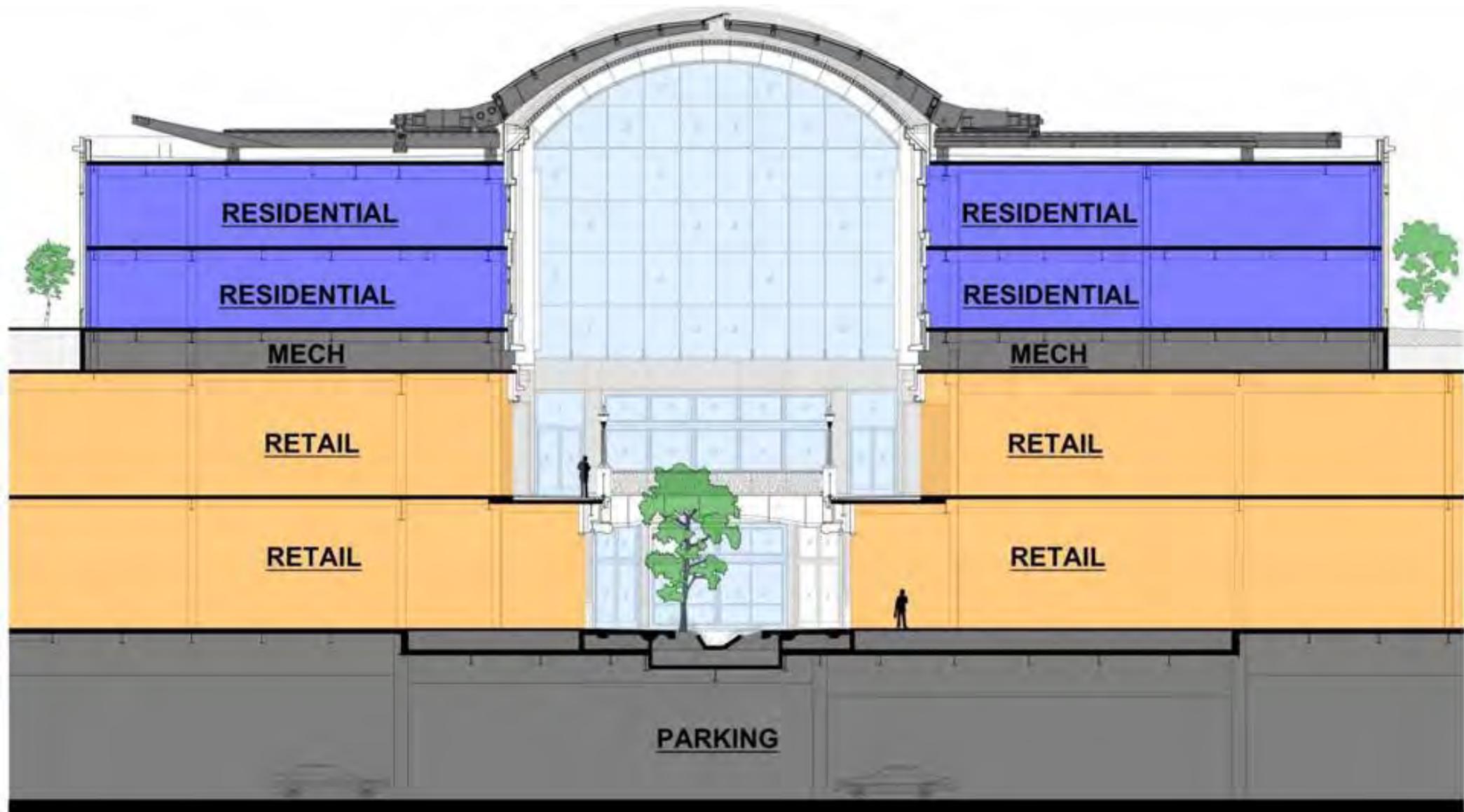


This work earned Hobbs + Black recognition as the winner of the “2012 Excellence in Concrete Award” for Block 75 from the Intermountain Chapter of the American Concrete Institute. Additionally, the Utah Chapter of the Associated General Contractors awarded H+B, along with Jacobsen Construction Company and City Creek Reserve, Inc. the “Building Project of the Year” in 2011 for the Retail development and the 2012 Precast Concrete Institute Design Award. City Creek Center continues to win design and technical innovation awards since its opening in March 2012.

City Creek Center is the eighth newly-constructed mall that Hobbs+Black has worked on for the Taubman Company, and represents H+B's largest project ever in square footage, construction value, and fee earned.

<sup>1</sup> The Zions Cooperative Mercantile Institution (ZCMI) was originally built in 1876 on Main Street as a department store. The department store, also labeled by some as the first department store, was created by Brigham Young in 1868 as a place for Mormons to purchase needed goods.







