

Building Statistics: Part II

jack risser | lighting/electrical | s. good | the nerman museum | overland park, kansas | oct 25th, 2013.

General Building Data:

Building name

The Nerman Museum of Contemporary Art

Location and site

Johnson County Community College

Overland Park, KS

Building Occupant Name

The Nerman Museum

Occupancy or function types

The building occupants primarily consist of the patrons of the museum and the staff that maintain it. Being attached to an existing college building allows the students and staff to easily flow through each space, creating a connection between the arts and academia.

Education | Art Gallery | Café

Size

38,190 SF

Number of stories above grade / total levels

2 stories above grade | 2 total

Primary Project Team

Owner: The Nerman Museum of Contemporary Art | Johnson County Community College | <http://www.nermanmuseum.org/welcome>

Construction Manager: JE Dunn Construction | <http://www.jedunn.com/>

Architect: Kyu Sung Woo Architects, Inc | <http://www.kswa.com/>

Architect of Record: Gould Evans Goodman | <http://www.gouldevans.com/>

Landscape Architect: Reed Hilderbrand | <http://www.reedhilderbrand.com/>

Structural Engineer: Walter P. Moore | <http://www.walterpmoore.com/>

MEP Engineer: Smith & Boucher | <http://www.smithboucher.com/>

Civil Engineer: Kaw Valley Engineering | <http://www.kveng.com/>

Tech Consultant: KJWW Engineering Consultants | <http://www.kjww.com/>

Acoustical Consultant: Acoustical Design Group |
<http://www.heieng.com/Pages/ADGAcquisition/>

Food Service: Santee Becker | no link available

Dates of construction

Start: April 2005

Completion: August 2007

Actual cost information

Aprox. \$15 million

Details not released

Project delivery method

Design Bid Build

Architecture:

Architecture

Using bold and regular geometrical shapes, Kyu Sung Woo created an elegant, minimalist building that houses a wide range of activities. Its main function is to house the modern art that the museum displays. By using a plain, minimal approach, the interior architecture fades into the background, allowing the art to stand alone. The façade is made of local white limestone, and strategically placed windows. This style stands out from a more classical style building and reflects the modern art inside. The museum is experiential. Not only in the art that one comes to see, but in the building itself. Art can be found in the dramatic, central staircase, the gallery clerestories and giant windows, and the glass encased solarium. The Nerman Museum is meant to be a piece of art, as much as the art it protects inside.

Major national model codes

IBC 2003

NEC 2005

International Existing Building Code

International Fire Code

International Plumbing Code

International Energy Code

International Mechanical Code

International Fuel Gas Code

International Property Maintenance Code

International Private Sewage Disposal Code

Zoning

Chapter 18.27

Commercial – 2 Zoning: Planned General Business District

Pertinent excerpts:

No building height limit

Minimum front yard – 10 feet

“Any lighting used to illuminate an off-street parking area, sign or other structure shall be arranged as to deflect light away from any adjoining residentially zoned property or from public streets. Direct or sky-reflected glare, from flood-lights or commercial operations, shall not be directed into any adjoining property. The source of lights shall be hooded or controlled. Bare incandescent light bulbs shall not be permitted in view of adjacent property or public right-of-way. Any light or combination of lights that cast light on a public street shall not exceed one foot-candle (meter reading) as measured from the centerline of the street. Any light or combination of lights that cast light on adjacent residentially zoned property shall not exceed 0.5 foot-candles (meter reading) as measured from said property line.”

Link: <http://www.opkansas.org/wp-content/uploads/downloads/18270-c-2-general-business-district-and-cp-2-planned-general-business-district.pdf>

IBC Section 304.1 Business Group B: Educational occupancies for students above the 12th grade

Assembly Group A-3

Historical requirements

None

Building Enclosure:

Building facades

Clad in local Kansas limestone. Expansive glazing on first floor with strategic window placement on second floor. Solarium, joining the two buildings, is covered in glass on 2 sides and the roof as well as perforated metal for daylight control. The overall shape of the building is very regular with clean edges which results in the absence of any corncing or footings. At the top of the façade walls, limestone coping is applied.

Roofing

The main roofing for the building is in-set behind the cover of walls that come up to give the building the look of a flat roof from below. Some of the mechanical equipment is in fact located on the roof, but from the ground floor, one would never see it. The roofing system is a lightweight insulating concrete slab on top of a concrete roof deck system that is supported by load bearing walls. An APP (Atactic Polypropylene) roofing membrane is then used on top of the lightweight concrete for waterproofing, increased UV protection, and improved energy performance.

Sustainability features:

Daylight features with ceiling slots over gallery areas to allow light in to supplement the ambient light in the space.

Primary Engineering Systems:

Construction

The construction of the Nerman Museum was completed by JE Dunn Construction. The design-bid-build contract is estimated at \$15 million. The attached building was also constructed during the construction of the Nerman Museum which is called the Regnier Technology Center. Construction started in 2005 and ended in 2007.

Electrical

The primary service comes into the building on the north end through an outside transformer. JCCC owns the primary campus electrical loop. The primary utility transformer steps down the power to 480/277V 3P 4W and is carried inside the building to the main 1600A panel board. From there it is distributed to the mechanical and kitchen equipment service panels as well as the receptacle and lighting panels found on the first and second floors. A secondary step-down transformer provides 208/120V power to the lighting and receptacle equipment as necessary. Emergency power is provided by existing college generator and utilizes an onsite ATS for quick transfer during a power outage.

Lighting

The lighting for the Nerman Museum integrates electrical light with natural sunlight. The gallery spaces, solarium, and most of the offices utilize daylighting as a main aspect in their design. Most rooms have windows that can let in natural light. Compact fluorescents and halogen fixtures are used for most of the ambient lighting. PAR lamps in track fixtures provide the lighting for display art. A lighting installation by Leo Villareal on the underside of the main cantilever block serves as a decorative showcase of art.

Mechanical

Seven outdoor air handling units that range from VAV, multi-zone, and single-zone applications provide the chilled water cooling and electric heat for the building spaces. A series of variable air volume terminals are used throughout the building to supplement the electric heating. Convector baseboard heater units use a finned tube configuration and are found near the floor to provide general heating. Exhaust fans are found in the kitchen and toilet areas of the building.

Structural

The overall structural system of the Nerman Museum is a concrete slab on concrete load bearing walls. A beam and column system transfers the loads down to the foundation. The cantilever part of the building is supported by upturn beams. Slab on grade with transfer girders transfer the foundation loads to a pier system underneath the building.

Primary Engineering Systems:

Fire Protection

Fire protection is applied in the building through sprayed fireproofing on the structural concrete. These members on the first and second floor are rated for two hour protection. The firewall construction allows 1-2 hour protection for the partition drywall. Room protection to prevent the spread of a fire consists of sprinklers on each floor.

Transportation

Two elevators are used as transportation from the first floor to the second. One of these elevators is the freight elevator to move art pieces to the second floor galleries. Two staircases also connect the visitors to the first and second floor galleries as well as the auditorium and office spaces.

Pictures:

Façade: Local limestone with glazing | photo courtesy of KSWA



Architecture: Dramatic cantilever with regular geometric shapes | photo courtesy of KSWA