- RETAIL
- ANCHOR STORE
- MMJ ANCHOR STORE
- RESTAURANT(S)
- RESIDENTIAL TOWER(S)
- EXISTING BUILDING(S)

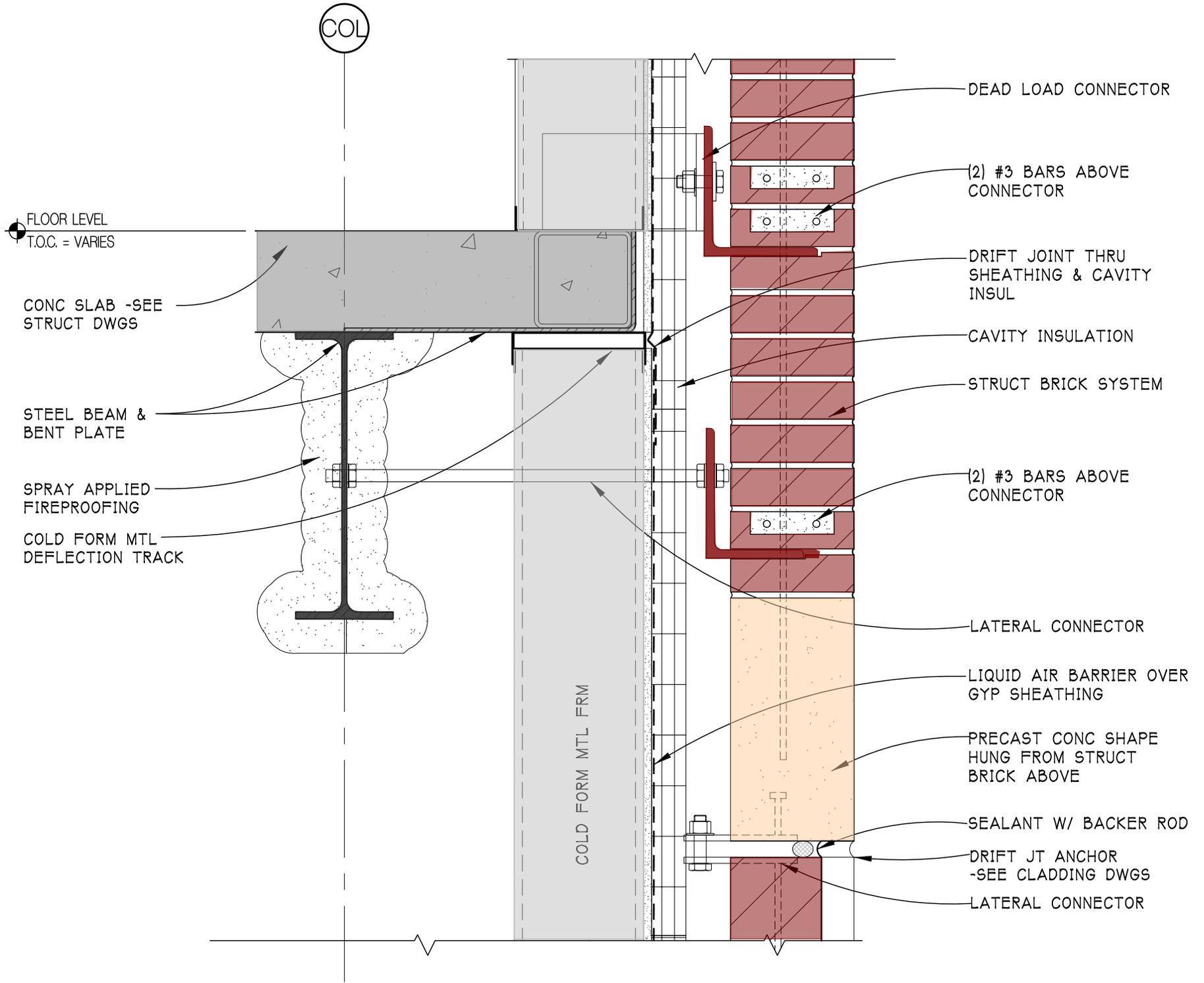
**SITE PLAN**  
SCALE: 0 25 50 100'





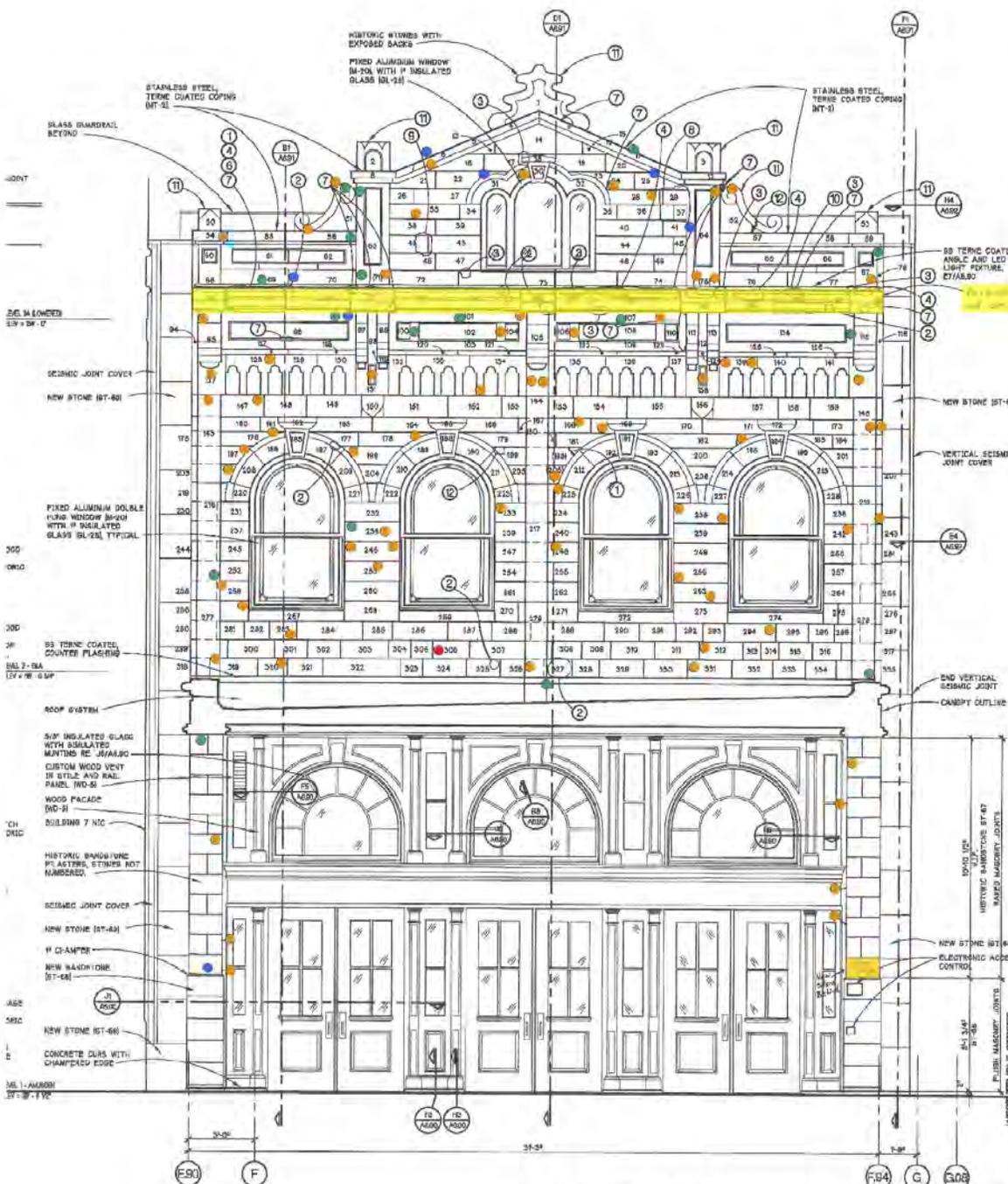






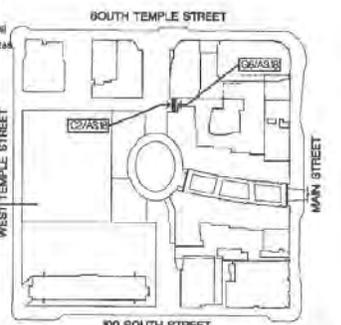
Work on removal and replacement of systems shall comply with the applicable codes and standards. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The contractor shall be responsible for the safety of the work area and the public.

Date: 12/27/2019  
 Project: Amussen Facade  
 Drawn: [Name]  
 Checked: [Name]  
 Title: [Title]



- GENERAL NOTES - AMUSSEN FACADE**
- THE AMUSSEN FACADE WAS PREVIOUSLY REMOVED AND STORED, INCLUDING WAS SANDSTONE, BRICKS, BALLSTRADE, AND CANOPY ELEMENTS NOT RESTORED AND REINSTALLED CAN TO BE USED FOR UNDISCIPLINED INFORMATION VERIFICATION AND MATCHING.
- FIELD VERIFY ALL DIMENSIONS.
  - STONES WERE NUMBERED AT TIME OF REMOVAL. CONTRACTOR TO VERIFY CONDITIONS OF STONES.
  - ALL STONES WERE NOT SURVIVED FOR PREVIOUS REPAIRS OR DAMAGE. CONTRACTOR TO FULLY ACCESS CONDITIONS OF ALL STONES PRIOR TO INSTALLATION. FULL LAYDOWN MODEL REQUIRED.
  - PROVIDE NEW FINISH TO BACK OF EXISTING STONES (1, 2, 3, 5, 50, 51, 52, 53).
  - NEW ALUMINUM WINDOWS TO MATCH SIZE OF EXISTING SALVAGED WINDOWS. PROVIDE ETCHED PATTERN TO MATCH EXISTING.
  - PROVIDE GENERAL CLEANING OF ALL FACADE SURFACES AFTER RECONSTRUCTION.
  - REMOVE ALL NON-ESSENTIAL ABANDONED SCREWS, HOOKS, ANCHORS, AND BULAR ITEMS. PATCH WITH PATCHING MORTAR.
  - IN ADDITION TO REPAIRS INDICATED, REMOVE UNDER THE BASE OF:
    - 1 - ALL ORIGINAL OUTDOOR STONE AND BRICK LOCATIONS
    - 7 - ALL ORIGINAL STONE INCLUDING THE WINDOW IN 30 LOCATIONS
    - 7 - ALL ORIGINAL STONE INCLUDING THE WINDOW IN 30 LOCATIONS
    - 7 - ALL ORIGINAL STONE INCLUDING THE WINDOW IN 30 LOCATIONS
  - MASONRY JOINTS:
    - AS STONE JOINTS IN GENERAL ARE TO BE SAVED
    - IN STONE JOINTS IN DETAIL AREAS SUCH AS PLANTERS, CORNICE, WINDOW ARCHES, BRACKETS ARE TO BE PLUMB
  - REMOVE REMAINTS OF CAULK, SEALANT, PAINT AND MORTAR FROM EXPOSED SURFACES.

- STONE REPAIR KEYNOTES**
- DUTCHMAN REPAIR (ASBME 2X3X1 1/4 DEEP)
  - MIXON PATCH WITH PATCHING MORTAR (CHIPS, HOLES, ETC)
  - MODERATE PATCH WITH PATCHING MORTAR (SPALLS, LARGE CHIPS, MISSING CORNERS, ETC)
  - MAJOR PATCH WITH PATCHING MORTAR (DEEP PATCHING, LARGE AREAS)
  - REPLACE EXISTING STONE WITH NEW STONE TO MATCH EXISTING
  - STABILIZE CRACKED STONE WITH 1/8" DIA STAINLESS STEEL THREADED ROD WITH 3/16" NUTS AND WASHERS (3 LOCATIONAL RES. STONES)
  - REMOVE EXISTING PATCH, REPATCH WITH PATCHING MORTAR.
  - CLEAN EFFLORESCENCE FROM STONE.
  - REMOVE DELAMINATION FROM BACK OF STONE.
  - REMOVE EXISTING DUTCHMAN REPAIR, REPLACE WITH NEW DUTCHMAN.
  - DRESS BACK AND EXPOSED EDGES OF FINIAL STONES PLAT AND SMOOTH.
  - BROKEN STONE - ATTACH PIECE TOGETHER WITH STONE ADHESIVE AND 1/4" DIA DOWEL. PATCH EXPOSED GRADE WITH PATCHING MORTAR.



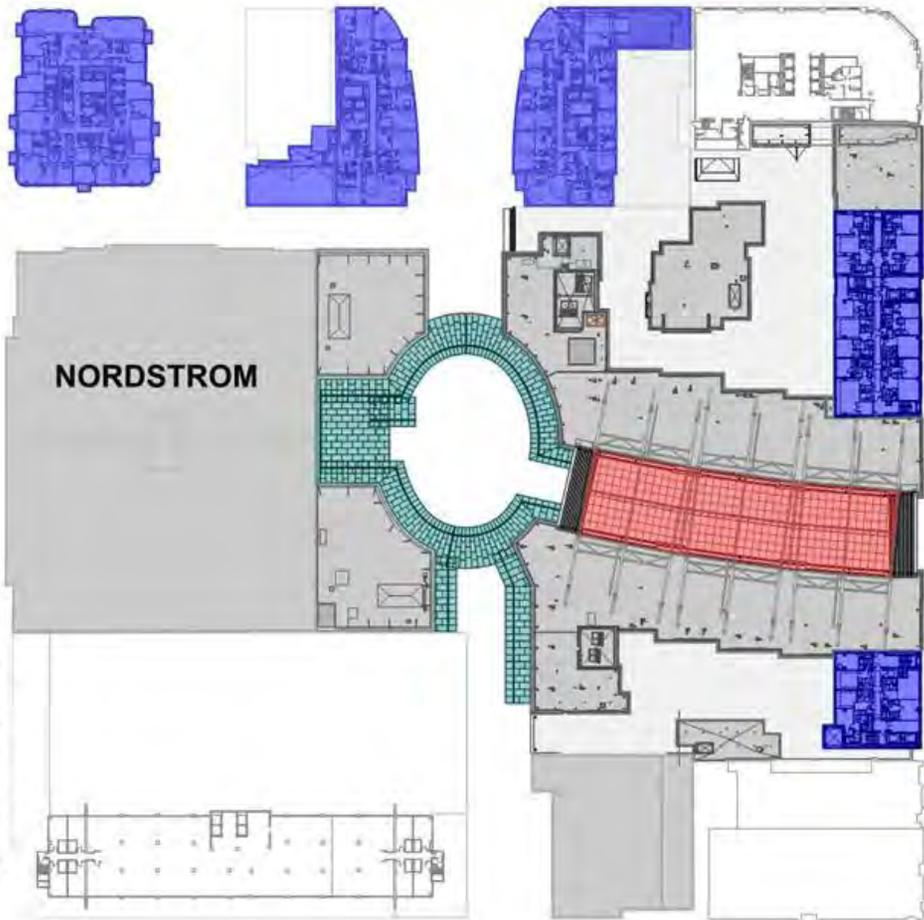
**AMUSSEN FACADE EAST ELEVATION**  
 SCALE - 3/8" = 1'-0"

**ELEVATION KEY PLAN**

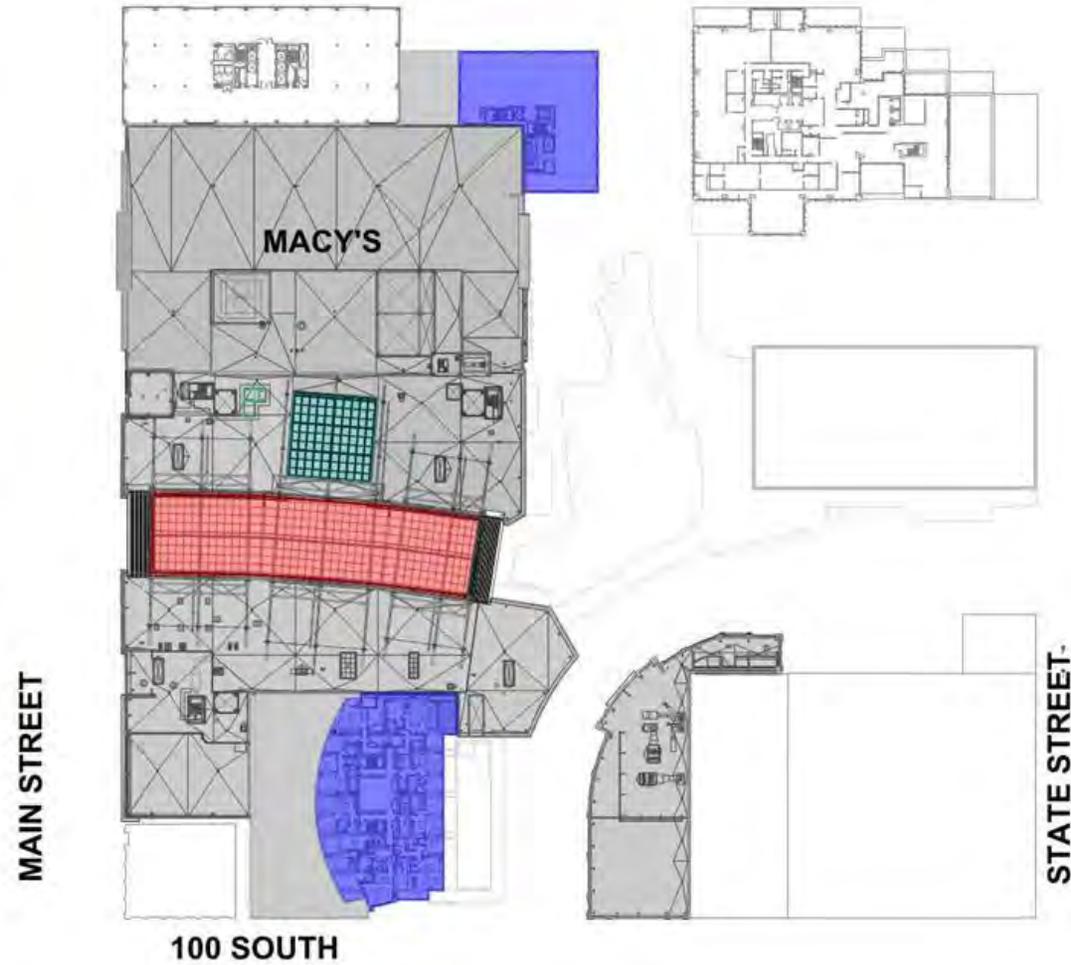




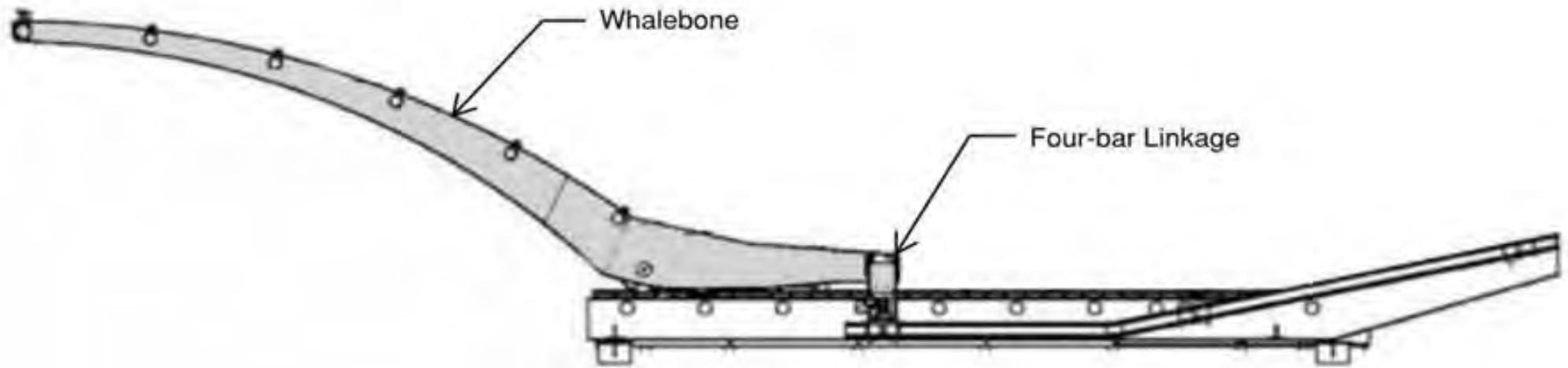
WEST TEMPLE

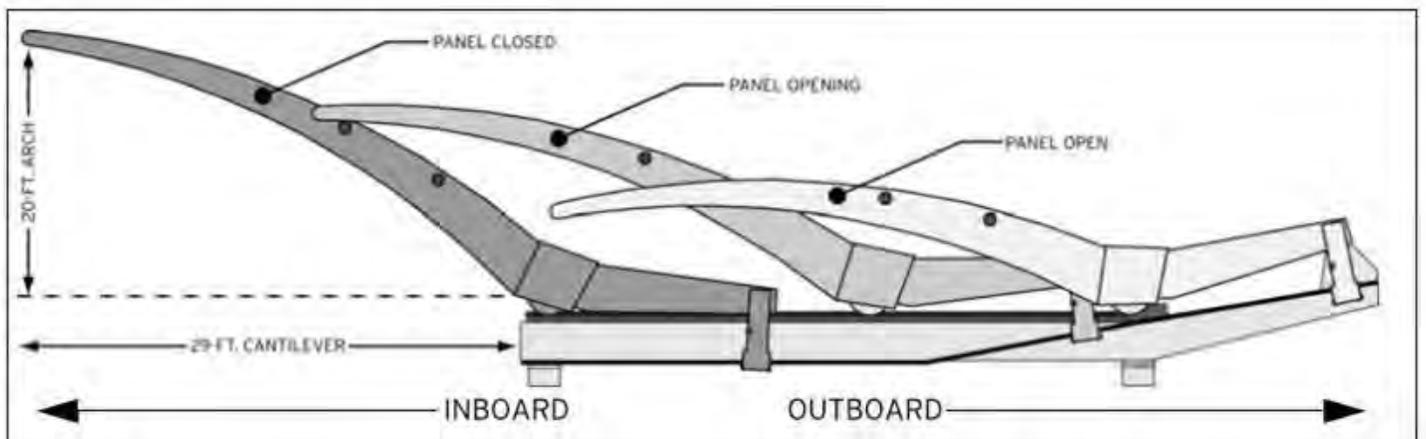


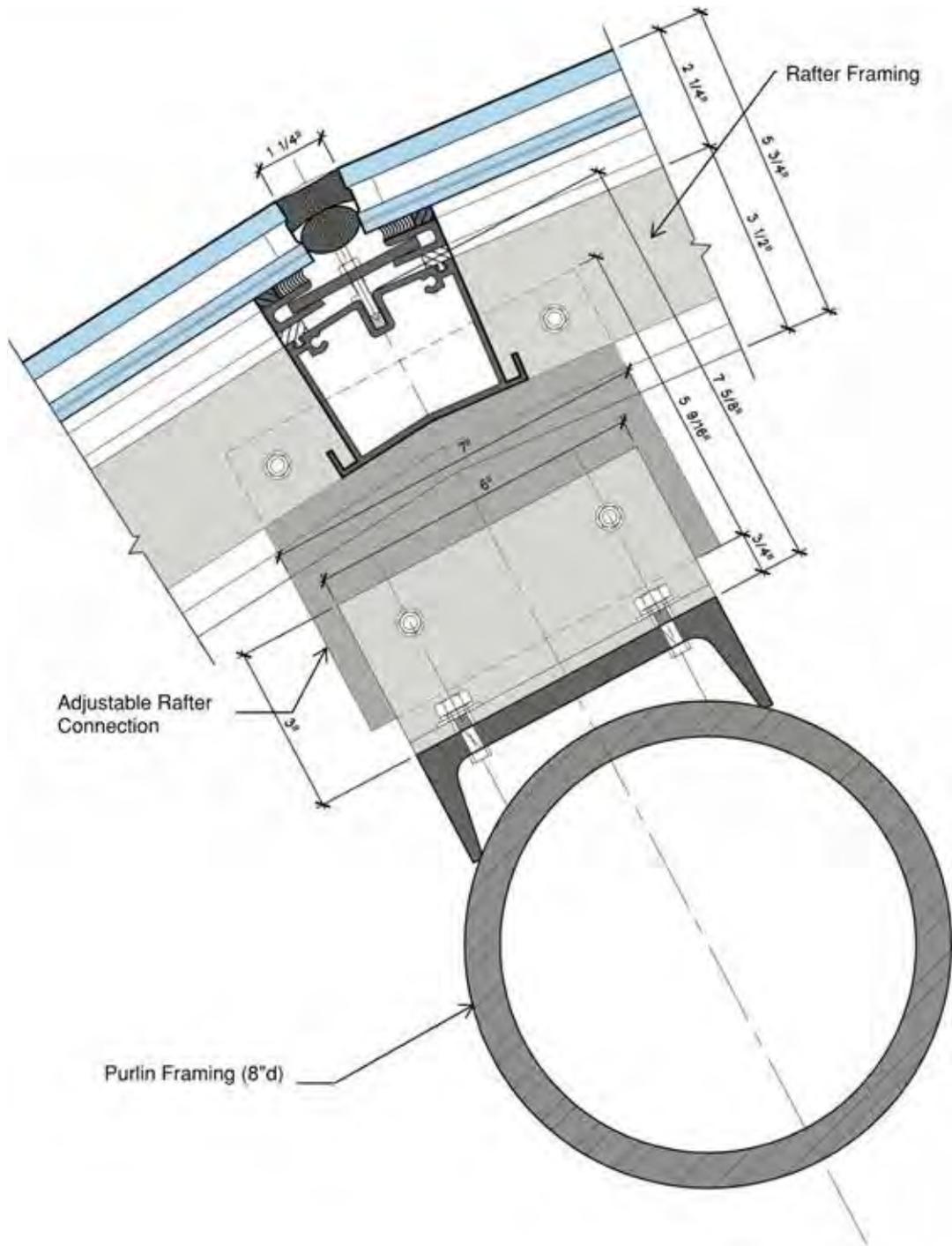
SOUTH TEMPLE







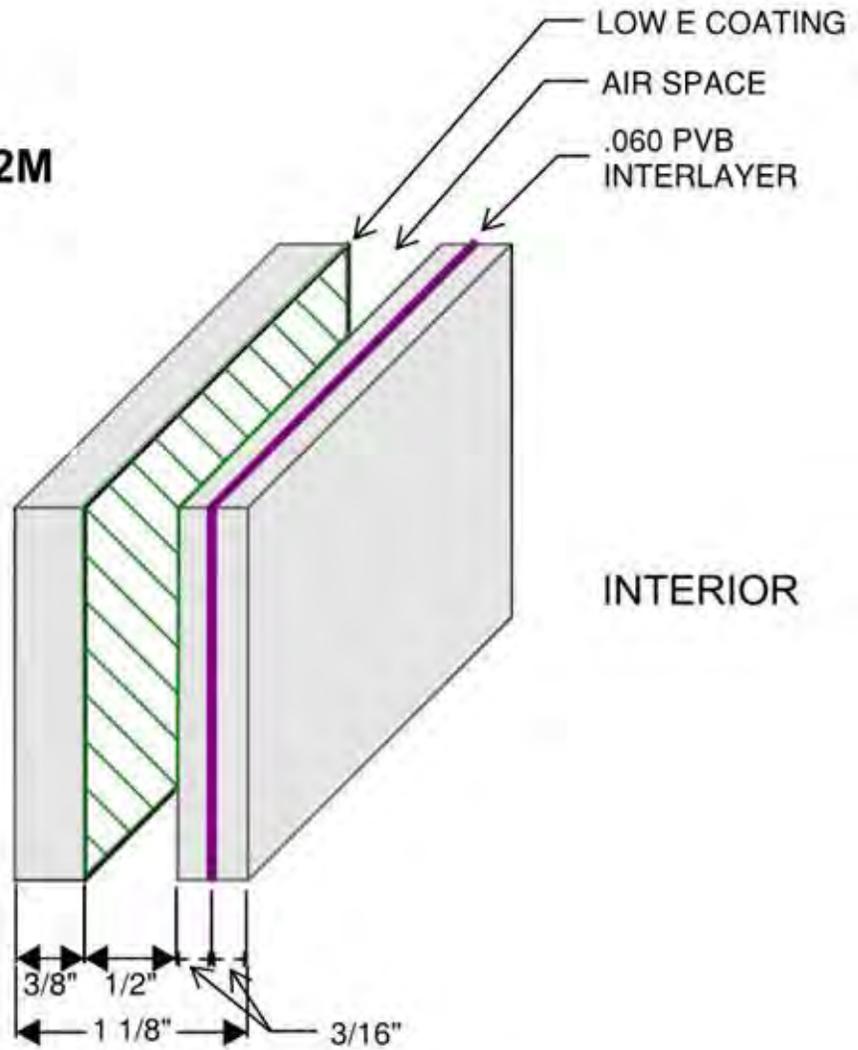




# VIRACON - VE1-2M

EXTERIOR

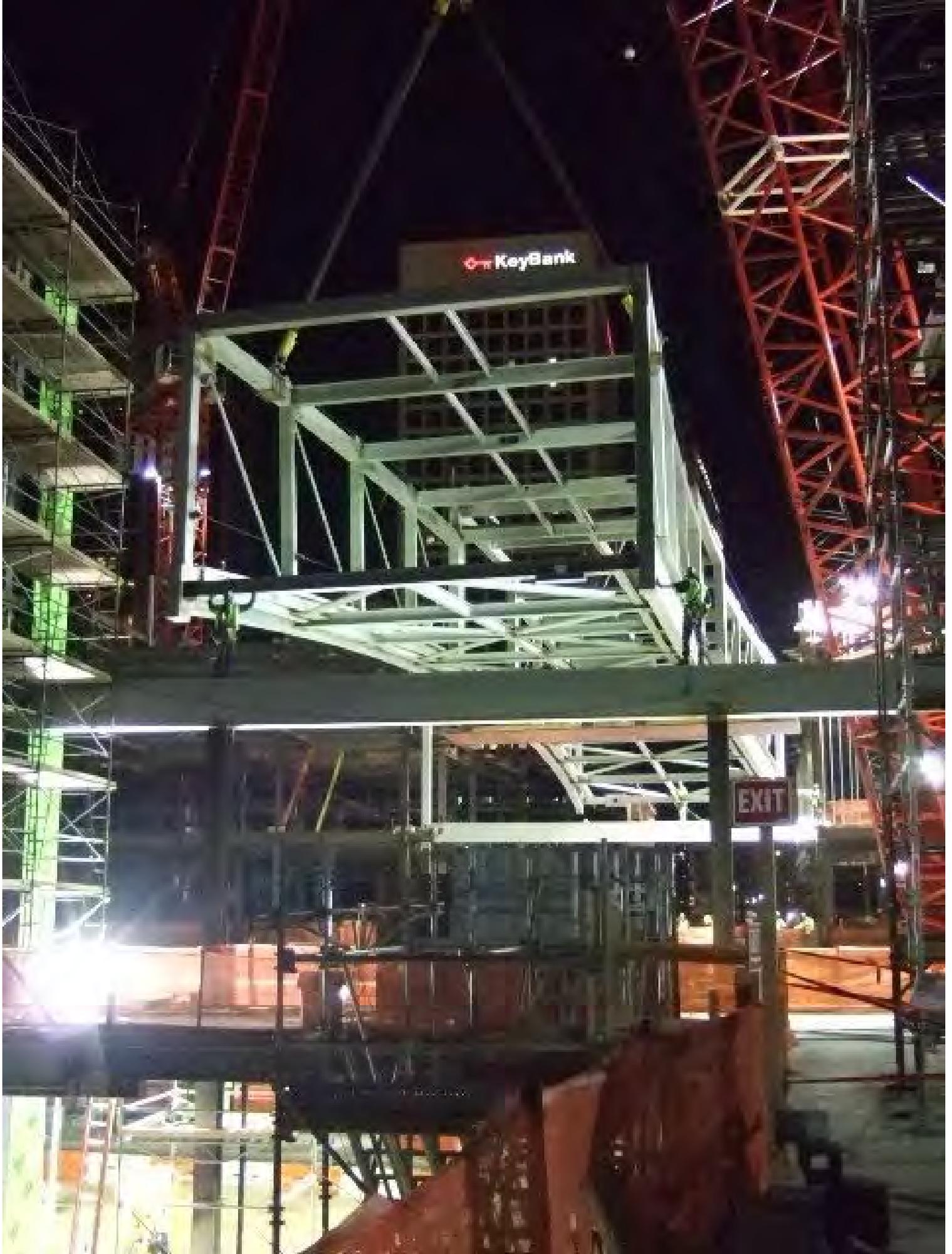
INTERIOR







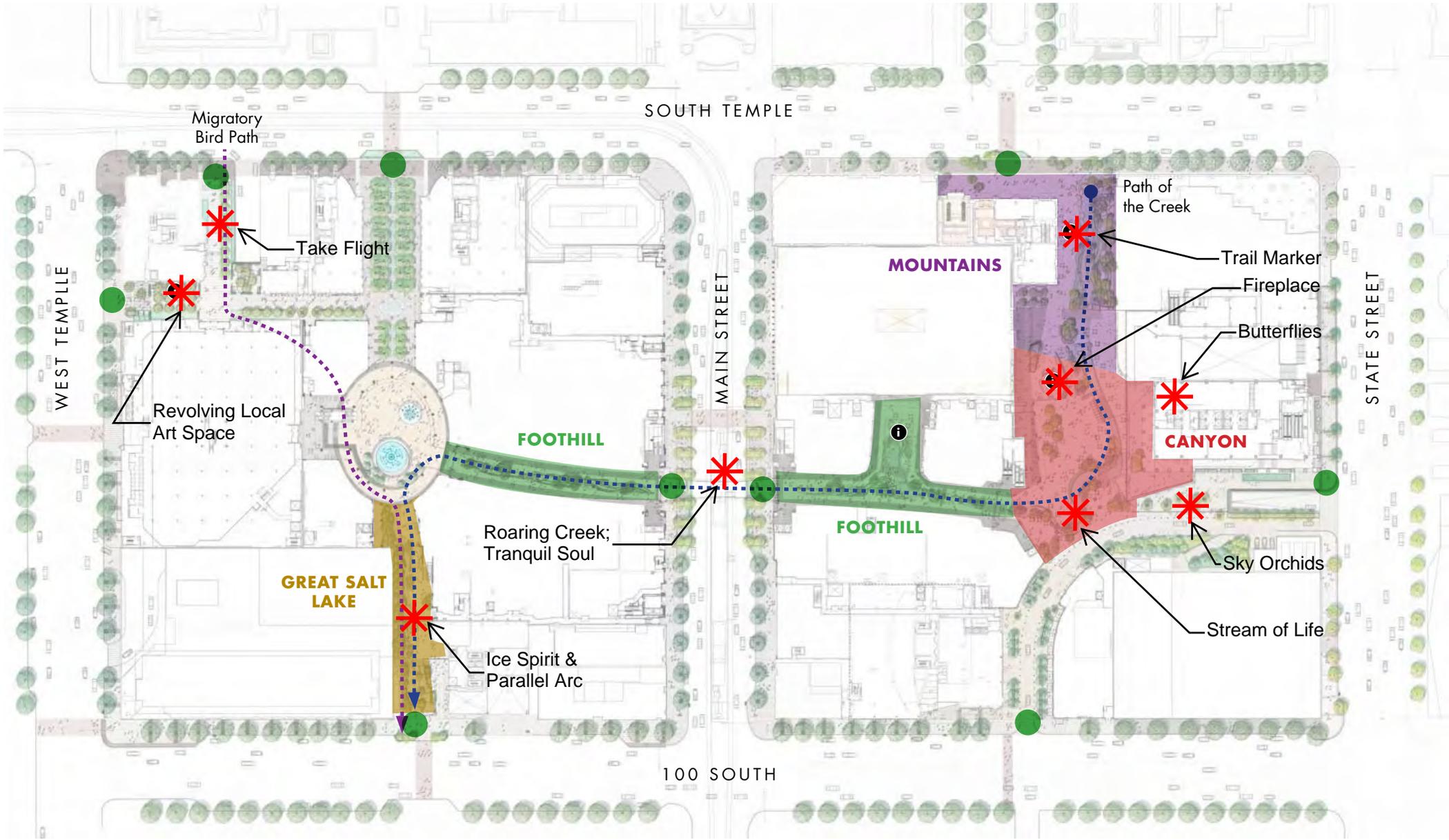












***Story of the Creek***













